

REPORT BRIEF • SEPTEMBER 2006

PREVENTING HIV INFECTION AMONG INJECTING DRUG USERS IN HIGH RISK COUNTRIES

An estimated 13 million people worldwide inject drugs. Of those, 78 percent live in developing or transitional countries. The sharing of contaminated injecting equipment has become a major driving force of the global AIDS pandemic, and is the primary mode of HIV transmission in many countries throughout Eastern Europe, the Commonwealth of Independent States, and significant parts of Asia. In some cases, HIV is spreading rapidly from injecting drug users to their partners through sexual transmission, and from injecting drug users and their partners to newborns. Reversing the rise of HIV infection among injecting drug users in these “high-risk” countries has thus become an urgent global public health challenge—one that remains largely unmet.

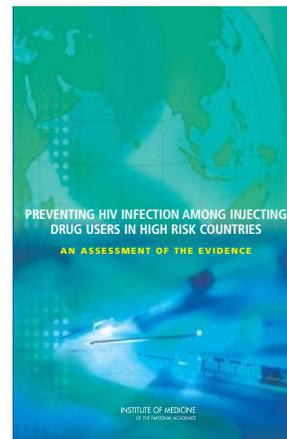
In response to this crisis, in 2005 the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the Bill & Melinda Gates Foundation commissioned the Institute of Medicine to evaluate strategies for preventing HIV transmission through contaminated injecting equipment. The resulting report, *Preventing HIV Infection among Injecting Drug Users in High Risk Countries*, finds that several key approaches can reduce HIV related risk behavior among injecting drug users. The report urges high-risk transitional and developing countries to take immediate steps to make these techniques widely available.

TREATING DRUG DEPENDENCE

Treating drug dependence is a critical strategy for preventing HIV transmission. Drug treatment includes both pharmacological and psychosocial approaches. Two primary types of pharmacotherapies are available for treating dependence on opioids, such as heroin: agonist and antagonist medications. Opioid agonist medications work by preventing withdrawal symptoms, creating cross-tolerance to the effects of opiates, and reducing opiate cravings—and therefore the need to use illicit drugs.

Strong evidence shows that two opioid agonist medications—methadone and buprenorphine—are effective in treating dependence on opioids. Patients can receive these medications for sustained periods. Such maintenance treatment reduces illicit drug use, how often individuals inject, and also how often they share injecting equipment. Studies also suggest that combining psychosocial interventions with agonist medications may improve patient outcomes. Drug users who remain in treatment and receive sufficient doses of the medication, experience greater benefits, including protection against HIV infection.

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trading of sex for drugs. Nor does such treatment address co-occurring use of other drugs—common among people addicted to opioids. However, given the overall benefits of opioid agonist treatment—and evidence that drug users who discontinue treatment have high rates of re-addiction and criminal behavior—high-risk countries should make such treatment widely available, where feasible.

Despite the many benefits of treatment with methadone or buprenorphine, these drugs can be diverted to illicit markets. Techniques for curbing diversion—such as by directly observing patients while they take the drugs—may increase the cost of treatment and therefore limit its availability. Countries must balance the competing goals of making treatment drugs widely available and reducing their diversion.

Naltrexone is an alternative medication for opioid-dependent individuals who do not want or cannot gain access to methadone and buprenorphine. Naltrexone is an opioid antagonist: it blocