

# HIV Prevention among Injection Drug Users

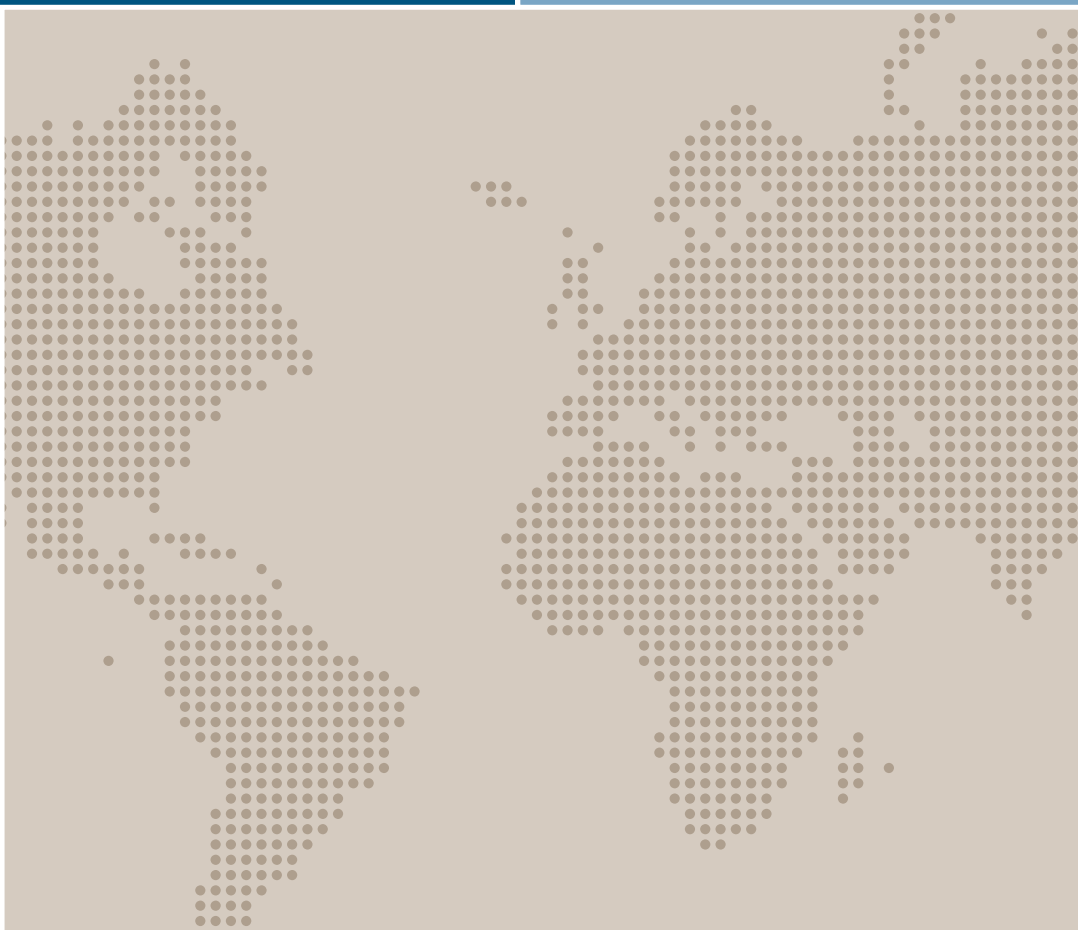
Strengthening U.S. Support for  
Core Interventions

A Report of the CSIS Global Health Policy Center

AUTHORS

Richard H. Needle  
Lin Zhao

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## EXECUTIVE SUMMARY

In 2008, the United States agreed to extend and expand its historic global HIV/AIDS program, authorizing up to \$48 billion over five years to combat global HIV/AIDS, tuberculosis, and malaria.<sup>1</sup> In its first phase (2004–2008), the President’s Emergency Plan for AIDS Relief (PEPFAR) concentrated most of its resources and attention on countries in sub-Saharan Africa, with a priority focus on expanding access to treatment with antiretroviral therapy (ART).<sup>2</sup> Among the primary accomplishments of the initiative in its first phase was to demonstrate the feasibility of mass provision of life-saving ART treatment in low-income African countries hardest hit by the HIV pandemic.<sup>3</sup> But despite the major gains in ART access since 2003, it is estimated that for every two people starting HIV treatment today, another five are newly infected. PEPFAR’s second phase (2009–2013) continues and expands treatment scale-up and prevention with the intent of transitioning from an emergency program to a sustainable country-driven and -managed response. The program will be judged, in large part, on the progress it makes in halting the further spread of HIV.

This report offers recommendations on one aspect of the HIV pandemic that provides an opportunity for major gains in global HIV prevention: injecting drug use. In some regions of the world—Eastern Europe and Central Asia, for example—the ratio of new HIV infections among injecting drug users (IDUs) to those gaining access to ART exceeds the global five-to-two average. At the same time, there is overwhelming evidence that needle and syringe programs and medication-assisted drug treatment (MAT, that is, treatment of substance use disorders with either methadone or buprenorphine)<sup>4</sup> are highly effective in preventing the spread of HIV among IDUs; yet these interventions continue to receive little attention and few resources, and they remain unavailable to the vast majority of people who inject drugs.

This report examines data on the burden of HIV among IDUs and access to and receipt of MAT, needle and syringe programs (NSP), and ART services in 14 countries. These core interventions have proven to have the greatest impact on preventing the further spread of HIV among

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1. *The Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis and Malaria Reauthorization Act of 2008*, Public Law 110–293. [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_bills&docid=f:h5501enr.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h5501enr.txt.pdf).

2. PEPFAR’s five-year performance targets (2003–2008) for the focus countries include support for the prevention of 7 million HIV infections, antiretroviral therapy for 2.1 million persons living with HIV/AIDS, and care for 10 million people infected with HIV worldwide. The 15 focus countries are Botswana, Cote D’Ivoire, Ethiopia, Guyana, Haiti, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Vietnam, and Zambia. Vietnam is the only country where the HIV epidemics is driven by injecting drug use and overlapping with HIV transmission among commercial sex workers—many of whom are also injecting drug users.

3. Institute of Medicine (IOM), *PEPFAR Implementation: Progress and Promise* (Washington, D.C.: National Academies Press, 2007).

4. Robert D. Bruce et al., “Medication-Assisted Treatment and HIV/AIDS: Aspects in Treating HIV-Infected Drug Users,” *AIDS* 24, no. 3 (2010): 331–340.

IDUs and are key components of a comprehensive package of prevention, treatment, and care. In the 14 countries examined in this report, 10 have concentrated epidemics of HIV among IDUs: China, Georgia, Indonesia, Kazakhstan, the Kyrgyz Republic, Malaysia, Russia, Tajikistan, Ukraine, and Vietnam. Four have heterosexually driven epidemics, and HIV among IDUs has only recently been reported: Cambodia, Kenya, South Africa, and Tanzania. With the exception of Malaysia, all are PEPFAR countries (a full list is provided in appendix A).

This report also examines barriers to the introduction and expansion of IDU interventions in the 14 countries surveyed, as well as the status of U.S. HIV/AIDS support for IDUs through the PEPFAR program. The current study builds on a 2008 CSIS publication, *Combating the Twin Epidemics of HIV/AIDS and Drug Addiction*, by David Fiellin, Traci Green, and Robert Heimer.<sup>5</sup> That report examined the intersection of drug treatment and HIV prevention, detailed the medical nature of drug dependence and MAT, and provided a comprehensive review of the evidence to support drug treatment as an HIV prevention strategy. The current report differs from the earlier project in that country-level information was collected using standardized indicators developed by the World Health Organization, (WHO), the UN Office on Drugs and Crime (UNODC), and the Joint UN Programme on HIV/AIDS (UNAIDS). The survey ensures reporting of comparable data from country-level experts about epidemiology and access by injecting drug users to medication-assisted therapy, needle and syringe programs, and antiretroviral therapy. The report also estimates costs for scaling up core interventions to help guide country planning.

The data collected for this report underline the nature and scope of the public health challenge:

- First, data indicate that the HIV burden among IDUs is high and growing in countries with concentrated epidemics. Further, HIV prevalence among IDUs is growing in some sub-Saharan African countries that have experienced heterosexually transmitted, generalized HIV epidemics.
- Second, access to MAT, NSP, and ART for those IDUs who could benefit from such interventions is extremely low.
- Third, in the countries surveyed significant barriers limit the scope and quality of such interventions and hamper efforts and opportunities to scale up medication-assisted therapy, needle and syringe programs, and antiretroviral therapy.
- Finally, through PEPFAR the U.S. government has provided only limited resources to countries that are experiencing epidemics of HIV among IDUs and has instead focused financial, technical, and human resources primarily on sub-Saharan Africa for scaling up antiretroviral therapy and prevention of sexually transmitted HIV.

This report urges U.S. policymakers and the U.S. Office of the Global AIDS Coordinator to invest greater resources and attention in evidence-based comprehensive HIV prevention among IDUs, to commit resources relative to the burden of HIV disease, and to capitalize on the opportunity that this neglected aspect of HIV prevention offers in halting the spread of HIV worldwide.

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5. David Fiellin et al., *Combating the Twin Epidemics of HIV/AIDS and Drug Addiction: Opportunities for Progress and Gaps in Scale* (Washington, D.C.: CSIS, 2008).



According to estimates, there are more than 5.3 million male and female IDUs in the 14 countries included in this report. Of those, an estimated 0.8 million are living with HIV/AIDS. An estimated 60 percent (3.2 million) of IDUs in the countries surveyed inject opioids (most frequently heroin). Of those, fewer than 4 percent have access to medication-assisted therapies. Needle and syringe programs are available in all countries with the exception of Kenya, South Africa, and Tanzania—countries with recently expanding numbers of IDUs and HIV. Although progress is being made in establishing many NSP outlets and distributing large numbers of syringes, the numbers of IDUs regularly reached remains suboptimal. Only limited data are available about the coverage rates for antiretroviral therapy among injecting drug users; nevertheless, it appears that the number of IDUs receiving ART is not proportional to the burden of HIV disease in the population. The most frequently reported barriers to introducing or scaling up medication-assisted therapy are restrictive legislation, restrictive entry criteria, policies of registering drug users as a condition for services, police harassment, stigma and discrimination, and lack of knowledge among policymakers about drug users, drug use, and the compelling evidence for supporting medication-assisted therapy and other core interventions.

## Recommendations for the Office of the Global AIDS Coordinator

The United States is the largest global donor for HIV/AIDS treatment, care, and prevention. Through the PEPFAR program, the United States can make measurable progress in closing the huge gap between need and available services for injecting drug users and play a leadership role in addressing this neglected component of HIV prevention.

A first step in effectively addressing HIV among IDUs globally is generating adequate political will to do so, among both U.S. policymakers and partner country governments. This effort will require that policymakers understand and acknowledge the scope of the problem, that they become educated on the possibilities for effective interventions, and that they fully comprehend the public health and the human and social costs of a failure to act in developing science-based policies and programs. Leadership will be needed to align drug policies related to reducing supply of and demand for illicit drugs with HIV/AIDS policies that promote and support programs that minimize harms associated with injecting drugs. Success in encouraging countries to harmonize their drug policies for curbing demand and supply with those for harm reduction will facilitate the creation of a new public health approach to preventing HIV and other blood-borne and sexually transmitted diseases, as is in evidence in many countries today.

The Office of the Global AIDS Coordinator should therefore take several specific steps:

- *Provide visible leadership and political will in support of scaled-up prevention, treatment, and care programs for injecting drug users.* The AIDS coordinator can provide such leadership and seek to strengthen political will in partner countries across multiple sectors of the government, particularly ministries of health. The coordinator should work with partner governments, in collaboration with the civil society sector and multilateral agencies, to create an enabling environment with supportive legislation and to press for policies and regulations that facilitate the introduction and expansion of services for IDUs. In concert with multilateral organizations, the leadership should encourage country-level drug and health policies that support a public health approach to addiction and HIV prevention services. Such an approach will emphasize

access to risk-reduction services rather than abstinence-based drug policies that favor the incarceration of drug users and fail to provide pharmacotherapy and other core interventions.

- *Develop a policy to guide expansion of HIV prevention efforts targeting injecting drug users.* The policy should be informed by evidence, promote a public health and human rights approach, and help create a political and legal environment that facilitates rather than impedes the implementation and rapid scale-up of a comprehensive package of HIV prevention interventions. The policy should encompass the full range of structural, biomedical, and behavioral interventions supported by WHO, UNAIDS, the Global Fund to Fight AIDS, TB, and Malaria, and other donors. The policy should be accompanied by technical guidance in particular areas, including the introduction and expansion of medication-assisted therapy programs and the identification and implementation of the optimum mix in a given country of prevention interventions, including needle and syringe programs. Policy should be linked with technical support to assist countries in assessing the policy, legislative, and regulatory barriers that prevent drug users from accessing services or that limit the quality and scope of such services. The Office of the Global AIDS Coordinator should encourage partner countries to make use of the 2009 technical guide, prepared by WHO, UNODC, and UNAIDS, in setting targets for universal access among injecting drug users to HIV prevention, treatment, and care.
- *Substantially increase financial and technical resources required to expand the capacity for medication-assisted therapy, needle and syringe programs, antiretroviral therapy, and other core interventions for injecting drug users.* Support should be proportionate to the burden of disease and current gaps in services. Given the existing situation of high disease burden and low coverage rates, large-scale increases in HIV prevention, care, and treatment for IDUs are required. Resources should be linked with guidance on the components and technical considerations necessary for planning, implementing, monitoring, and evaluating scaled-up comprehensive intervention programs for IDUs. The Office of the Global AIDS Coordinator should develop guidance for the field, informed by field-based experience, that will be critical to improving access to high-quality interventions that affect the HIV epidemic. The United States should aim, in partnership with other donors, to provide MAT coverage of 20–40 percent in countries with concentrated epidemics among IDUs by 2015 and progress toward 60 percent coverage of needle and syringe programs in the same time frame. WHO estimates that the unit cost of a methadone program ranges from \$363.65 to \$1,057 per patient per year. The mean cost for a needle and syringe program is estimated between \$4 and \$10 per year.
- *Seek to improve data collection and use of data for program planning and improvement.* Reliable, credible data will be critically important in building political will, in shaping country-level strategies, in measuring the effectiveness of interventions, and in assessing returns-on-resource investments. This report provides baseline data that can be used in judging progress toward requirements outlined in the PEPFAR reauthorization legislation. Building country-level capacities for surveillance and other methodologies is necessary for better understanding and monitoring trends and dynamics in risk behaviors and HIV transmission dynamics among injecting drug users. Devising successful strategies to prevent HIV among IDUs will be partly guided by assumptions and is therefore likely to fail unless adequate and reliable information is collected on the scope of the problem. Better surveillance systems for tracking the spread of HIV and for disaggregating data more effectively are therefore needed. The number of female IDUs, for example, appears to be rising, and disaggregating data by gender will be important in devising appropriate outreach strategies. It also means making full use of other methodologies,

including ethnographic and other qualitative data collection strategies, which can be used to better understand the everyday lives of IDUs and the context of drug use patterns, the barriers that hinder access to services and affect adherence to medication-assisted therapy and anti-retroviral therapy. Finally, it is important that the Office of the Global AIDS Coordinator and partner countries build in mechanisms to monitor and evaluate progress and engage in operational research related to better organizing and delivering the core interventions that will guide the further development and refinement of existing programs.

Significant challenges persist in addressing HIV prevention among injecting drug users. Perhaps the greatest obstacles are country laws, policies, and regulations that criminalize drug use; the continued stigma associated with injecting drug use, addiction, and HIV; a lack of knowledge about the effectiveness of interventions that limit both unsafe injection practices and HIV transmission; and a failure among policymakers to grasp the human and public health consequences of failure to reach IDUs with effective treatment, care, and prevention services for opioid addiction and HIV. As a result of such obstacles, the problem has been framed not as a public health challenge but as one of morality and law enforcement and has led to high rates of incarceration and or compulsory detoxification. These approaches most often are ineffective in tackling the problem and are ultimately counterproductive.

Despite the challenges, some countries appear to be adopting a public health approach and changing their attitudes and approaches. Consensus around effective, evidence-based interventions for IDUs is growing. The body of data on trends of transmission of HIV among IDUs is slowly expanding, and in a number of countries, including the United States, policies on IDU risk-reduction services are evolving. China, for example, has made a major shift toward scaling up medication-assisted therapy and needle and syringe programs and providing a continuum of care and treatment services for IDUs. In Tanzania, where the number of IDUs is relatively small, the government has acted quickly, embraced a forward-looking, proactive policy in reaching IDUs with MAT and other HIV prevention services. And in Cambodia, a country with a small but growing number of injecting drug users, a harm-reduction policy and comprehensive services for IDUs, including plans for MAT, have been implemented. Yet in some of the countries included in this assessment, where there have been shifts to a public health approach and efforts to scale up core interventions, problems persist because of continued reliance on punishment and incarceration of drug users. The Office of the Global AIDS Coordinator and the U.S. government now have an opportunity to support and encourage an evolving country and epidemiological and evidence-based approach to preventing HIV and scaling up MAT and ART treatment services for injecting drug users in a range of venues, through leadership, clearly articulated policy guidance, and adequate investment in resources and attention that target HIV among IDUs.

# 1

## BACKGROUND

The historic U.S. global AIDS initiative, first launched in 2003 and known as the President's Emergency Plan for AIDS Relief (PEPFAR), concentrates most of its financial, human, technical, and other resources on countries in sub-Saharan Africa. In 2008, Congress extended the PEPFAR program, authorizing up to \$48 billion over five years to combat global HIV/AIDS, tuberculosis, and malaria.<sup>1</sup>

Sub-Saharan Africa has been most heavily affected by a heterosexually driven generalized HIV/AIDS epidemic.<sup>2</sup> Expansion of access to antiretroviral treatment (ART) in Africa has been regarded as a major achievement of PEPFAR.<sup>3</sup> By the end of 2008, PEPFAR reported supporting life-saving treatment for more than 2.1 million men, women, and children.

Yet, despite progress in providing access to ART, new HIV infections are increasing faster than the numbers of those starting the treatment.<sup>4</sup> Outside of sub-Saharan Africa, particularly in countries in Eastern Europe and Central Asia and in East and Southeast Asia, concentrated HIV epidemics have continued to expand among at-risk groups—injecting drug users (IDUs), sex workers, and men who have sex with men (MSM). About one-third of global HIV transmission outside of sub-Saharan Africa occurs among IDUs that have shared contaminated needles and syringes. Many countries with injection-driven HIV epidemics receive U.S. government bilateral assistance.

Despite evidence about the effectiveness of prevention programs for injecting drug users, to date U.S. support has been very limited. Of more than \$1 billion approved for fiscal year 2009 prevention activities,<sup>5</sup> approximately \$17.9 million was programmed for injecting and noninjecting drug users. The exact amount of resources targeting IDUs is difficult to pinpoint (and may be higher than estimated), since Office of the Global AIDS Coordinator (OGAC) uses a number of different budget codes to describe resource allocations for prevention. It remains clear, however,

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1. Lantos and Hyde Reauthorization Act.

2. UNAIDS, *2004 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, 2004).

3. The progress, limitations, and challenges of PEPFAR programs have been written about extensively. See, for example, Institute of Medicine (IOM), *PEPFAR Implementation: Progress and Promise* (Washington, D.C.: National Academies Press, 2007). Also see Eric Goosby, Global AIDS Coordinator, at his Senate Foreign Relations confirmation hearing, June 2009.

4. WHO, UNAIDS, and UNICEF, *Towards Universal Access: Scaling Up Priority HIV/AIDS Interventions in the Health Sector, Progress Report* (Geneva: WHO, UNAIDS, UNICEF, September 2009).

5. The U.S. President's Emergency Plan for AIDS Relief, "The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) Fiscal Year 2009: PEPFAR Operational Plan—June 2009," <http://www.pepfar.gov/about/c30152.htm>. Prevention activities include male circumcision, blood safety, injection safety, counseling and testing, other sexual prevention, and preventing mother-to-child transmission and injecting and noninjecting drug users. PEPFAR invests most of its prevention resources in preventing sexual transmission and mother-to-child transmission, which reflects the primary drivers of the global epidemic.

that comparatively few resources are spent on the prevention of HIV among drug users. In PEPFAR's first phase, implementers were reluctant to expand access to comprehensive HIV prevention programs for IDU populations. Medication-assisted drug therapy (MAT) was initially limited to HIV-positive drug users and required prior OGAC approval for a pilot program. While not required by law, the domestic ban on U.S. federal funding for needle and syringe programs was also extended to international programs.

Indications, however, point to a growing awareness of the opportunities for preventing HIV among injecting drug users. The 2008 reauthorization of PEPFAR includes, for the first time, a requirement that the Office of the Global AIDS Coordinator report to Congress each year on prevention strategies among IDUs. The reauthorization calls on OGAC to work with partner countries in which the HIV/AIDS epidemic is prevalent among IDUs to establish HIV/AIDS prevention programs as a priority and to document the specific strategies funded to ensure the reduction of HIV infection among that population. In addition, documentation requirements include, on a country-by-country basis, the number of injecting drug users reached by such strategies and the number of individuals with HIV or at risk of HIV who are receiving medication-assisted therapy. To date, these data remain unavailable.

This report seeks to present updated information on 14 focus countries, most of which were examined in the 2008 CSIS report *Combating the Twin Epidemics of HIV/AIDS and Drug Ad-*

*dition* (see table 1). Thirteen of the 14 countries included in this report receive U.S. bilateral HIV/AIDS support for HIV prevention activities for injecting and non-injecting drug users. Malaysia is the sole exception. All the countries in the earlier CSIS report, except for Nigeria, are also included in this current assessment; there have been no recent reports about the HIV and injecting drug use situation in Nigeria.<sup>6</sup> Several new countries, not included in the 2008 report, have been added in this review. These are countries recently reporting HIV among injecting drug users—Cambodia, South Africa, and Tanzania. Tanzania, a PEPFAR focus country, has been experiencing an increase in HIV among IDUs and is using PEPFAR resources to examine the feasibility of providing medication-assisted therapy. South Africa, also a PEPFAR focus country, is included because of its strong drug use surveillance system, and PEPFAR has supported assessment of the South African HIV/IDU situation and interventions for drug using populations.

**Table 1: Countries in the CSIS 2008 and Current Report**

Country	2008 CSIS Report	Current Report
China	Yes	Yes
Vietnam	Yes	Yes
Malaysia	Yes	Yes
Indonesia	Yes	Yes
Kazakhstan	Yes	Yes
Kyrgyz Republic	Yes	Yes
Tajikistan	Yes	Yes
Georgia	Yes	Yes
Russia	Yes	Yes
Ukraine	Yes	Yes
Kenya	Yes	Yes
Nigeria	Yes	No
Cambodia	No	Yes
Tanzania	No	Yes
South Africa	No	Yes

Source: Authors.

6. Richard H. Needle et al., "Substance Abuse and HIV in Sub-Saharan Africa," *African Journal of Drug and Alcohol Studies* 5, no. 2 (2006): 83–94.

# 2

## BACKGROUND ON THE DATA AND METHODOLOGY

Today, the focus on setting national targets for scaling up and monitoring progress on providing universal access to HIV prevention, treatment, and care is increasing.<sup>7</sup> Although reliable data to inform decisionmaking and help guide programmatic interventions are critically important, the challenges in collecting epidemiological and programmatic data on injecting drug users (IDUs) are particularly acute. This report, within the limits of the available data, examines the coverage gap between the proportion of IDUs in need and those receiving the interventions. It also estimates the costs for scaling up medication-assisted therapy (MAT) and needle and syringe programs (NSPs) to have an impact on the HIV epidemic. Data collection for this report was based on review of a broad range of sources described below. Nonetheless, limitations in the quality and availability of the data related to IDU prevalence estimates, the proportion of IDUs who are injecting heroin, the numbers of persons receiving MAT, NSP, and antiretroviral therapy (ART) have to be considered in interpreting the reported data. These limitations underscore the need for policymakers to invest in a range of routine and periodic data collection to better gauge the scope of the problem and measure the impact of interventions.

### Data Sources and Methods

The epidemiological data on injecting drug use and HIV/AIDS and the current status of MAT and other core interventions in 14 countries presented in this report are based on multiple sources reviewed between May and July 2009, including:

- Recently published documents on the epidemiology of injecting drug use and HIV/AIDS, the current status of MAT, and other core interventions for IDUs.
- PubMed and Google databases, using keywords and different combinations, such as “HIV,” “injecting drug users,” “methadone,” “drug therapy,” “HIV prevalence,” and “HIV incidence,” among others.
- WHO, UNODC, UNAIDS, and PEPFAR Web site literature.
- Country expert responses to a survey on epidemiology and the access of injecting drug users to MAT, NSP, and ART.

Country experts were asked to provide information in response to open-ended and multiple-choice queries about (1) the size of IDU populations and HIV prevalence; (2) MAT accessibility, availability, coverage, and quality; (3) barriers to introducing and scaling up MAT; (4) other drug-dependence treatment; (5) access, availability, coverage, and quality of needle exchange interven-

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7. WHO, UNAIDS, and UNICEF, *Towards Universal Access*.



tions; and (6) antiretroviral treatment.<sup>8</sup> These indicators, reported in appendix B of this report, were selected from a longer list of items prepared by WHO, UNODC, and, UNAIDS in their technical guide for countries setting targets for universal access to HIV prevention, treatment, and care for IDUs.

The data collection instrument was made available in both Russian and English and sent to country experts in early June 2009 in advance of a meeting convened by the Open Society Institute in Salzburg, Austria, to examine the effectiveness of MAT in the prevention of HIV/AIDS among IDUs. Experts were also requested to share relevant citations. Data presented at the Salzburg meeting were also collected and compiled according to the predefined indicators. In addition, this report considers the data shared by the Reference Group to the United Nations on HIV and Injecting Drug Use, which is currently working on a global review of estimates of HIV prevention and care service coverage for IDUs. Presentations in Russian were translated, and the information was considered for inclusion in this report.

## Data Analysis Strategy

Data from multiple sources (outlined in appendix C) and based on multiple methods permit a triangulation of findings. Data are reported for all countries regionally and specifically for countries within East and Southeast Asia and from Eastern Europe and Central Asia. Data from sub-Saharan African countries are also reported, although these data are limited.

Discrepancies in data between the literature and expert reports were examined; in certain cases, clarification was requested from country experts. An effort was made to have two reporters focus on each of the countries with the greatest burden of HIV disease among IDUs—China, Malaysia, Russia, and Vietnam.<sup>9</sup> If data on a particular variable were available from different sources, priority was assigned in the following order: the most current data, data reported from country experts, and, finally, government reports following WHO, UNAIDS, and UNODC data sources.

Several relevant documents have been published since the 2008 CSIS report: specifically, a *Lancet* article, written by Bradley Mathers and colleagues in 2008, on the global epidemiology of HIV among people who inject drugs, which the authors used as the key reference to determine consistencies and discrepancies in epidemiological data collected from independent literature reviews and country expert reports.<sup>10</sup> Mathers et al. conducted a rigorous empirical evidence review of the latest data on estimates of prevalence of injecting drug use and HIV in 120 countries, including comparisons of estimates from various resources. UN agencies and international country experts were also asked to provide any relevant data. The *Lancet* piece offered lower- and upper-bound estimates. It should be noted that the study method and variables used by Mathers et al. are not directly comparable to the methods used in this report. Discussions were held between Mathers and the authors of this report to explore the sources of the discrepancies.

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8. WHO, UNODC, and UNAIDS developed the indicators through consultation with a group of epidemiologists and public health experts. These indicators were not used in the 2008 CSIS report.

9. Faculty for the Salzburg meeting included experts who worked in many of these countries.

10. Bradley M. Mathers et al., “Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review,” *Lancet* 372, no. 9651 (November 15, 2008): 1733–45.

## Estimating Needs and Costs for MAT and NSP Services

The UNODC World Drug Report of 2008 estimated 16.5 million opiate users and 12 million heroin users worldwide in 2007.<sup>11</sup> A number of assumptions are made to guide the analysis related to gaps in coverage and cost estimates for scaling up medication-assisted therapy and needle and syringe programs. Some of the assumptions are based on current expert consensus. In a 2007 report, Verster, Clark, and Ball estimated that approximately 60 percent of injecting drug users were opioid injectors.<sup>12</sup> This estimate is likely low, and considerable variation across countries in the proportion of IDUs who inject opioids is likely. This assumption is somewhat problematic, but probably adequate for this exercise. For opioid injecting users, heroin is the most commonly and frequently abused injectable opioid, although in other countries, where heroin is expensive, users inject home-grown poppy straw.<sup>13</sup> In the absence of specific country data on the number of opioid injecting users, the 60 percent figure should be adequate for estimating the need and costs for MAT. It should also be noted that noninjecting opioid users can also benefit from MAT. For estimating the needs, gaps, and costs for NSPs, the calculations assume that all IDUs could benefit from these services.

Verster and Ball report that in countries that have reached coverage rates for medication-assisted therapy of 40 percent among injecting drug users, often along with needle and syringe exchange programs, HIV epidemics among IDUs were stabilized, halted, and reversed.<sup>14</sup> The target coverage levels for MAT and NSP identified in the WHO, UNODC, and UNAIDS technical guide for countries as having the greatest impact on reducing or avoiding high HIV infection rates among IDUs are based on current expert, not empirical, consensus.<sup>15</sup> In this report, MAT coverage of 20 and 40 percent of opioid injectors by 2015 is used as a target, with the lower rate considered achievable for countries that have not yet introduced MAT and the higher figure for countries with established MAT programs. It must be stated, however, that at this time the evidence available to help set minimal levels of coverage is limited. For NSPs, coverage targets are calculated at 40 percent and 60 percent of all injectors, again with the lower bound set for countries that have not yet started NSP.

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11. UNODC, *World Drug Report 2008* (Geneva: UNODC, 2008), [http://www.unodc.org/documents/wdr/WDR\\_2008/WDR\\_2008\\_eng\\_web.pdf](http://www.unodc.org/documents/wdr/WDR_2008/WDR_2008_eng_web.pdf).

12. Annette D. Verster et al., "Financial Resources Required to Achieve Universal Access to HIV Prevention, Treatment, Care and Support: Interventions for HIV Prevention, Treatment and Care among People Who Inject Drugs (Methodological Annex IX)," UNAIDS, 2007, [http://data.unaids.org/pub/Report/2007/20070925\\_annex\\_ix\\_idu\\_interventions\\_en.pdf](http://data.unaids.org/pub/Report/2007/20070925_annex_ix_idu_interventions_en.pdf).

13. Noeline Latt et al., *Addiction Medicine* (Oxford: Oxford University Press, 2009); and Kostyantyn Dumchev et al., "HIV and Hepatitis C Virus Infections among Hanka Injection Drug Users in Central Ukraine: A Cross-sectional Survey," *Harm Reduction Journal* 6:23 (August 2009), <http://www.harmreductionjournal.com/content/6/1/23>.

14. Verster et al., "Financial Resources."

15. WHO, UNODC, UNAIDS, WHO, UNODC, *UNAIDS Technical Guide for Countries to Set Targets for Universal Access to HIV Prevention, Treatment and Care for Injecting Drug Users* (Geneva: WHO/UNAIDS/UNODC, 2009), <http://www.unodc.org/documents/hiv-aids/WHO%20UNODC%20UNAIDS%20%20IDU%20Universal%20Access%20Target%20Setting%20Guide%20-%20FINAL%20-%20Feb%202009.pdf>.



## Limitations

The data available for this report have limitations. Some of the limitations are common in the field of HIV and center on methodologies currently available for carrying out epidemiological estimates of injecting drug use. This report presents epidemiological data on the number of IDUs and the number of adults living with HIV/AIDS. These data include both “registered or official numbers” and “estimated numbers” of IDUs and adults living with HIV/AIDS. Registry data are not available for every country. Estimates of the total number of IDUs and adults living with HIV/AIDS in individual countries are based on epidemiological data drawn mainly from published literature reported by UN agencies, governments, and country respondents. Data from most country respondents and national reports were a reflection of the numbers of IDUs and adults living with HIV/AIDS in national registries, which actually cover only a portion of the total in the country. The number of estimated IDUs or adults with HIV/AIDS is usually much higher than the national registry number.

The challenges in collecting epidemiological and programmatic data on injecting drug users are well documented.<sup>16</sup> IDUs face discrimination and social marginalization; they engage in behaviors that are criminalized through legislation; because they can be incarcerated, they make efforts to remain as anonymous and invisible as possible; and they are often harassed by law enforcement when they attempt to use services.<sup>17</sup> This situation creates barriers to accruing high-quality data to make epidemiological estimates and to monitor progress in access and use of services.<sup>18</sup> Program data are quite weak, and to date most coverage data are not collected with standardized methodologies. Of 92 low- and middle-income countries reporting to WHO in 2008 on the existence of policies and programs targeting IDUs, only 26 were able to report some coverage data.<sup>19</sup> Particularly problematic are data on the proportion of IDUs receiving antiretroviral therapy; these data are critical in estimating programmatic efforts related to the burden of disease.

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16. See, for example, Don C. Des Jarlais et al., “HIV among Injecting Drug Users: Current Epidemiology, Biologic Markers, Respondent-driven Sampling, and Supervised-Injection Facilities,” *Current Opinion in HIV and AIDS* 4, no. 4 (July 2009): 308–13; UNODC, *The World Drug Report 2009* (Geneva: UNODC, 2009); and WHO, UNAIDS, and UNICEF, *Towards Universal Access*.

17. Needle et al., “Substance Abuse and HIV in Sub-Saharan Africa.”

18. Fiellin et al., *Combating the Twin Epidemics*.

19. WHO, UNODC, and UNAIDS, *Technical Guide*.

## 3

EPIDEMIOLOGICAL  
FINDINGS

## Injecting Drug Use

More than 5.3 million injecting drug users are estimated to live in the 14 countries covered by this report, with considerable regional and country variation in the size of these populations. An estimated 2.3 million IDUs reside in the six Eastern Europe and Central Asian countries considered here—Georgia, Kazakhstan, the Kyrgyz Republic, Russia, Tajikistan, and Ukraine. More than 2.9 million IDUs reside in the five East and Southeast Asian countries considered—Cambodia, China, Indonesia, Malaysia, and Vietnam (see tables 2 and 3).

In the Eastern Europe and Central Asia regions, Russia has the largest number of IDUs, with an estimated 1.825 million, followed by Ukraine, with an estimated 229,000. In the East and Southeast Asian region surveyed here, China has the largest number of IDUs, an estimated 2.35 million, followed by Malaysia and Vietnam, each with an estimated 200,000. Cambodia, where the estimated number of IDUs is relatively low, began reporting injecting drug use only in 2000.

Data on the size of the IDU populations in the sub-Saharan African countries covered here—Kenya, South Africa, and Tanzania—are extremely limited.<sup>20</sup> South Africa, which has a surveillance system to monitor trends in drug use, reports about 16,000 IDUs. For Tanzania, McCurdy and Mwambo recently estimated about 25,000 IDUs across the country, with the greatest number living in Dar es Salaam.<sup>21</sup> In Kenya, a recent report estimates 3,396 IDUs in Nairobi and the coast region,<sup>22</sup> and the more recent 2009 estimates put the national number at 30,000.<sup>23</sup>

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20. See Needle et al., “Substance Abuse and HIV”; and UNODC, *World Drug Report*.

21. Sheryl A. McCurdy and Jessie Mbwapo, personal communication, August 26, 2009.

22. UNODC, “Kenya Country Report,” May 2009.

23. Clement Deveau, personal communication, August 31, 2009; and Carmen Aceijas et al., “Estimates of Injecting Drug Users at the National and Local Level in Developing and Transitional Countries, and Gender and Age Distribution,” *Sexually Transmitted Infections* 82, supplement 3 (2006): 10–17.

**Table 2. Registered and Estimated Injecting Drug Users and HIV Burden in Eastern Europe and Central Asia, Various Years, 2006–2009**

Country	Total Country Population (2008)	Number of IDUs (year)	Adults Living with HIV/AIDS (year)	Percentage of Cumulative HIV Cases Caused by IDU (year)	Adults Living with HIV Who Are IDUs (year)	Adult HIV Prevalence among IDUs (year)
Russia	140,702,095	R: 537,000 (09) E: 1,825,000 (07)	R: 416,113 (07) E: 940,000 (630,000–1,300,000) (07)	70–75% (09)	R: 315,000 (09) E: N/A	11.8 % (07)
Ukraine	45,994,288	R: 173,594 (08) E: 229,000 (178,000–279,000) (09)	R: 123,887 (07) E: 430,000 (330,000–530,000) (08)	60.26% (09)	R: 76,598 (09) E: 156,500 (3,000–403,000) (06)	63 % (09)
Georgia	4,730,841	R: N/A E: 80,000 (06)	R: 2,112 (08) E: 3,500 (1,500–6,100) (07)	60% (06)	R: 1,291 (year not available) E: N/A	1.1% (06)
Kazakhstan	15,340,533	R: 55,286 (07) E: 122,850 (115,500–130,200) (08)	R: 10,601 (07) E: 12,000 (6,900–29,000) (07)	70% (07)	R: N/A E: 9,500 (6,000–13,500) (08)	7.4% (07)
Kyrgyz Republic	5,356,869	R: 5,386 (09) E: 4,398 (07)	R: 1,828 (08) E.: 4,200 (2,200–7,600) (07)	72% (08)	R: N/A E: 3,200 (06)	8 % (2.4–13.6) (08)
Tajikistan	7,211,884	R: 5,430 (year not available) E: 20,000 (07)	R: 1,422 (09) E.: 10,000 (4,900–23,000) (08)	55.2% (year not available)	R: 786 (year not available) E: N/A	14.7 % (11.5–17.9) (06)
Total	219,336,510	2,321,248 (est.)	1,399,700 (est.)			

Source: Data compiled from sources listed in appendix C.

Note: R = registered; E = estimated; N/A = not available.

**Table 3. Registered and Estimated Injecting Drug Users and HIV Burden in East and Southeast Asia, Various Years, 2005–2009**

Country	Total Country Population (2008)	Number of IDUs (year)	Adults Living with HIV/AIDS (year)	Percentage of Cumulative HIV Cases Caused by IDU (year)	Adults Living with HIV Who Are IDUs (year)	Estimated Adult HIV prevalence among IDUs (year)
Vietnam	86,116,560	R: 145,000 (06) E: 200,000 (09)	R: N/A E: 243,000 (09)	51.68% (06)	R: N/A E: 59,890 (06)	E: 20.27% (07) E: 34% (07)
China	1,330,044,544	R: 541,184 (08) E: 2,350,000 (1,800,000–2,900,000) (05)	R: 230,643 (07) E: 690,000 (450,000–1,000,000) (07)	38.5% (07)	R: N/A E: 88,798 (08)	8.1% (07)
Indonesia	237,512,352	R: N/A E: 237,057 (09); (190,460–247,800) (08)	R: N/A E: 270,000 (190,000–400,000) (07)	42.22% (09)	R: N/A E: 94,500 (61,500–134,000) (06)	52.4% (07)
Cambodia	14,241,640	R: N/A E: 2,025 (1,250–7,500) (07)	R: N/A E: 75,000 (07)	R: N/A E: N/A	R: N/A E: 500 (<500–2,500) (06)	24.4% (07)
Malaysia	25,274,132	R: N/A E: 195,000 (07)	R: N/A E: 86,617 (07); 79,000 (51,000–120,000) (07)	71.2% (07)	R: N/A E: 60,248 (07)	R: 19.2% (06) E: 11.0% (07)
Total	1,693,189,228	2,984,082 (est.)	1,357,000 (est.)			

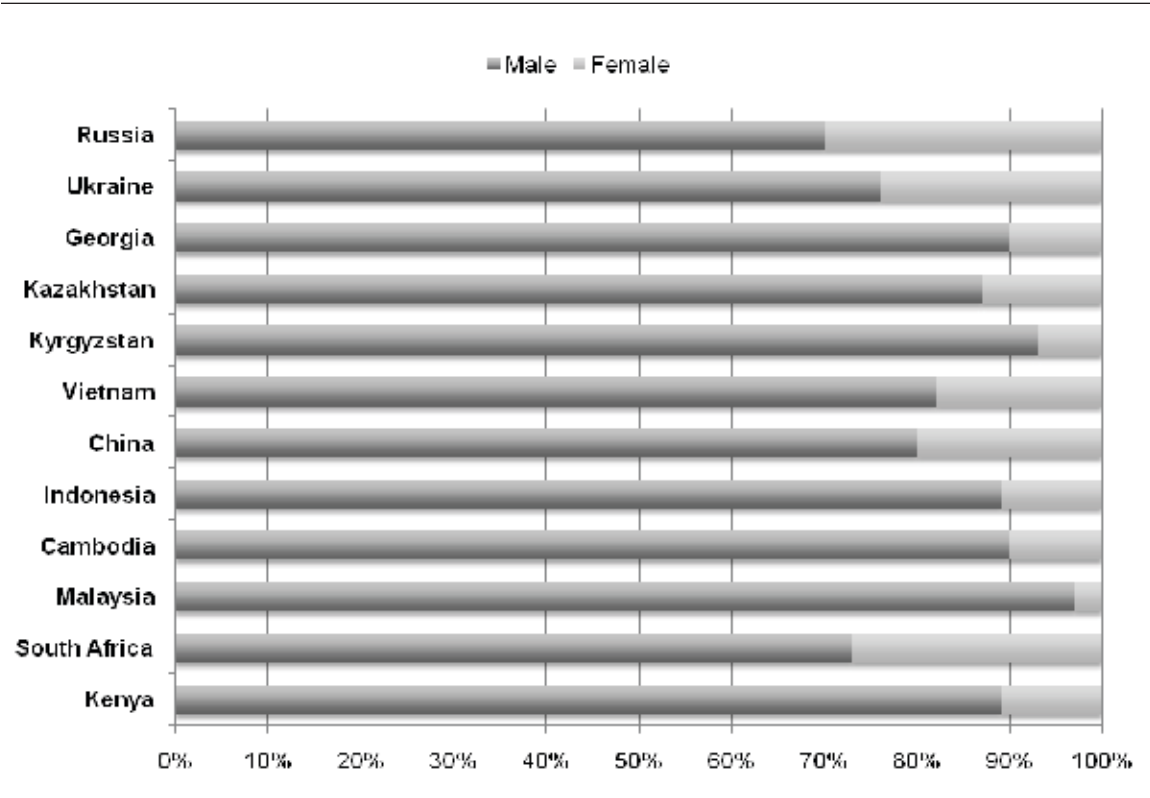
Source: Data compiled from sources listed in appendix C.

Note: R = registered; E = estimated (in some cases more than one estimate is provided.); N/A = not available.

# Gender Distribution of Injecting Drug Use

The majority of injecting drug users in all countries are male (see figure 1).<sup>24</sup> Estimates for gender distribution of injecting drug use are based on reports from country experts. Eastern European and Central Asian countries have a greater proportion of female IDUs than countries in East and Southeast Asia. Russia reports the most female IDUs (30 percent), followed by Ukraine (26 percent). Overlapping at-risk populations of IDUs and sex workers—with many sex workers injecting drugs and IDUs selling sex for money or drugs—account in part for the higher proportion of female IDUs in Russia and Ukraine.<sup>25</sup> The number of female IDUs has implications for mother-to-child HIV transmission.

**Figure 1. Gender Distribution of Injecting Drug Use in 12 Focus Countries, 2009**



Source: Based on country expert survey responses.

Note: No data were available for Tajikistan and Tanzania.

Countries reporting 90 percent or greater male IDU subpopulations are Cambodia, Georgia, the Kyrgyz Republic, and Malaysia, with Indonesia reporting 89 percent. China reported that 80 percent of its IDUs are male, Vietnam reports 82 percent, and South Africa reports 73 percent. Tajikistan did not report the percentage of male and female IDUs.

24. Data are not available for Tajikistan and Tanzania

25. Sevgi O. Aral et al., “Commercial Sex Work, Drug Use, and Sexually Transmitted Infections in St. Petersburg, Russia,” *Social Science and Medicine* 60, no. 10 (May 2005): 2181–90.

## HIV among Injecting Drug Users

The burden of HIV disease varies considerably among IDUs in the countries surveyed. Approximately 407,000 IDUs are living with HIV/AIDS in Eastern Europe and Central Asia and more than 300,000 in East and Southeast Asia. The largest number of HIV-positive IDUs reside in Russia (315,000), followed by Ukraine (156,500.) The largest number of IDUs with HIV/AIDS in Asian countries surveyed live in China (88,798) and Indonesia (94,500), followed by Vietnam (59,890).

The share of cumulative HIV cases that are IDUs in Eastern Europe and Central Asia is greater than 70 percent in Russia, Kazakhstan, and the Kyrgyz Republic. It is more than 60 percent in Ukraine and Georgia and 55 percent in Tajikistan. Among the countries surveyed, IDUs range from a low of 38.5 percent of cumulative registered HIV infections in China to a high of 71 percent in Malaysia.

While IDUs represent the largest share of those infected with HIV in all countries surveyed in Eastern Europe and Asia, indications suggest that in many of these countries, such as China, Russia, and Ukraine, the dynamics of the IDU-driven epidemics are changing. Increasing proportions of new HIV cases are due to heterosexual transmission, with a declining proportion of HIV cases among IDUs.<sup>26</sup> In China, sexual contact is now the most common mode of HIV transmission.<sup>27</sup> These changes most likely reflect increasing spread HIV from IDUs to their noninjecting sexual partners.<sup>28</sup> The HIV/AIDS epidemic could thus evolve from a concentrated epidemic among vulnerable populations and spread to the general population unless timely and expanded core interventions reach IDUs. Cambodia's HIV/AIDS epidemic is spread primarily through heterosexual transmission and revolves largely around the sex trade.

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26. Des Jarlais et al., "HIV among Injecting Drug Users."

27. Lu Wang et al., "The 2007 Estimates for People at Risk for and Living with HIV in China: Progress and Challenges," *Journal of Acquired Immune Deficiency Syndromes* 50, no. 4 (2009): 414–18.

28. Ibid.

# 4

## MEDICATION-ASSISTED TREATMENT AND OTHER CORE INTERVENTIONS

### Current Status of Medication-assisted Treatment

The effectiveness of MAT in treating opiate addiction, reducing drug use, reducing the frequency of sharing potentially HIV-contaminated syringes and needles, and preventing HIV infection has been well documented.<sup>29</sup> MAT (methadone and buprenorphine) is a core component of a comprehensive HIV prevention program. Strong evidence indicates that appropriate doses of methadone or buprenorphine relieve cravings, block the effect of illicit opioids, prevent withdrawal, and reduce the frequency of injecting drug use and reuse of syringes and needles—all factors contributing to fewer new HIV infections.<sup>30</sup> MAT can also increase access to HIV treatment and primary care, referral to other services, and adherence to HIV medications.<sup>31</sup> For MAT to have an impact on the HIV epidemic, however, an enabling environment of laws, policies, and regulations supporting IDUs' access to services must be created; services must be readily available; and the proportion of IDUs reached (coverage) by these services has to be scaled up over time to reach 20–40 percent.<sup>32</sup> Forty percent coverage rate has been reached in countries with well-established MAT programs.<sup>33</sup>

### Country-level Availability of MAT Services

A wide gap exists between those in need of MAT and those receiving it. In the 14 countries surveyed in this report, methadone or buprenorphine is provided only in 8 (see table 4).<sup>34</sup> Out of an estimated 3.2 million opioid injectors in the 14 countries, only 107,873—that is, 3.4 percent—are receiving methadone treatment from government clinics.

Six of the eight countries providing MAT have coverage levels lower than 2 percent. Two countries, China and Malaysia, have coverage of 17 and 10 percent, respectively. Most of these programs began in 2003 or later, and most started as small pilot projects.

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29. IOM, *PEPFAR Implementation*; and Fiellin et al., *Combating the Twin Epidemics*.

30. Ibid., and see David S. Metzger et al., “Drug Abuse Treatment as AIDS Prevention,” *Public Health Reports* 113, Supplement 1 (June 1998): 97–106.

31. Andrew Ball et al., “Evidence for Action: A Critical Tool for Guiding Policies and Programmes for HIV Prevention, Treatment and Care among Injecting Drug Users,” *International Journal of Drug Policy* 16S (2005): S1–6.

32. Verster et al., “Financial Resources.”

33. WHO, UNODC, and UNAIDS, *Technical Guide*.

34. International Harm Reduction Association (IHRA), *The Global State of Harm Reduction 2008: Mapping the Response to Drug-Related HIV and Hepatitis C Epidemics* (London: IHRA, 2008).

Most countries provide methadone, and some provide both methadone and buprenorphine.<sup>35</sup> Of the six countries in Eastern Europe and Central Asia, four report that they provide MAT services. Approximately 5,000 opioid users in these four countries receive methadone, and approximately 850 more receive buprenorphine. Russia, the country with the second-highest number of IDUs in the world and a high burden of HIV among IDUs, does not permit medication-assisted treatment. Tajikistan is planning to introduce it in the near future.<sup>36</sup>

Four of the five countries surveyed in East and Southeast Asia provide MAT services—China, Indonesia, Malaysia, and Vietnam. Cambodia is currently planning to introduce methadone maintenance treatment as a pilot for 100 opioid users in early 2010.<sup>37</sup> All of the above countries offer methadone through publicly funded clinics.

Buprenorphine is available through private physicians in Indonesia, but it is expensive. The Indonesian government began to provide publicly funded medication-assisted therapy in 2003 in a pilot program, when the country's HIV epidemic in IDUs first exploded.<sup>38</sup> In Malaysia, buprenorphine is currently available in private clinics and reaches 12,000 opioid users. Vietnam started a pilot MAT program in 2008, and, to date, it has enrolled about 1,400 IDUs. None of the countries in sub-Saharan Africa—Kenya, South Africa, or Tanzania—currently has MAT services; however, Tanzania has developed an operational plan for implementation of a pilot MAT program in fiscal year 2010.

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35. In some countries, both methadone and buprenorphine are available, for example, Indonesia, Malaysia, and Ukraine. Increasingly, countries are supporting methadone maintenance therapy (MMT) in publicly funded clinics because it is much less expensive than buprenorphine. Ukraine provides both, but increasingly methadone. Malaysia provides buprenorphine through private physicians, and the publicly funded clinics provide methadone.

36. Alisher Latypov, personal communication, August 5, 2009.

37. G.P. Shaw, personal communication, August 19, 2009.

38. Fabio Mesquita et al., "Public Health the Leading Force of the Indonesian Response to the HIV/AIDS Crisis among People Who Inject Drugs," *Harm Reduction Journal* 4, no. 9 (2007), <http://www.harmreductionjournal.com/content/4/1/9>.



**Table 4. Medication-assisted Therapy, Needle and Syringe Programs, and Antiretroviral Therapy in Central Asia, Eastern Europe, and East and Southeast Asia, Various Years, 2005–2009**

Country	Number of IDUs (year)	Number of Individuals on Methadone Therapy (year)	Number of Methadone Treatment Sites (year)	Methadone/ Buprenorphine Start Year	Number of NSP Sites (year)	Number of Syringe Distributions per Year	Number of Individuals with Access to NSP per Year	Number of people receiving ART [IDUs receiving ART] (year)
Russia	R: 537,000 (09) E: 1,825,000 (07)	0 (09)	0 (10)	N/A	72 (09)	6,904,460 (09)	122,997 (09)	40,000 (08) [N/A]
Ukraine	R: 173,594 (08) E: 229,000 (178,000–279,000) (09)	3,147 (09)	87 (09)	2008/2004	1,203 (09)	10,000,000 (09)	95,000 (09)	10,629 (09) [N/A]
Georgia	E: 80,000 (06)	1,000 (09)	12 (09)	2005/none	9 (09)	393,065 (09)	2,355 (09)	521 (08) [15] (08)
Kazakhstan	R: 55,286 (07) E: 122,850 (115,500–130,200) (08)	50	1 (08)	2008/none	146 (08)	1,211,664 (08)	37,310 (08)	N/A [N/A]
Kyrgyz Republic	R: 5,386 (09) E: 44,398 (07)	735	16 (09)	N/A	20 (08)	N/A	N/A	136 (08) [N/A]
Tajikistan	R: 5,430 (year unknown) E: 20,000 (07)	0	0 (10)	N/A	35 (09)	2,251,897 (07)	5,697 (07)	231 (09) [128] (09)

(continued next page)

Vietnam	R: 145,000 (06) E: 200,000 (09)	1,354 (09)	6 (09)	2008/none	194 (09)	20,000,000 (08)	40,763 (08)	28,000 (09)
China	R: 541,184 (08) E: 2,350,000 (1,800,000–2,900,000) (05)	93,733 (08)	621 (09)	2004/2008	901 (08)	1,173,764 (09)	38,000 (08)	52,000 (08) [7,644] (08)
Indonesia	E: 270,000 (190,460–247,800) (07)	2,854 (09)	8 (09)	2003/2003	159 (09)	511,670 (09)	49,000 (08)	19,579 (09) [N/A]
Cambodia	E: 2,025 (1,250–7,500) (07)	0	0 (10)	N/A	2 (09)	117,631 (09)	34,412 (08)	26,664 (07) N/A
Malaysia	E: 195,000 (07)	20,000 (08)	75 (09)	2005/2001	130 (09)	1,903,174 (09)	5,572 (09)	7,587 (07) [1,770] (07)

Source: Data compiled from sources listed in appendix C.

Note: R = registered data; E = estimated data; N/A = data not available.

## Current Number of Publicly Funded Clinics Providing MAT Services

Another dimension of accessibility to services is the availability or physical access to MAT. With the exception of China and Ukraine, the number of publicly funded clinic sites providing MAT is limited. China has the greatest number of publicly funded sites, which expanded from 8 in 2004 to 621 in 2008.<sup>39</sup> Ukraine has expanded to 87 sites, recently establishing an infrastructure for scaling up services across the country. The number of IDUs enrolled in Ukraine's MAT program, however, remains limited. Malaysia has many sites, including a large number of private clinics providing MAT services. Vietnam has a pilot program, and the number of sites—currently six—is small, although the country plans to substantially expand this number in 2010. Indonesia has a limited but growing number, currently with eight sites. The Kyrgyz Republic has 16 publicly funded sites, and Georgia has 12. Medication-assisted therapy has reached only 50 opioid users in Kazakhstan's pilot program, and the country has made little progress in enrolling IDUs or in making the therapy more accessible.

## Number of Opioid Users Accessing MAT and MAT Coverage

The term coverage as defined by the WHO, UNODC, and UNAIDS technical guide is used to describe the proportion of the target population in need of an intervention that actually receives the services. An enormous gap exists between those in need of services and those receiving them.<sup>40</sup> It is estimated that more than 5 million IDUs live in the 14 countries in this report. The assumption is made that 60 percent of the IDUs are opiate injectors, although some reports suggest that estimate may be low. Only 3.81 percent of the total opioid injectors are receiving MAT, and most of those are living in China and Malaysia.

China has the greatest number of opioid users receiving MAT among the 14 countries, with 93,773 IDUs currently receiving the therapy. In 2004, the first year of the program, 1,209 were on MAT, increasing to 8,116 in 2005, 26,165 by 2006, and 57,947 in 2007.<sup>41</sup> Malaysia has 5,000 IDUs enrolled in publicly funded clinics; 15,000 receive MAT services through private clinics. Ukraine has 3,147 on methadone and 842 on buprenorphine. In Indonesia, 2,854 registered opioid users receive MAT; there were 36 methadone programs in hospitals, community health centers, and prisons in 2008 and an estimated 500 with buprenorphine programs run by private providers.<sup>42</sup> In East and Southeast Asia, with an estimated 3 million IDUs, currently about 116,587 receive MAT services.

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39. Chinese Centers for Disease Control and Prevention (CCDC), *Report of the Secretariat of China Methadone Maintenance Treatment Working Group* (Beijing: CCDC, 2008).

40. WHO, UNODC, and UNAIDS, *Technical Guide*.

41. CCDC, *Report of the Secretariat*.

42. *Indonesian Ministry of Health Report, 2009*, cited in Risa Alexander's response to country-based survey on MAT.

## Accessibility: Quality of MAT Services

Country experts were asked whether medication-assisted therapy programs in their respective countries follow the WHO guidelines that describe standards for implementing high-quality interventions. Six countries responded to this question. With the exception of the Kyrgyz Republic and Kazakhstan, where country experts did not respond, other countries with MAT—China, Georgia, Indonesia, Malaysia, Ukraine, and Vietnam—indicated that programs adhere to WHO guidelines for the psychosocially assisted pharmacological treatment of opioid dependence. Cambodia reports that it plans to adhere to the WHO guidelines for the pilot methadone program that will be implemented in early 2010.<sup>43</sup>

Another indicator of quality, also related to WHO guidance, is the dosage provided to MAT participants. Optimal dosing is a critically important component of effective MAT programs.

The recommended methadone dose after opioid users are stabilized is more than 60mg (60–100mg), as it results in better retention in treatment compared to lower-dose treatment.<sup>44</sup> Only China reports an average dose less than the minimum recommended standard. Georgia and Malaysia report that 75 percent and 70 percent respectively receive more than 60mg doses of methadone (see table 5).

**Table 5. Average and Range of Methadone Maintenance Dose in Six Countries, 2009**

Country	Methadone Dosing Average and Range (milligrams)
Ukraine	79.8 (5–250)
Georgia	60 (70–120)
Kyrgyz Republic	80 (20–160)
Vietnam	104.3 (20–300)
China	50 (1–315)
Indonesia	60 (40–80)
Malaysia	80 (40–120)

Source: Country focal respondent survey responses.

## Other Core HIV Intervention Services: NSP and ART

WHO, UNAIDS, and UNODC report that a comprehensive package to prevent the spread of HIV includes nine different interventions, with NSP, MAT, and ART emphasized as core and critically important components.<sup>45</sup> NSP and MAT—delivered in combination, scaled-up appropriately for the HIV epidemics in different countries, and sustained over time—can prevent, or halt, epidemics.<sup>46</sup>

43. WHO, *Guidelines for the Psychosocially Assisted Pharmacological Treatment of Opioid Dependence* (Geneva: WHO, 2009), [http://whqlibdoc.who.int/publications/2009/9789241547543\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241547543_eng.pdf).

44. Ibid.

45. WHO, UNODC, and UNAIDS, *Technical Guide*. The nine interventions are (1) needle and syringe programs; (2) opioid substitution therapy and other drug dependency treatment; (3) HIV testing and counseling; (4) antiretroviral therapy; (5) prevention and treatment of sexually transmitted infections; (6) condom programming for IDUs and their sexual partners; (7) targeted information, education, and communication for IDUs and their sexual partners; (8) viral hepatitis diagnosis, treatment, and vaccination; and (9) tuberculosis prevention, diagnosis, and treatment.

46. Verster et al., "Financial Resources."

## Needle and Syringe Programs

Injecting drug users, particularly those who reuse other persons' syringes, are at high risk for HIV transmission. All the countries in East and Southeast Asia and Eastern Europe and Central Asia report the availability of NSP, although coverage remains low relative to the number of IDUs who need regular access and ancillary health-related services.

Among countries in East and Southeast Asia, China has the greatest number of sites (901) followed by Vietnam (194), Indonesia (159), Malaysia (130), and Cambodia (2), for a total of 1,386 sites.

Eastern Europe and Central Asia are also implementing NSP. Ukraine has the largest number of needle and syringe sites (1,203) and reports distribution of more than 10 million syringes in 2009, with about 95,000 injecting drug users accessing NSP services. Russia reports many fewer sites than Ukraine (72), but more than 123,000 IDUs used the service. Many IDUs obtain their injection equipment through pharmacies in Russia. Kazakhstan has 146 NSP sites, but the access number is much smaller (37,310 IDUs annually). Georgia with 9 sites, Kyrgyzstan with 20 sites, and Tajikistan with 35 sites are all much smaller, and just a few thousand IDUs have access to these programs annually. It is estimated that 425,534 IDUs have accessed NSPs in 2,743 outlets and that over 44 million syringes were distributed in the 11 countries in 2009 where NSP is available. Kenya, South Africa, and Tanzania do not currently have NSP sites, although in Tanzania, sterile syringes and needles can be purchased in pharmacies.

## Antiretroviral Therapy

Only limited data are available about the number of injecting drug users receiving antiretroviral therapy in the countries in this report. Country respondents were asked about ART availability from publicly funded programs for people who are HIV-positive and active injecting drug users. They were also asked about the total number of HIV-positive persons receiving ART and the number of IDUs receiving ART. Five countries provided data about ART for IDUs.

The number of injecting drug users receiving antiretroviral therapy is not proportional to the burden of disease in countries reporting numbers. These data are either not routinely collected, or if the data are collected, they are often not reported. These data are necessary to ensure that the availability and coverage of ART are proportional to the burden and that no exclusion criteria or discrimination is limiting access to services. China reports that about 52,000 are receiving ART and that about 14.7 percent of those receiving ART are injecting drug users.<sup>47</sup> IDUs currently make up 38.5 percent of cumulative HIV cases in China. In Ukraine, 10,629 persons are on ART, and about 17.5 percent are injecting drug users. IDUs are 60 percent of cumulative HIV cases in Ukraine. In Malaysia, approximately 25 percent of patients receiving antiretroviral therapy are IDUs, while IDUs make up 75 percent of all those with HIV in the country. Tajikistan reports the highest percentage of HIV-infected injecting drug users receiving antiretroviral therapy (55 percent). The WHO, UNAIDS, and UNICEF 2009 report on progress toward access to HIV/AIDS interventions in the health sector notes that the number of people living with HIV/AIDS and receiving ART by region and by country is increasing. The report, however, does not provide precise numbers of those receiving antiretroviral therapy based on

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47. Fujie Zhang et al., "Five-Year Outcomes of the China National Free Antiretroviral Treatment Program," *Annals of Internal Medicine* 151, no. 4 (August 2009): 241–51, W-252.

the mode of initial HIV transmission. In low- and middle-income countries in Europe and Central Asia, 23 percent (85,000) of the estimated 370,000 in need of ART are receiving it, and 54,900 of those reside in Russia.<sup>48</sup>

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48. WHO, UNAIDS, and UNICEF, *Towards Universal Access*.

# 5

## BARRIERS TO INTRODUCING AND SCALING UP MAT SERVICES

### Barriers to Accessing MAT Services

Focal respondents identified a number of legal, policy, technical, fiscal, and human resource constraints as well as operational barriers that, in part, account for countries not having introduced or scaled up access to medication-assisted therapy (see table 6).<sup>49</sup>

Despite the centrality of injecting drug use in driving Russia's HIV/AIDS epidemic, the country has specific legislation that prohibits MAT. Tajikistan, too, has yet to introduce MAT programs, although there are indications that efforts are underway to change the legislation to allow for such programs. Cambodia and Tanzania are in the planning stages for implementation of pilot MAT programs. And other countries, although they have introduced MAT programs, also report restrictive legislation and other barriers that have limited the scaling up or transitioning of MAT from pilot programs to expanded access. In addition, stigma associated with injecting drug users is reported in almost all countries.

Though data from a number of countries are not complete, several countries included in this report have restrictive entry criteria for admission to MAT, which can result in undermining the ultimate goal of increasing access to services for a greater number of IDUs, reducing injecting drug use, reducing multiperson reuse of syringes, and preventing HIV transmission.

A number of countries—China, Georgia, Malaysia, Ukraine, and Vietnam—require that IDUs be registered before they are eligible for services. In most countries, requirements that IDUs register by name with authorities, and sharing of information between health providers and law enforcement, can limit opportunities for gainful employment and prevent IDUs from seeking treatment early enough or at all, thus increasing their risks for disease transmission and the morbidity and mortality associated with the consequences of drug addiction. Furthermore, in multiple countries in East and Southeast Asia and in Eastern Europe and Central Asia, those presenting for MAT or apprehended by the police on suspicion of drug use have their names added to government registries. Registered drug users may be subject to stop-and-frisk procedures by the police and to forced urine testing even while performing activities such as registering their children for school. Registered drug users can also be denied driver's licenses, child custody, or government employment.<sup>50</sup>

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49. IHRA, *The Global State of Harm Reduction 2008*.

50. See Daniel Wolfe, "Paradoxes in Antiretroviral Treatment for Injecting Drug Users: Access, Adherence and Structural Barriers in Asia and the Former Soviet Union," *International Journal of Drug Policy* 18, no. 4: 246–54; Natalia Bobrova et al., "Barriers to Accessing Drug Treatment in Russia: A Qualitative Study among Injecting Drug Users in Two Cities," *Drug and Alcohol Dependence* 82, Supplement 1 (April 2006): S57–63; International Harm Reduction Development Program, *At What Cost? HIV and Human Rights Consequences of the Global 'War on Drugs'* (New York: Open Society Institute, 2009); and Acacia Shields, *The*

**Table 6. Barriers to Introducing and Scaling Up Medication-assisted Therapy in Eight Countries, 2009**

	Vietnam	China	Indonesia	Malaysia	Russia	Ukraine	Georgia	Kenya
Legislation	X			X	X	X	X	
Poor availability	X			X		X	X	
Restrictive inclusion criteria	X			X		X	X	
Transportation costs		X		X		X	X	
Lack of confidentiality		X				X	X	
Mandatory registration of IDUs for eligibility	X	X		X		X	X	
Limited local capacity	X	X		X		X	X	
Limited funding				X		X	X	
Limited government or local policy support	X			X	X	X	X	X
Stigma	X	X	X	X	X	X	X	X
Lack of knowledge by decision-makers		X	X	X	X	X	X	X
Adequate number of IDUs to get government support							X	
High cost of medication				X			X	
Overall cost of treatment program							X	

Source: Country focal respondent survey responses.



**Table 7. Cost Estimates for IDU Interventions in Eight Countries with Medication-assisted Therapy, 2009**

	Ukraine	Georgia	Kazakhstan	Kyrgyz Republic	Vietnam	China	Indonesia	Malaysia	Total
Estimated number of IDUs	229,000	80,000	122,850	44,398	200,000	2,350,000	237,057	195,000	3,458,305
Estimated number of opioid injectors among IDUs (estimated 60% of total IDUs)	137,400	48,000	73,710	26,639	120,000	1,410,000	142,234	117,000	2,074,983
Number of people currently on MMT	3,147	1,000	50	735	1,354	93,733	2,854	20,000	122,873
<b>Methadone Program Cost Estimates</b>									
Lower bound (20%) coverage of estimated number of opioid injectors)	24,333	8,600	14,692	4,593	22,646	188,267	25,593	3,400	292,124
Mean cost of methadone per year (based on unit cost range \$363.65–1,057 per person/year)	\$17,284,338	\$6,108,795	\$10,436,095	\$3,262,352	\$16,086,020	\$133,730,757	\$18,179,234	\$2,415,105	\$207,502,696
Upper bound (40%) coverage of estimated number of opioid injectors)	51,813	18,200	29,434	9,921	46,646	470,267	54,040	26,800	707,120

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Mean cost of methadone per year (based on unit cost range \$363.65–1,057 per person/year)	\$36,804,069	\$12,927,915	\$20,907,706	\$7,046,793	\$33,133,820	\$334,042,407	\$38,385,736	\$19,036,710	\$502,285,156
<b>Needle and Syringe Exchange Program Cost Estimate</b>									
Lower bound (20%) coverage of estimated number of IDUs	45,800	16,000	24,570	8,880	40,000	470,000	47,411	39,000	691,661
Mean cost of NSPs (based on unit range \$4–10 per patient/year)	\$320,600	\$112,000	\$171,990	\$62,157	\$280,000	\$3,290,000	\$331,880	\$273,000	\$4,841,627
Mean (40%) coverage of estimated number of IDUs	91,600	32,000	49,140	17,760	80,000	940,000	94,822	78,000	1,383,322
Mean cost of NSPs (based on unit range \$4–10 per patient/year)	\$641,200	\$224,000	\$343,980	\$124,320	\$560,000	\$6,580,000	\$663,754	\$546,000	\$9,683,254
Upper bound (60%) coverage of estimated number of IDUs	137,400	48,000	73,710	26,639	120,000	1,410,000	142,234	117,000	2,074,983
Mean cost of NSPs (based on unit range \$4–10 per patient/year)	\$961,800	\$336,000	\$515,970	\$186,472	\$840,000	\$9,870,000	\$995,639	\$819,000	\$14,524,881

Source: Author calculations.

**Table 8. Cost Estimates for IDU Interventions in Six Countries with no Medication-assisted Therapy, 2009**

	Russia	Tajikistan	Cambodia	South Africa	Tanzania	Kenya	Total
Estimated IDUs	1,825,000	20,000	2,025	16,000	25,000	30,000	1,918,025
Estimated Opioid Injectors among IDUs (estimated 60% of total IDUs)	1,095,000	12,000	1,215	9,600	15,000	18,000	1,150,815
Number of people currently on MMT	0	0	0	0	0	0	0
<b>Methadone Program Cost Estimate</b>							
Lower Bound Gap (based on 20% coverage of estimated number of opioid injectors)	219,000	2,400	243	1,920	3,000	3,600	230,163
Mean Cost of Methadone per year (based on unit cost range \$363.65–1,057 per patient/year)	\$ 155,561,175	\$ 1,704,780	\$ 172,609	\$ 1,363,824	\$ 2,130,975	\$ 2,557,170	\$ 163,490,533
Upper Bound Gap (based on 40% coverage of estimated number of opioid injectors)	438,000	4,800	486	3,840	6,000	7,200	460,326

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Mean Cost of Methadone per year (based on unit cost range \$363.65–1,057 per patient/yr)

\$311,122,350      \$3,409,560      \$345,218      \$2,727,648      \$4,261,950      \$5,114,340      \$326,981,066

	Needle and Syringe Exchange Program Cost Estimate						
Lower bound (20% coverage of estimated number of IDUs)	365,000	4,000	405	3,200	5,000	6,000	383,605
Mean Cost of NSPs (based on unit range \$4–10 per patient/yr)	\$2,555,000	\$28,000	\$2,835	\$22,400	\$35,000	\$42,000	\$2,685,235
Mean (40%) coverage of estimated number of IDUs	730,000	8,000	810	6,400	10,000	12,000	767,210
Mean Cost of NSPs (based on unit range \$4–10 per patient/yr)	\$5,110,000	\$56,000	\$5,670	\$44,800	\$70,000	\$84,000	\$5,370,470
Upper bound (60% coverage of estimated number of IDUs)	1,095,000	12,000	1,215	9,600	15,000	18,000	1,150,815

Source: Author calculations.

A number of countries—Indonesia, Kazakhstan, Ukraine, and Vietnam—require IDUs to show that they have failed multiple treatment attempts before they can access medication-assisted therapy. (China initially required failed treatment as an entry criterion but very soon after introducing the program eliminated this condition.) Requiring IDUs to demonstrate an inability to achieve sobriety before the provision of evidenced-based therapies such as MAT is counterproductive as it only increases the probability that more IDUs will become infected. It raises the likelihood of HIV transmission and other co-morbidities and the mortality associated with continuing injecting drug use, which occur because relapse rates are high. This cycle makes overall treatment efforts more problematic. In all Asian countries surveyed, the number of IDUs being held in locked, often compulsory, detoxification or rehabilitation centers far exceeds the number of IDUs who are offered access to medication-assisted therapy. Some 50,000 IDUs are in such facilities in Vietnam.

China, Georgia, Indonesia, Ukraine, and Vietnam also report age restrictions for entry to MAT (enrollees must be older than 18). Although the majority of IDUs are older than 18 years, adolescent injecting drug use has been a concern in surveyed countries. Age requirements prevent MAT from being used as a primary HIV prevention service to IDUs based on their need.

A number of countries also report limited government and local policy support, as well as lack of knowledge by decisionmakers. At the operational level, countries report limited capacity to provide services for medication-assisted therapy, even if most often governments will allow small-scale pilot programs. Another factor that accounts for countries' choosing to start programs as small-scale pilots is the limited number of trained staff that can provide MAT.

Two African countries—Kenya and South Africa, which currently do not have MAT programs—report a number of factors that have prevented their introduction. South Africa describes the absence of legislation and policy support, limited or lack of knowledge by decisionmakers, and lack of financial support for the program. Kenya reports limited government and policy support, limited knowledge by decisionmakers, and stigma as barriers.

## Gaps in Programs

Tables 7 and 8 include data on gaps in coverage for medication-assisted therapy for each country and the costs that would be incurred to scale up to 20 percent and 40 percent coverage for opioid injectors in each country. It is estimated that more than 1.1 million opioid injectors across these countries would have to be reached by MAT to achieve a 40 percent coverage rate. The size of the treatment gap is calculated based on three variables—estimated number of opioid injectors (60 percent of estimated injecting drug users), 20–40 percent coverage rate, and number of current MAT enrollments. Scaling up is expected to take a number of years. Russia has the greatest number of opioid injectors in need of MAT. China has made great progress in introducing and scaling up MAT, although many IDUs are not yet covered.

This report relies on WHO for guidance on cost estimates and the financial resources required to control and prevent HIV transmission among injecting drug users.<sup>51</sup> Although WHO's guidance for people receiving MAT in these countries assumes that 80 percent will be on methadone and 20 percent on buprenorphine treatment, the calculation in this report uses methadone as the only treatment intervention for IDUs to simplify the projections. This is because (1) few countries

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51. Verster et al., "Financial Resources."

had buprenorphine programs at the time of the report;<sup>52</sup> (2) methadone is widely used to treat opioid addiction, including in 9 out of 14 countries in this report; (3) the average cost per patient per year of buprenorphine treatment is about four times more expensive than methadone;<sup>53</sup> and (4) buprenorphine may not be included in country plans for registration of the drug as an essential medicine in the next five years in all 14 countries.

WHO estimates indicate that the unit cost of the methadone program ranges from \$363.65 to \$1,057 per patient per year. The estimated total methadone treatment cost for the 14 countries in this report to reach 20–40 percent coverage varies between \$370 million and \$829 million. (It is assumed that the epidemiological and programmatic variable data will remain stable at current levels to the year 2015 for the purpose of cost calculation.)

## PEPFAR Support for MAT

In its first five years, PEPFAR provided technical assistance to reduce policy barriers to the introduction and support of medication-assisted therapy, particularly in Eastern Europe and Central Asia. The financial resources to support this activity were limited, however, and it was only one of many areas PEPFAR supported. PEPFAR has contributed to funding MAT pilot programs in Ukraine and Vietnam, for example. Coverage remains low in Ukraine, although it could expand in the future if sufficient funds are available. Vietnam, however, has not transitioned from a pilot to a scaled-up program, although the country is funded at a high level compared to other PEPFAR countries with drug-driven epidemics. Plans are underway to expand access by starting a number of new MAT sites in 2010, although the gaps between those who might benefit from the services and those who receive them will remain large.

The Global Fund to Fight AIDS, Tuberculosis, and Malaria has supported the scale-up of methadone or buprenorphine treatment and pilot projects in countries with injection-driven epidemics and is currently receiving U.S. bilateral support for HIV/AIDS. Countries with Global Fund support include China, Georgia, Indonesia, Kazakhstan, the Kyrgyz Republic, Ukraine, and Uzbekistan. China is making rapid progress toward scaling up the availability of MAT. Through its public health evaluation program, PEPFAR is supporting an evaluation of the MAT program in China.

Table 9 shows U.S. bilateral support for prevention, treatment, and care activities in countries like Cambodia with concentrated epidemics or emerging epidemics of HIV among populations of injecting drug users. In 2009, \$148 million of the \$3.85 billion of approved PEPFAR operational funds was available to East and Southeast Asia and to Eastern Europe and Central Asia, with \$89 million of the \$148 million allocated to Vietnam. Each of the Central Asian countries receives less than \$1 million per year. Many of these countries provide substantial resources for implementing their country programs, specifically China and Russia. In Russia, national resources are targeted mostly to scaling up antiretroviral treatment, not prevention.

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52. Only China, Indonesia, Malaysia, and Ukraine reported having buprenorphine available.

53. Verster et al., “Financial Resources.”

**Table 9. PEPFAR FY09 Approved Funding for Countries with Injecting Drug Use and HIV Epidemics (in millions of U.S. dollars)**

Region and Country	Approved Funding	Prevention	Care	Treatment	Other
<b>East Asia and Pacific</b>					
Cambodia	18	9.1	2.4	2.4	4.1
China	10.3	3.9	1.5	1.3	3.6
Indonesia	9.0	5.9	0.8	0.2	2.1
Vietnam	89.0	30.0	20.8	18.6	19.5
<b>Europe and Eurasia</b>					
Russia	8.0	3.3	2.6		2.2
Ukraine	8.2	2.9	1.0		8.2

Source: The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) Fiscal Year 2009 Operational Plan, December 2009, p. 17, <http://www.pepfar.gov/documents/organization/124050.pdf>.

Table 10 reveals that of the prevention program activities funded for FY09, only \$17.9 million of the \$1 billion in FY09 approved country operational plans is available to support prevention for injecting and noninjecting drug users. These data most probably do not reflect precisely the dollar amounts dedicated to each of the prevention activities, since the Office of the Global AIDS

**Table 10. PEPFAR's FY09 Approved Funding for AIDS Prevention (in millions of U.S. dollars)**

Prevention	Approved Funding
Male circumcision	33.8
Blood safety	55.
Injection safety	22.5
Abstinence, "be faithful"	207.6
Counseling and testing	206.7
Other sexual prevention	233.4
Injecting and noninjecting drug use	17.9
Prevention of mother-to-child HIV transmission	225.6
<b>Total</b>	<b>1002.9</b>

Source: The U.S. President's Emergency Plan for Aids Relief (PEPFAR), Fiscal Year 2009: PEPFAR Operational Plan, December 2009.

Coordinator uses many different budget codes to account for the money made available to countries. Even with the acknowledgment that the data reported in this table are not precise, the conclusion that comparatively little money is dedicated to prevention activities for injecting and noninjecting drug users will not change.

The Office of the Global AIDS Coordinator is in the process of revising guidance for interventions among IDUs, seeking to bring such guidance in line with the new PEPFAR overall five-year strategic plan. As a result, OGAC has not yet published its policy focusing specifically on the prevention of HIV among IDUs. A U.S. interagency technical working

group on most-at-risk populations and a substance abuse subgroup are responsible for organizing and delivering technical assistance across vulnerable population groups. Much of the focus to date, however, has been on interventions to limit sexual transmission of HIV and alcohol-related HIV risks in sub-Saharan African countries.

OGAC developed a technical guidance document in 2006 identifying approaches that country missions could consider in responding to epidemics of HIV among heroin injectors, including a discussion of medication-assisted therapy, but that guidance is currently not posted on the PEPFAR Web site because it was anticipated that the ban on use of federal funds for needle and syringe programs would be lifted. In the original guidance document, PEPFAR indicated it would not support NSP activities. In December 2009, the U.S. Congress lifted the ban on federal funding for needle and syringe exchange programs, raising the possibility for greater support from OGAC for NSP in global HIV prevention efforts.



# 6

## SUMMARY, RECOMMENDATIONS, AND CONCLUSION

### Summary of Findings

More than 5 million injecting drug users live in the 14 countries covered in this report, representing almost one in three injecting drug users worldwide. This report is intended to help guide discussions about enhancing the role of HIV prevention in the overall global HIV/AIDS response for vulnerable populations. The following points are among the report's key epidemiological and programmatic findings in the 14 countries surveyed:

- Only slightly more than 122,000 IDUs are receiving medication-assisted therapy, most of them (almost 100,000) in China. This number represents slightly more than 10 percent of the estimated 950,000 IDUs receiving MAT worldwide, which in turn represents only a small proportion of the IDUs who might benefit from such therapy.<sup>54</sup>
- Medication-assisted therapy is unavailable in Russia. Elsewhere, with the exception of China and Malaysia, MAT coverage is low. Vietnam and other countries are conducting pilot programs, and it is not yet clear when they will transition to expanded access to large numbers of IDUs in need of MAT. Ukraine has recently created the infrastructure to expand access to MAT, but resources and capacity may limit reaching larger numbers of IDUs.
- Some countries that have only recently begun to experience increasing numbers of injecting drug use and HIV among IDUs—for example, Cambodia and Tanzania—are now planning for the implementation of pilot methadone programs.
- For coverage rates to have an impact on the HIV epidemic, they should range from 20 to 40 percent by 2015 depending on current availability of MAT in a particular country. The costs for scaling up programs to 20 or 40 percent coverage in the 14 countries surveyed are estimated between \$370 million and \$829 million, respectively.
- Many barriers limit the introduction and scaling up of MAT and other core interventions such as needle and syringe programs and antiretroviral programs. Such barriers account for the huge gap between the need for treatment and the availability of services that have been demonstrated to prevent the further transmission of HIV/AIDS.

Three key points are among the findings related to U.S. support:

- Current U.S. support to countries with concentrated epidemics, with the exception of Vietnam, is comparatively limited and not commensurate with the burden of IDU-related HIV epidemics across these countries.
- Of PEPFAR's more than \$1 billion approved prevention budget in FY09, only \$17.9 million is

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54. IHRA, *The Global State of Harm Reduction 2008*.

identified specifically for the prevention of HIV among injecting and noninjecting drug users. This figure is drawn from a PEPFAR-published table, but is nonetheless reported with some caution because the budgeting categories may include prevention for IDU activities elsewhere.

- Staffing and support for dedicated experts in MAT and other HIV interventions among IDUs are very limited within the Office of the Global AIDS Coordinator, among other U.S. agencies, and in the field.

## Recommendations

Injecting drug use is driving HIV epidemics in many countries around the world. According to scientific consensus, epidemics of HIV among IDUs can be averted, halted, and reversed if comprehensive programs targeting drug users are introduced and rapidly scaled up.<sup>55</sup> It is also clear that the funding for programs for IDUs is a shared responsibility with other multilateral and bilateral donors and with the Global Fund. Given the preeminent role of the United States, U.S. leadership will be essential to the success of this effort.

- Develop a program targeted to IDUs: To initiate a more robust global effort to expand HIV prevention efforts among injecting drug users, the Office of the Global AIDS Coordinator should develop a specific comprehensive, evidence-, and rights-based approach to HIV prevention, care, and treatment policy. These policies should be harmonized with the policies and recommendations of UNAIDS, WHO, and UNODC to help reduce stigma, eliminate discriminatory practices against IDUs in accessing services, and establish comprehensive multicomponent intervention programs that include medication-assisted therapy, needle and syringe exchange, and antiretroviral therapy programs.<sup>56</sup>
  - Develop technical guidance: OGAC will also need to develop technical guidance that provides more specificity for those in the field. This effort should include guidance on strengthening partner countries' capacity to implement the optimum combination of prevention interventions among IDUs, including MAT and NSP in countries with concentrated epidemics and countries with generalized heterosexually spread HIV epidemics. A second technical guidance document should be developed linking OGAC policies to the many documents developed by WHO, the Substance Abuse and Mental Health Service Administration, and other agencies focusing exclusively on introducing and scaling up sustainable MAT programs.

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55. See Andrew Ball, "HIV, Injecting Drug Use and Harm Reduction: A Public Health Response," *Addiction* 102, no. 5 (March 2007): 684–92; and Peter Piot et al., "Coming to Terms with Complexity: A Call to Action for HIV Prevention," *Lancet* 372, no. 9641 (September 6, 2008): 845–59.

56. UNAIDS, *24th Meeting of the UNAIDS Programme Coordinating Board* (Geneva: UNAIDS, 2009), p. 34. The UNAIDS Policy Position Paper made the following recommendations in relation to HIV prevention responses among injecting drug users: "Prevent transmission of HIV through injecting drug use—by developing a comprehensive, integrated and effective system of measures that consists of the full range of treatment options, (notably drug substitution treatment) and the implementation of harm reduction measures (through, among others, peer outreach to injecting drug users, and sterile needle and syringe programmes), voluntary confidential HIV counseling and testing, prevention of sexual transmission of HIV among drug users (including condoms and prevention and treatment for sexually transmitted infections), access to primary healthcare, and access to antiretroviral therapy. Such an approach must be based on promoting, protecting and respecting the human rights of drug users."

- Encourage use of the technical guide: Finally, partner countries should be encouraged to use the technical guide prepared jointly by WHO, UNODC, and UNAIDS for setting their own individual country targets for universal access to HIV prevention, treatment, and care for IDUs. OGAC's continued participation in the informal international working group with UN agencies and bilateral and multilateral donors on HIV/AIDS and IDUs will help ensure a coordinated response to the global epidemics of HIV among IDU populations.
  - Explore new approaches for introducing MAT in countries: Countries need to move from small-scale pilots to expanded access. This progression will require easy access to MAT, evidenced by rapid assessment and admission to treatment and infrequent discharges from treatment. One approach being proposed is the creation of high-volume sites that will concentrate resources in facilities in key cities with the highest HIV incidence rate among IDUs. These sites would aim for rapid dissemination of MAT to IDUs with the focus on reducing injection drug use as the primary outcome. This public health approach is critical to reducing the incidence of HIV among IDUs.
  - Increase financial and technical support for HIV interventions among IDUs: Larger OGAC and country budgets for targeted HIV prevention, treatment, and care for IDUs are essential to reducing the growing burden of IDU-related disease. Allocation of funding should reflect the large and increasing HIV burden among injection drug users. OGAC should provide training to State Department, USAID, Health and Human Services, and country staff, as well as OGAC staff, to reinforce the message that drug addiction is a public health problem and to expand their skills and understanding in prevention, treatment, and care of IDUs.
- Establish a Technical Working Group: Such a group would bring together members of OGAC's existing working groups on care; treatment; monitoring and evaluation; and most-at-risk populations. This new group would help partner countries develop a range of epidemiological and programmatic activities, emphasizing innovation and integration of prevention, care, and treatment. The working group's tasks should include developing size estimates of hidden IDU populations; helping build advocacy programs to support forward-looking and informed policies that are rights and evidence based; supporting public acceptance of medication-assisted treatment, needle and syringe programs, and antiretroviral therapy for current and former injecting drug users; helping develop long-term monitoring and evaluation mechanisms that are integrated into country programs; and working with ministries of health to create sustainable intervention programs. Currently, technical working groups are focused on a single thematic area or on HIV prevention among most-at-risk population groups.
- Aim, with international partners, to provide 20–40 percent coverage of MAT in countries with concentrated epidemics among IDUs: The costs for scaling up programs to achieve 20–40 percent coverage are estimated to be between \$370 million and \$829 million, respectively. While funding that effort is not the exclusive responsibility of the United States, U.S. initiative will help catalyze other donors to close the gap.
    - ◆ OGAC is in the process of negotiating partnership agreements in more than 20 countries. The office should use these partnership agreements to ensure an enabling environment for HIV interventions among IDUs. It should give careful consideration to whether legal or structural obstacles interfere with the provision of prevention programs and, if so, how they might be addressed.

- ◆ OGAC should urge partner countries, on public health grounds, to reduce the numbers of IDUs held in compulsory or locked-ward detoxification or rehabilitation centers, without access to evidence-based drug dependence treatment or HIV services and treatment.
  - ◆ OGAC should put special emphasis on building in monitoring and evaluation mechanisms to guide the further development and refinement of existing programs.
- Ensure that interventions for IDUs are included in PEPFAR partnership framework agreements: OGAC should require that plans to address HIV prevention and treatment among IDUs are included in country partnership agreements signed between the U.S. government and recipients of U.S. funds for HIV/AIDS.
  - Improve data collection efforts and build country-level capacities for surveillance of HIV among IDUs: Devising successful strategies to prevent HIV among injecting drug users will be partly guided by assumptions and therefore likely to fail unless adequate and reliable information is collected about the scope of the problem. That means putting in place better surveillance systems for tracking the spread of HIV and disaggregating data more effectively to obtain reliable information on the numbers of female IDUs, which appear to be growing.

## Conclusion

Since the creation of the PEPFAR program, U.S. leadership on global HIV/AIDS has been most evident in the response to HIV/AIDS in sub-Saharan Africa and the rapid scale-up of antiretroviral programs to help limit the spread of HIV and improve the quality of the lives of many living with HIV/AIDS. Even as the Office of the Global AIDS Coordinator begins to emphasize building country-level capacity to sustain these efforts, the office will need to address the expanding epidemics in Eastern Europe and Central Asia and in East and Southeast Asia as public health emergencies.

A scientific consensus has emerged that introducing core elements of a comprehensive HIV prevention program—linked with an enabling environment supportive of prevention, treatment, and care programs for IDUs—can stabilize and halt the spread and even reverse the HIV epidemic among injecting drug users. Medication-assisted therapy and needle and syringe programs are among the core components of a comprehensive HIV prevention program for IDUs. MAT has been associated with decreased injecting drug use, prevention of HIV transmission, decreased criminal activity, increased retention in treatment for chemical dependence, increased adherence to HIV medication, improved family relations, and successful return to employment.

There is a pressing need for the Office of the Global AIDS Coordinator to work with other U.S. and multilateral agencies to create policy and provide expert technical assistance to help countries reduce the growing burden of HIV disease among IDUs. This effort will necessarily focus on closing the huge gaps between those in need of MAT, NSP, and ART and those receiving these services and on devoting significantly more fiscal, technical, and human resources to helping prevent new HIV infections in populations of injecting drug users.

## APPENDIX A: FY 2008 PEPFAR BILATERAL COUNTRIES

1. Albania
2. Algeria
3. Angola
4. Antigua and Barbuda
5. Bahamas
6. Bangladesh
7. Barbados
8. Belize
9. Benin
10. Botswana
11. Brazil
12. Burkina Faso
13. Burma
14. Burundi
15. Cambodia
16. Cameroon
17. China
18. Comoros
19. Costa Rica
20. Côte d'Ivoire
21. Democratic Republic of the Congo
22. Djibouti
23. Dominica
24. Dominican Republic
25. El Salvador
26. Ethiopia
27. Gabon
28. Gambia, The
29. Georgia
30. Ghana
31. Grenada
32. Guatemala
33. Guinea
34. Guyana
35. Haiti
36. Honduras
37. India
38. Indonesia
39. Jamaica
40. Jordan
41. Kazakhstan
42. Kenya
43. Kyrgyz Republic
44. Laos
45. Lesotho
46. Liberia
47. Madagascar
48. Malawi
49. Mali
50. Mauritania
51. Mexico
52. Morocco
53. Mozambique
54. Namibia
55. Nepal
56. Nicaragua
57. Niger
58. Nigeria
59. Pakistan
60. Panama
61. Papua New Guinea
62. Peru
63. Philippines
64. Russia
65. Rwanda
66. Senegal
67. Sierra Leone
68. South Africa
69. St. Kitts and Nevis
70. St. Lucia
71. St. Vincent and the Grenadines
72. Sudan
73. Suriname
74. Swaziland
75. Tajikistan
76. Tanzania
77. Thailand
78. Trinidad and Tobago
79. Turkmenistan
80. Uganda
81. Ukraine
82. United Arab Emirates
83. Uzbekistan
84. Vietnam
85. Yemen
86. Zambia
87. Zimbabwe

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Source: PEPFAR Bilateral Countries, listed on PEPFAR Web site: <http://www.pepfar.gov/countries/bilateral/index.htm>.

# APPENDIX B: COUNTRY FOCAL RESPONDENT SURVEY

## Section I: Estimated size of the opioid-using population

- Number of opioid injectors and noninjectors
- Gender distribution of opioid injectors
- Number of adults living with HIV/AIDS
- Proportion and number of cumulative HIV cases caused by injecting drug use

## Section II: Availability, accessibility, quality, and coverage of medication-assisted therapy

- Availability of publicly funded MAT program (include methadone and buprenorphine)
- Availability of MAT medication and its formula
- Year and date when MAT became available
- Number of current publicly funded MAT enrollments
- Number of current private, non-governmental funded MAT enrollments
- Inclusion and exclusion criteria for enrolling in publicly funded MAT
- Number of publicly funded MAT sites
- New publicly funded MAT sites that are expected to be established by the end of 2013
- Number of persons expected to enroll in publicly funded MAT programs by the end of 2013
- Average and range of maintenance dose of publicly funded MAT

- Number of individuals in publicly funded MAT receiving the WHO recommended maintenance dose
- Number of individuals who have been on MAT continuously for 6 months or more
- Average duration of MAT treatment
- Average cost of MAT treatment
- Using WHO guidelines for MAT

## Section III: Barriers to introducing and scaling up MAT

- Barriers to introducing publicly funded MAT service
- Section IV: Other drug dependence treatment
- Availability of other drug dependence interventions (number of sites and enrollments)
- Section V: ARV treatment
- Percentage of HIV-positive IDUs receiving publicly funded ART
- Using WHO guidelines for the ART
- Section VI: Other intervention for IDUs
- Number of needle and syringe exchange sites
- Number of syringes distributed in the last year
- Number of “individual” IDUs accessed in the last year
- Number of “individual” IDUs accessed in the last month
- Using WHO guidelines for the establishment of NSP

Source: This survey instrument was compiled by the authors and distributed to country experts in the 14 countries covered in this report. Indicators were selected from a longer list of items prepared by WHO, UNODC, and UNAIDS in their technical guide for countries setting targets for universal access to HIV prevention, treatment, and care for IDUs.

## APPENDIX C: COUNTRY PROFILES

**Table C1. Russia: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years 2007–2009**

Injecting Drug Population		
Estimated total country population	140,702,095	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 537,000 (09)  E: 1,825,000 (07)	Russian Federal Drug Control Agency, cited in "Eighty Russians Die of Drugs Every Day—Official," <i>Russia Today</i> .  <a href="http://www.emcdda.europa.eu/publications/country-overviews/ua">http://www.emcdda.europa.eu/publications/country-overviews/ua</a> .  Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Gender distribution (M/F)%	70/30	
Adults living with HIV/AIDS	R: 416,113 (07)  E: 940,000 (630,000–1,300,000) (07)	"Country Progress Report of the Russian Federation on the Implementation of the Declaration of Commitment on HIV/AIDS, Adopted at the 26th United Nations General Assembly Special Session, June 2001, Reporting period: January 2006–December 2007," Ministry of Health and Social Development of the Russian Federation, Federal Service for Surveillance of Consumer Rights Protection and Human Well-Being of the Russian Federation, and UNAIDS, Moscow 2008.  UNAIDS, Epidemiological Fact Sheet on HIV and AIDS, Russian Federation: 2008 Update (Geneva: UNAIDS2008).



Percentage of cumulative HIV cases caused by IDU	70–75% (09)	Country expert report from Charles Vitek.
Adults living with HIV who are IDUs	R: 315,000 (08)	Country expert report from Vladimir D. Mendelevich.
Adult HIV prevalence among IDUs	11.8 % (07) (Prevalence varies significantly by region, from 8% to 64%)	“Country Progress Report of the Russian Federation on the Implementation of the Declaration of Commitment on HIV/AIDS,” Ministry of Health and Social Development of the Russian Federation et al., Moscow, 2008.
Number receiving ART	40,000 (08)	Country expert report from Charles Vitek.
Number of IDUs on ART	N/A	
People on MMT	0 (09)	Country expert report from Charles Vitek.
Number of MMT sites	0	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	N/A	
Number of NSP sites	72 (09)	Marina Semenchenko, team leader, UNAIDS country office/Russia, response to the “UN HIV and IDU Reference Group: Request to Fill Data Gaps—The Russian Federation.” Reference Group to the UN on HIV and Injecting Drug Use, 2009; and Pavel Aksenov, executive director, Russian Harm Reduction Network, response to the “UN HIV and IDU Reference Group: Request to Fill Data Gaps—the Russian Federation,” Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Number of syringe distributions/year	6,904,460	Marina Semenchenko, team leader, UNAIDS country office/Russia, Response to the “UN HIV and IDU Reference Group: Request to Fill Data Gaps—The Russian Federation,” Reference Group to the UN on HIV and Injecting Drug Use. Moscow, 2009.
Individuals accessing NSP/year	122,997	Marina Semenchenko, team leader, UNAIDS country office/Russia, Response to the “UN HIV and IDU Reference Group: Request to fill data gaps—the Russian Federation,” Reference Group to the UN on HIV and Injecting Drug Use. Moscow, 2009.



Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	1,095,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	219,000	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$155,561,175	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	438,000	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$311,122,350	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	365,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$2,555,000	
Mean bound (40%) coverage of estimated number of IDUs	730,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$5,110,000	
Upper bound (60%) coverage of estimated number of IDUs	1,095,000	
Mean cost of NSPs (based on unit range \$4–10/year)	\$7,665,000	

**Note: R = registered data; E = estimated data.**

**Table C2. Ukraine: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006–2009**

Injecting Drug Population		
Estimated total country population	45,994,288	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 173,594 (08)  E: 229,000(178,000–279,000) (09)	European Monitoring Centre for Drugs and Drug Addiction, "Country overview: Ukraine," 2008, <a href="http://www.emcdda.europa.eu/publications/country-overviews/ua">http://www.emcdda.europa.eu/publications/country-overviews/ua</a> .  Country expert report from Vadym Klorfayn. (Of an estimated 230,000–360,000 drug users, 75% are IDUs, an estimated range of 178,000–279,000, with a median of 229,000.)
Gender distribution (M/F)%	76/24	
Adults living with HIV/AIDS	R:123,887 (07)  E:430,000 (330,000–530,000 (08)	European Monitoring Centre for Drugs and Drug Addiction, "Country Overview: Ukraine," 2008, <a href="http://www.emcdda.europa.eu/publications/country-overviews/ua">http://www.emcdda.europa.eu/publications/country-overviews/ua</a> .  European Monitoring Centre for Drugs and Drug Addiction, "Country overview: Ukraine," 2008, <a href="http://www.emcdda.europa.eu/publications/country-overviews/ua">http://www.emcdda.europa.eu/publications/country-overviews/ua</a> .
Proportion of cumulative HIV cases caused by IDU	60.26% (09)	Country expert report from Vadym Klorfayn.
Adults living with HIV who are IDUs	R: 76,598 (09)  E: 156,500 (3,000–403,000) (06)	Country expert report from Vadym Klorfayn.  Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	63 %	Country expert report from Vadym Klorfayn.
Number receiving ART	10,629 (09)	<i>Progress on Implementing the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia</i> , WHO and UNAIDS (Geneva: WHO, 2008).
Number of IDUs on ART	1,860 (09)	
People on MMT	3,147 (09)	Country expert report from Vadym Klorfayn.
Number of MMT sites	87	

Methadone dosing/range	79.8 (5–250mg)	Country expert report from Vadym Klorfayn.
Methadone/buprenorphine start year	2008/2004	Country expert report from Vadym Klorfayn.
Number of NSP sites	1,203	Julia Skoropatska, Program Officer, Reporting and Planning, International HIV/AIDS Alliance in Ukraine, response to the “UN HIV and IDU Reference Group: Request to Fill Data Gaps—Ukraine,” Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Number of syringe distributions/year	10,000,000	Country expert report from Vadym Klorfayn.
Individuals accessing NSP/year	95,000	Country expert report from Vadym Klorfayn.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	137,400	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	24,333	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$17,284,338	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	51,813	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$36,804,069	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	45,800	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$320,600	
Mean bound (40%) coverage of estimated number of IDUs	91,600	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$641,200	
Upper bound (60%) coverage of estimated number of IDUs	137,400	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$961,800	

**Note:** R = registered data; E = estimated data.

**Table C3. Georgia: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006–2009**

Injecting Drug Population		
Estimated total country population	4,730,841	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	E: 80,000 (06)	National Centre for Disease Control and Public Health, Ministry of Labor Health and Social Affairs of Georgia (year not provided).
Gender distribution (M/F)%	90/10	
Adults living with HIV/AIDS	R: 2,112 (08)  E: 3,500 (1,500–6,100) (07)	Infectious Diseases, AIDS, and Clinical Immunology Research Centre of Georgia (year not provided).  National AIDS Centre of Georgia (2007).
Proportion of cumulative HIV cases caused by IDU	60% (06)	National AIDS Centre of Georgia, 2007, cited by European Monitoring Centre for Drugs and Drug Addiction Country Overview: Georgia, 2008, <a href="http://www.emcdda.europa.eu/publications/country-overviews/ge">http://www.emcdda.europa.eu/publications/country-overviews/ge</a> .
Adults living with HIV who are IDUs	R 1,291 (year not provided)	Infectious Diseases, AIDS and Clinical Immunology Research Centre of Georgia (year not provided).
Adult HIV prevalence among IDUs	1.1% (06)	UNAIDS, <i>Epidemiological Fact Sheet: Georgia, December 2006</i> (Geneva: UNAIDS, 2006).
Number receiving ART	521	National Centre for Disease Control and Public Health, Ministry of Labor Health and Social Affairs of Georgia (2009).
Number of IDUs on ART	15	
People on MMT	1,000 (09)	National Centre for Disease Control and Public Health, Ministry of Labor Health and Social Affairs of Georgia (2009).
Number of MMT sites	12	
Methadone dosing/range	60 (70–120mg)	Country expert report from Kakhaber Gogashvili.
Methadone/buprenorphine start year	2005/N/A	
Number of NSP sites	9	Country expert report from Kakhaber Gogashvili.

Number of syringe distributions/year	393,065	Country expert report from Kakhaber Gogashvili.
Individuals accessing NSP/year	2,355	Country expert report from Kakhaber Gogashvili.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	48,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	8,600	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$6,108,795	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	18,200	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$12,927,915	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	16,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$112,000	
Mean bound (40%) coverage of estimated number of IDUs	32,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$224,000	
Upper bound (60%) coverage of estimated number of IDUs	48,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$336,000	

**Note:** R = registered data; E = estimated data; N/A = not available.

**Table C4. Kazakhstan: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2007–2009**

Injecting Drug Population		
Estimated total country population	15,340,533	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 55,286 (07)	UK Foreign and Commonwealth Office Web site, Asia and Oceania: Kazakhstan, <a href="http://www.fco.gov.uk/en/about-the-fco/country-profiles/asia-oceania/kazakhstan/">http://www.fco.gov.uk/en/about-the-fco/country-profiles/asia-oceania/kazakhstan/</a> .
	E:122,850 (115,500–130,200) (08)	UK Foreign and Commonwealth Office Web site, Asia and Oceania: Kazakhstan, <a href="http://www.fco.gov.uk/en/about-the-fco/country-profiles/asia-oceania/kazakhstan/">http://www.fco.gov.uk/en/about-the-fco/country-profiles/asia-oceania/kazakhstan/</a> .
Gender distribution (M/F)%	87/13	
Adults living with HIV/AIDS	R: 10,601(07)	"Central Asia: Drug Situation at a Glance," UNODC, 2008.
	E: 12,000 (6,900–29,000) (07)	<i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	70% (07)	<i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Adults living with HIV who are IDUs	9,500 (6,000–13,500)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> , 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	7.4% (07)	<i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Number receiving ART	N/A	
Number of IDUs on ART	N/A	
People on MMT	50	"Status of Opioid Substitution Therapy Provision and Plans for 2010," UNODC (Geneva: UNODC, 2009).
Number of MMT sites	1	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	2008	

Number of NSP sites	146	Mariam Khassanova et al., "UNGASS Country Progress report: Republic of Kazakhstan," Almaty, Kazakhstan, 2008.
Number of syringe distributions/year	1,211,664	Mariam Khassanova et al., "UNGASS Country Progress report: Republic of Kazakhstan," Almaty, Kazakhstan, 2008.
Individuals accessing NSP/year	37,310	Mariam Khassanova et al., "UNGASS country progress report: Republic of Kazakhstan," Almaty, Kazakhstan, 2008.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	73,710	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	14,692	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$10,436,095	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	29,434	
Mean cost of methadone/year (based on unit cost range of \$363.65—1,057/year)	\$20,907,706	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	24,570	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$171,990	
Mean bound (40%) coverage of estimated number of IDUs	49,140	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$343,980	
Upper bound (60%) coverage of estimated number of IDUs	73,710	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$515,970	

**Note:** R = registered data; E = estimated data; N/A = not available.

**Table C5. Kyrgyz Republic: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006–2009**

Injecting Drug Population		
Estimated total country population	5,356,869	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 5,386 (09)  E: 44,398 (07)	"AIDS 2008," Information for the Ministry of Health on HIV Infection and AIDS in the Kyrgyz Republic for December 1, 2008, Republican Association (unpublished document).  <i>Harm Reduction Developments 2008</i> , Open Society Institute International Harm Reduction Development Program (New York: OSI, 2008).
Gender distribution (M/F)%	93.2/6.8	
Adults living with HIV/AIDS	R: 1,828 (08)  E: 4,200 (2,200–7,600) (07)	Emilis Subata et al., "Evaluation of Opioid Substitution Therapy in the Kyrgyz Republic," World Health Organization Regional Office for Europe (Geneva: WHO, 2009).  <i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	72% (08)	"Compendium of Drug Related Statistics: 1997–2008," UNODC Regional Office for Central Asia.
Adults living with HIV who are IDUs	3,200 (06)	David Fiellin et al., <i>Combating the Twin Epidemics of HIV/AIDS and Drug Addiction: Opportunities for Progress and Gaps in Scale</i> (Washington, D.C.: CSIS, 2008).
Adult HIV prevalence among IDUs	8% (2.4–13.6)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372 no. 9651 (November 15, 2008).
Number receiving ART	136 (08)	Emilis Subata et al., "Evaluation of Opioid Substitution Therapy in the Kyrgyz Republic," World Health Organization Regional Office for Europe (Geneva: WHO, 2009).
Number of IDUs on ART	N/A	
People on MMT	735	Oleg Aizber, "Opioid Substitution Therapy in Selected Countries of East Europe and Central Asia," International AIDS Society, 2008.
Number of MMT sites	16	"Status of Opioid Substitution Therapy Provision and Plans for 2010," UNODC (Geneva: UNODC, 2009).
Methadone dosing/range	80 (20–160mg)	"AIDS 2008," Information for the Ministry of Health on HIV Infection and AIDS in the Kyrgyz Republic for December 1, 2008, Republican Association (unpublished document).



Methadone/buprenorphine start year	N/A	
Number of NSP sites	>20	<i>Progress on Implementing the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia</i> , WHO and UNAIDS, 2008, <a href="http://www.euro.who.int/document/e92606.pdf">http://www.euro.who.int/document/e92606.pdf</a> .
Number of syringe distributions/year	N/A	
Individuals accessing NSP/year	N/A	
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	26,639	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	4,593	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$3,262,352	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	9,921	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$7,046,793	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	8,880	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$62,157	
Mean bound (40%) coverage of estimated number of IDUs	17,760	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$124,320	
Upper bound (60%) coverage of estimated number of IDUs	26,639	
<b>Mean cost of NSPs</b> (based on unit cost range of \$4-10/year)	\$186,472	

**Note:** R = registered data; E = estimated data; N/A = not available.

**Table C6. Tajikistan: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2007–2009**

Injecting Drug Population		
Estimated total country population	7,211,884	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 5,430 (year not provided)  E: 20,000 (07)	Country expert report from Saidmumin Kholov.  <i>Illicit Drug Trends in Central Asia</i> ," UNODC Regional Office for Central Asia, 2008, <a href="http://www.unodc.org/documents/regional/central-asia/Illicit%20Drug%20Trends_Central%20Asia-final.pdf">http://www.unodc.org/documents/regional/central-asia/Illicit%20Drug%20Trends_Central%20Asia-final.pdf</a> .
Gender distribution (M/F)%	N/A	
Adults living with HIV/AIDS	R: 1,422 (09)  E: 10,000 (4,900–23,000) (08)	Country expert report from Saidmumin Kholov.  <i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	55.2% (year not provided)	Country expert report from Saidmumin Kholov.
Adults living with HIV who are IDUs	786 (year not provided)	Country expert report from Saidmumin Kholov.
Adult HIV prevalence among IDUs	14.7 % (11.5–17.9) (06)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Number receiving ART	231	Country expert report from Saidmumin Kholov.
Number of IDUs on ART	128	
People on MMT	0	
Number of MMT sites	0	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	N/A	
Number of NSP sites	35	"Information on HIV Services among IDUs in Tajikistan," UNAIDS, 2009.
Number of syringe distributions/year	2,251,897	<i>Annual Project Report</i> , UNDP Tajikistan, 2007.
Individuals accessing NSP/year	5,697	<i>Annual Project Report</i> , UNDP Tajikistan, 2007.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	12,000	

<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	2,400	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$1,704,780	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	4,800	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$3,409,560	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	4,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$28,000	
Mean bound (40%) coverage of estimated number of IDUs	8,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$56,000	
Upper bound (60%) coverage of estimated number of IDUs	12,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$80,000	

**Note: R = registered data; E = estimated data; N/A = not available.**

**Table C7. Vietnam: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006–2009**

Injecting Drug Population		
Estimated total country population	86,116,560	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 145,000 (06) E: 200,000 (09)	Vietnam Ministry of Public Security, 2007 "HIV/AIDS Estimates and Projections 2007–2012," Vietnam Administration of HIV/AIDS Control, Ministry of Health, 2009.
Gender distribution (M/F)%	82/18	Country expert report from Gary West,
Adults living with HIV/AIDS	E: 243,000 (09)	"HIV/AIDS Estimates and Projections 2007–2012," Vietnam Administration of HIV/AIDS Control, Ministry of Health, 2009.
Proportion of cumulative HIV cases caused by IDU	51.68% (06)	Ministry of Health Sentinel Surveillance, 2006.
Adults living with HIV who are IDUs	59,890 (06)	David Fiellin et al., <i>Combating the Twin Epidemics of HIV/AIDS and Drug Addiction: Opportunities for Progress and Gaps in Scale</i> (Washington, D.C.: CSIS, 2008).
Adult HIV prevalence among IDUs	E: 20.27% (07)  E: 34% (07)	Vietnam Ministry of Health Sentinel Surveillance, 2008.  IDU estimates from the "Reference Group to the United Nations on HIV and Injecting Drug Use," 2008.
Number receiving ART	28,000	PEPFAR progress reports and Vietnam Ministry of Health results (as of February 2009).
Number of IDUs on ART	N/A	
People on MMT	1,354 (09)	Country expert report from Gary West, from study of 6 pilot MMT sites.
Number of MMT sites	6	Country expert report from Gary West, from study of 6 pilot MMT sites.
Methadone dosing/range	104.3 (20–300mg)	
Methadone/buprenorphine start year	2008	Country expert report from Gary West.

Number of NSP sites	194	Jason Eligh, HIV/AIDS Advisor, United Nations Office on Drugs and Crime, Hanoi, Vietnam, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Vietnam," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Number of syringe distributions/year	20,000,000 (08)	Jason Eligh, HIV/AIDS Advisor, United Nations Office on Drugs and Crime, Hanoi, Vietnam, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Vietnam," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Individuals accessing NSP/year	40,763 (08)	Jason Eligh, HIV/AIDS Advisor, United Nations Office on Drugs and Crime, Hanoi, Vietnam, response to the "UN HIV and IDU Reference Group: Request to fill Data Gaps—Vietnam," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	120,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	22,646	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$16,086,020	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	46,646	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$33,133,820	

Needle and Syringe Exchange Program Cost Estimate		
Lower bound (20%) coverage of estimated number of IDUs	40,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$280,000	
Mean bound (40%) coverage of estimated number of IDUs	80,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$560,000	
Upper bound (60%) coverage of estimated number of IDUs	120,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$840,000	

**Note: R = registered data; E = estimated data; N/A = not available.**

**Table C8. China: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2005–2009**

Injecting Drug Population		
Estimated total country population	1,330,044,544	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 541,184 (08)  E: 2,350,000 (1,800,000–2,900,000) (05)	<i>Annual Report on Drug Control in China</i> , China National Narcotics Control Committee, 2008.  Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Gender distribution (M/F)%	80/20	Country expert report from Junli Zhi.
Adults living with HIV/AIDS	R: 230,643 (07)  E: 690,000 (450,000–1,000,000) (07)	Country expert report from Jian Luo.  "A Joint Assessment of HIV/AIDS Prevention, Treatment, and Care in China," UN Theme Group on HIV/AIDS in China and State Council AIDS Working Committee Office, Ministry of Health, 2007.
Proportion of cumulative HIV cases caused by IDU	38.5% (07)	"A Joint Assessment of HIV/AIDS Prevention, Treatment, and Care in China," UN Theme Group on HIV/AIDS in China and State Council AIDS Working Committee Office, Ministry of Health, 2007.
Adults living with HIV who are IDUs	88,798 (08)	Country expert report from Jian Luo based on 38.5% of registered adults living with HIV.
Adult HIV prevalence among IDUs	8.1% (07)	"A Joint Assessment of HIV/AIDS Prevention, Treatment, and Care in China," UN Theme Group on HIV/AIDS in China and State Council AIDS Working Committee Office, Ministry of Health, 2007.
Number receiving ART	52,000 (08)	Fujie Zhang et. al., "Five-Year Outcomes of the China National Free Antiretroviral Treatment Program," <i>Annals of Internal Medicine</i> 151, no. 4 (W-252, 2009): 241–51.
Number of IDUs on ART	7,644 (08)	
People on MMT	93,733 (08)	"Scaling-up the Methadone Maintenance Treatment Program in China," National Working Group on Community-Based MMT for Opium Dependents," 2009.
Number of MMT sites	621(09)	"Scaling-up the Methadone Maintenance Treatment Program in China," National Working Group on Community-Based MMT for Opium Dependents," 2009.

Methadone dosing/range	50 (1–315mg)	Country expert report from Junli Zhi.
Methadone/buprenorphine start year	2004/2008	
Number of NSP sites	901	Wu Zunyou, "Update of Harm Reduction in China," cited by country expert Jian Luo.
Number of syringe distributions/year	1,173,764	"Scaling-up the Methadone Maintenance Treatment Program in China," National Working Group on Community-Based MMT for Opium Dependents," 2009.
Individuals accessing NSP/year	>38,000	Wu Zunyou, "Update of Harm Reduction in China," cited by country expert Jian Luo.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	1,410,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	188,267	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$133,730,757	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	470,267	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$334,042,407	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	470,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$3,290,000	
Mean bound (40%) coverage of estimated number of IDUs	940,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$6,580,000	
Upper bound (60%) coverage of estimated number of IDUs	1,410,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$9,870,000	

Note: R = registered data; E = estimated data; N/A = not available.



**Table C9. Indonesia: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2003–2009**

Injecting Drug Population		
Estimated total country population	237,512,352	U.S. Central Intelligence Agency's <i>World Fact Book</i> , <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 237,057 (09)  E: 190,460–247,800 (08)	Statement by H. E Dr. Sitifadilah Supari, Indonesian minister for health, at the high-level segment of the 52nd session of the Commission on Narcotic Drugs, Vienna, March 11, 2009.  Mukta Sharma et al., "A Situation Update on HIV Epidemics among People Who Inject Drugs and National Responses in South-East Asia," <i>AIDS</i> 23, no. 11 (July 17, 2009).
Gender distribution (M/F)%	89/11 (06)	National Narcotic Board of Indonesia, Research and Development, National Survey, May 2006.
Adults living with HIV/AIDS	E: 270,000 (190,000–400,000) (07)	<i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	42.22%	January–June 2009 Report, Ministry of Health and National AIDS Commission of Indonesia.
Adults living with HIV who are IDUs	E: 94,500 (61,500–134,000) (06)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	42.5 ( 31.7–53.3) (06)  E: 52.4 (07)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).  <i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Number receiving ART	19,579 (09)	Country expert report from Risa Alexander.
Number of IDUs on ART	N/A	
People on MMT	2,854 (09)	Ministry of Health of Indonesia, June 2009.
Number of MMT sites	36	
Methadone dosing/range	60 (40–80mg)	Country expert report from Risa Alexander.
Methadone/buprenorphine start year	2003/2003	
Number of NSP sites	159	Mukta Sharma et al., "A Situation Update on HIV Epidemics among People Who Inject Drugs and National Responses in South-East Asia," <i>AIDS</i> 23, no. 11 (July 17, 2009).

Number of syringe distributions/year	511,670	Kemal Siregar, Response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Indonesia," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Individuals accessing NSP/year	49,000	"Monitoring IDUs' Service Coverage and Quality Monitoring," a presentation made at the WHO/UNAIDS Workshop on Monitoring and Evaluation of National HIV/AIDS Interventions for Most-at-Risk Populations, Indonesia CDC, Ministry of Health, and National AIDS Commission, Mysore, India, July 15–18, 2008.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	142,234	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	25,593	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$18,179,234	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	54,040	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$38,385,736	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	47,411	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$331,880	
Mean bound (40%) coverage of estimated number of IDUs	94,822	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$663,754	
Upper bound (60%) coverage of estimated number of IDUs	142,234	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$995,639	

Note: R = registered data; E = estimated data; N/A = not available.

**Table C10. Cambodia: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006 and 2007**

Injecting Drug Population		
Estimated total country population	14,241,640	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	E: 2,025 (1,250–7,500 ) (07)	"HIV Prevalence among Drug Users 2007 and Population Size Estimates," National Center for HIV/AIDS, Dermatology and STD (NCHADS), Cambodia, 2009.
Gender distribution (M/F)%	90/10	"Drug User Population Size Estimate 2007," NCHADS, National Authority for Combating Drugs, WHO, Phnom Penh, 2009.
Adults living with HIV/AIDS	E: 75,000 (07)	"UNGASS Cambodia Country Progress Report for Reporting Period January 2006–December 2007," Kingdom of Cambodia National AIDS Authority, January 31, 2008.
Proportion of cumulative HIV cases caused by IDU	Not available	Country expert report from Graham Shaw.
Adults living with HIV who are IDUs	E: 500 (<500–2,500) (06)	Based on figures and calculation in Mathers et al. (2008) (data were drawn in 2006).
Adult HIV prevalence among IDUs	24.4 % (07)	"HIV Prevalence among Drug Users 2007," presentation by the Surveillance Unit, National Center for HIV/AIDS, Dermatology and STD, November 2008.
Number receiving ART	26,664 (07)	WHO, UNAIDS, and UNICEF, <i>Towards Universal Access: Scaling Up Priority HIV/AIDS Interventions in the Health Sector, Progress Report</i> (Geneva: WHO/UNAIDS/UNICEF, September 2009).
Number of IDUs on ART	N/A	
People on MMT	0	Graham Shaw, WHO Cambodia, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Cambodia," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
Number of MMT sites	0	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	N/A	
Number of NSP sites	2	Graham Shaw, WHO Cambodia, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Cambodia," Reference Group to the UN on HIV and Injecting Drug Use, 2009.

Number of syringe distributions/year	117,631	"Cambodian National Needle/Syringe Programme (NSP) Data Report 2008," Drug Information Centre, Secretariat-General, National Authority for Combating Drugs, Phnom Penh, 2009.
Individuals accessing NSP/year	34,412 (no. of contacts)	"Cambodian National Needle/Syringe Programme (NSP) Data Report 2008," Drug Information Centre, Secretariat-General, National Authority for Combating Drugs, Phnom Penh, 2009.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	1,215	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	243	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$172,609	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	486	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$345,218	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	405	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$2,835	
Mean bound (40%) coverage of estimated number of IDUs	810	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$5,670	
Upper bound (60%) coverage of estimated number of IDUs	1,215	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$8,100	

Note: R = registered data; E = estimated data; N/A = not available.

**Table C11. Malaysia: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2006 and 2007**

Injecting Drug Population		
Estimated total country population	25,274,132	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	E: 195,000 (07)	The Global State of Harm Reduction 2008: Mapping the Response to Drug-related HIV and Hepatitis C Epidemics, International Harm Reduction Association, London, 2008.
Gender distribution (M/F)%	96.6/3.4	National Drug Information System of Malaysia, 2008.
Adults living with HIV/AIDS	E: 86,617 (07)  E: 79,000 (51,000–120,000) (07)	AIDS/STI Unit Ministry of Health/UNAIDS WHO report 2008.  Report on the Global AIDS Epidemic 2008, UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	71.2% (07)	Report on the Global AIDS Epidemic 2008, UNAIDS (Geneva: UNAIDS, 2008).
Adults living with HIV who are IDUs	60,248 (07)	Report on the Global AIDS Epidemic 2008, UNAIDS (Geneva: UNAIDS, 2008).
Adult HIV prevalence among IDUs	19.2% (06)  11% (07)	Marek C. Chawarski et al., "Heroin Dependence and HIV Infection in Malaysia," <i>Drug Alcohol Dependence</i> 82, supp. 1(2006): S39–S42.  UNGASS Country Progress Report (January 2006–December 2007), January 2008.
Number receiving ART	7,587 (07)	Ministry of Health of Malaysia (2008).
Number of IDUs on ART	1,770 (07)	Ministry of Health of Malaysia (2008).
People on MMT	20,000 (5,000 in public, 15,000 in private) (08)	Country expert report from Balasingam Vicknasingam.
Number of MMT sites	75	Monthly update meeting on harm reduction with the director of disease control, Ministry of Health of Malaysia, March 19, 2009.
Methadone dosing/range	80 (40–120mg)	Country expert report from Sharifah Faridah Syed Omar.
Methadone/buprenorphine start year	2005/2001	Country expert report from Balasingam Vicknasingam.
Number of NSP sites	130	Dr. Harpal Singh, WHO Malaysia, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Malaysia," Reference Group to the UN on HIV and Injecting Drug Use, 2009; monthly update meeting on harm reduction with the director of disease control, Ministry of Health of Malaysia, March 19, 2009.

Number of syringe distributions/ year	1,903,174	Dr. Harpal Singh, WHO Malaysia, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps— Malaysia," Reference Group to the UN on HIV and Injecting Drug Use, 2009; monthly update meeting on harm reduction with the director of disease control, Ministry of Health of Malaysia, March 19, 2009.
Individuals accessing NSP/year	5,572	Dr. Harpal Singh, WHO Malaysia, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Malaysia," Reference Group to the UN on HIV and Injecting Drug Use, 2009; monthly update meeting on harm reduction with the director of disease control, Ministry of Health of Malaysia, March 19, 2009.
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	117,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	3,400	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$2,415,105	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	26,800	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$19,036,710	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	39,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$273,000	
Mean bound (40%) coverage of estimated number of IDUs	78,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$546,000	
Upper bound (60%) coverage of estimated number of IDUs	117,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$819,000	

Note: R = registered data; E = estimated data; N/A = not available.

**Table C12. South Africa: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2005–2008**

Injecting Drug Population		
Estimated total country population	48,300,000	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	E: 16,000 (08)	Based on extrapolations from national drug treatment data (and indirect estimators). See <a href="http://www.sahealthinfo.org/admodule/sacendu.htm">http://www.sahealthinfo.org/admodule/sacendu.htm</a> .  Andreas Plüddemman et al., "Monitoring Alcohol and Drug Abuse Treatment Admissions in South Africa," South African Community Epidemiology Network on Drug Use, Cape Town, 2009.
Gender distribution (M/F)%	73/27	Country expert report from Charles Parry.
Adults living with HIV/AIDS	E: 5,250,000 (5,200,000–5,300,000) (08)	From extrapolations from the South African 2007 Department of Health Antenatal Survey (published in 2008), and 2008 Human Sciences Research Council's national HIV prevalence survey (published in 2009).  Report on the Global AIDS Epidemic 2008, UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	N/A	
Adults living with HIV who are IDUs	E: 33,500 (4,000–91,500) (05)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject drugs: A Systematic review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	20% (07)	Report on the Global AIDS Epidemic 2008, UNAIDS (Geneva: UNAIDS, 2008).
Number receiving ART	549,700 (08)	PEPFAR country profile for South Africa, as of September 2008, <a href="http://www.pepfar.gov/countries/southafrica/index.htm">http://www.pepfar.gov/countries/southafrica/index.htm</a> .
Number of IDUs on ART	N/A	
People on MMT	N/A	
Number of MMT sites	N/A	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	2005	Country expert report from Charles Parry.
Number of NSP sites		

Number of syringe distributions/year		
Individuals accessing NSP/year		
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	9,600	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need based on 20% coverage of estimated number of opioid injectors)	1,920	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$1,363,824	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	3,840	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$2,727,648	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	3,200	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$22,400	
Mean bound (40%) coverage of estimated number of IDUs	6,400	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$44,800	
Upper bound (60%) coverage of estimated number of IDUs	9,600	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$64,000	

Note: R = registered data; E = estimated data; N/A = not available.



**Table C13. Tanzania: Selected Facts on the Injecting Drug Population and Treatment Programs, 2004–2008**

Injecting Drug Population		
Estimated total country population	40,213,162	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	E: 25,000 (year not provided)	"Drug Abuse and HIV/AIDS in Tanzania," presentation by the Tanzania delegation at the Regional Consultation on HIV among Injecting Drug Users and in Prison Settings in Eastern and Southern Africa, Mombasa, Kenya, November 26–29, 2007.
Gender distribution (M/F)%	N/A	
Adults living with HIV/AIDS	E: 1,400,000 (1,200,000–1,400,000) (08)	<i>Report on the Global AIDS Epidemic 2008</i> , UNAIDS (Geneva: UNAIDS, 2008).
Proportion of cumulative HIV cases caused by IDU	N/A	
Adults living with HIV who are IDUs	22,000 (2,500–57,500)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	27% (male); 62% (female); 65% (04 in Dar es Salaam)	"Alcohol, HIV Risk Behaviors and Transmission in Africa: Developing Programs for the President's Emergency Plan for AIDS Relief," PEPFAR, Dar es Salaam, Tanzania, August 29–31, 2005.
Number receiving ART	144,100 (08)	PEPFAR Country Profile for Tanzania, as of September 2008, <a href="http://www.pepfar.gov/press/countries/profiles/116320.htm">http://www.pepfar.gov/press/countries/profiles/116320.htm</a> .
Number of IDUs on ART	N/A	
People on MMT	0 (09)	
Number of MMT sites	N/A	
Methadone dosing/range	N/A	
Methadone/buprenorphine start year	N/A	
Number of NSP sites	N/A	
Number of syringe distributions/year	N/A	
Individuals accessing NSP/year	N/A	
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	15,000	

<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	3,000	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$2,130,975	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	6,000	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$4,261,950	
<b>Needle and Syringe Exchange Program Cost Estimate</b>		
Lower bound (20%) coverage of estimated number of IDUs	5,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$35,000	
Mean bound (40%) coverage of estimated number of IDUs	10,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$70,000	
Upper bound (60%) coverage of estimated number of IDUs	15,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$100,000	

**Note: R = registered data; E = estimated data; N/A = not available.**

**Table C14. Kenya: Selected Facts on the Injecting Drug Population and Treatment Programs, Various Years, 2004–2009**

Injecting Drug Population		
Estimated total country population	37,953,840	U.S. Central Intelligence Agency's World Fact Book, <a href="http://www.cia.gov/library/publications/the-world-factbook">http://www.cia.gov/library/publications/the-world-factbook</a> .
Number of IDUs	R: 3,396 (09) E: 30,000 (05)	Country expert report from Peter K Ndege.  Carmen Aceijas et al., "Estimates of Injecting Drug Users at the National and Local Level in Developing and Transitional Countries, and Gender and Age Distribution," <i>Sexually Transmitted Infections</i> 82, Supplement 3 (2006).
Gender distribution (M/F)%	89/11	Country expert report from Peter K. Ndege.
Adults living with HIV/AIDS	E: 1,490,000 (1,380,000–1,580,000) (09)	The Kenya 2007 HIV and AIDS Estimates and Interim Projected HIV Prevalence and Incidence Trends for 2008 to 2015, National AIDS Control Council and National AIDS and STD Control Programme, July 2009.
Proportion of cumulative HIV cases caused by IDU	4.8% (05)	Clement Deveau et al., "Prevention of HIV/AIDS among Drug Users as a Vulnerable Population," presentation at the HIV/AIDS Implementers Meeting of the President's Emergency Plan for AIDS Relief, Durban, South Africa, 2006.
Adults living with HIV who are IDUs	64,500 (12,000–132,000) (04)	Bradley M. Mathers et al., "Global Epidemiology of Injecting Drug Use and HIV among People Who Inject Drugs: A Systematic Review," <i>Lancet</i> 372, no. 9651 (November 15, 2008).
Adult HIV prevalence among IDUs	42.9 (36.3–49.5) (08)	Caroline Cherotich, project assistant, UNODC Regional Office for Eastern Africa, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Kenya," Reference Group to the UN on HIV and Injecting Drug Use, 2009.

Number receiving ART	229,700 (08)	PEPFAR country profile for Kenya, as of September 08, <a href="http://www.pepfar.gov/press/countries/profiles/116231.htm">http://www.pepfar.gov/press/countries/profiles/116231.htm</a> .
Number of IDUs on ART	38 (08)	Caroline Cherotich, project assistant, UNODC Regional Office for Eastern Africa, response to the "UN HIV and IDU Reference Group: Request to Fill Data Gaps—Kenya," Reference Group to the UN on HIV and Injecting Drug Use, 2009.
People on MMT	0 (09)	
Number of MMT sites	Not applicable	
Methadone dosing/range	Not applicable	
Methadone/buprenorphine start year	Not applicable	
Number of NSP sites	2	John-Peter Kools, "Drug Use and HIV risk among Young People in Sub-Saharan Africa," Stop AIDS Now! Netherlands, 2008, <a href="http://www.stopaidsnow.org/documents/drug_use_africa_2008_report.pdf">http://www.stopaidsnow.org/documents/drug_use_africa_2008_report.pdf</a> .
Number of syringe distributions/year	N/A	
Individuals accessing NSP/year	N/A	
Estimated opioid injectors among IDUs (estimated at 60% of all IDUs)	18,000	
<b>Methadone Program Cost Estimate</b>		
Lower bound gap (number in need, based on 20% coverage of estimated number of opioid injectors)	3,600	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$2,557,170	
Upper bound gap (number in need, based on 40% coverage of estimated number of opioid injectors)	7,200	
Mean cost of methadone/year (based on unit cost range of \$363.65–1,057/year)	\$5,114,340	

Needle and Syringe Exchange Program Cost Estimate		
Lower bound (20%) coverage of estimated number of IDUs	6,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$42,000	
Mean bound (40%) coverage of estimated number of IDUs	12,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$84,000	
Upper bound (60%) coverage of estimated number of IDUs	18,000	
Mean cost of NSPs (based on unit cost range of \$4–10/year)	\$120,000	

Note: R = registered data; E = estimated data; N/A = not available.



## ABOUT THE AUTHORS

**Richard Needle**, PhD, MPH, was vice president for special populations and senior project manager at Pangaea Global AIDS Foundation from January 2007 to September 2009. Dr. Needle was responsible for assisting Pangaea's partners in the planning and implementation of HIV prevention and treatment initiatives that target high-risk populations, including injecting drug users, men having sex with men, women, and commercial sex workers. Previously, he worked for the U.S. government for 17 years. He was team leader for HIV prevention among injection drug-using populations for the Global AIDS Program of the Centers for Disease Control and Prevention (2001–2007). He was also co-chair of the Office of the U.S. Global AIDS Coordinator's Technical Working Group on Prevention of HIV among Persons Engaged in High-Risk Behaviors from 2004–2007. In this position, he was responsible for initiating, reviewing, implementing, and monitoring activities between OGAC and the field related to the prevention of HIV in most-at-risk populations.

Dr. Needle was senior advisor for drug and HIV/AIDS at the U.S. Department of Health and Human Services (2000–2001), and before that chief of the community research branch, Division of Epidemiology and Prevention Research, at the National Institute on Drug Abuse (1990–1999). Dr. Needle has recently accepted a position as senior public health adviser in the U.S. President's Emergency Plan for AIDS Relief Office of the U.S. Global AIDS Coordinator. The document authored by Dr. Needle and Ms. Lin Zhao was completed before he started his new position.

**Lin Zhao** is currently a PhD student in nursing at the University of California, San Francisco. Her professional and academic experience spans three countries—HIV clinical and program management work in China with the Clinton Foundation, clinical experience and degrees in Australia, and doctoral studies in the United States. Her research focuses on identifying barriers to providing viable service delivery models that link to drug treatment and antiretroviral treatment services in the community, a sophisticated design and evaluation of community-based intervention, and specific strategies to ensure community engagement and successful outcomes.

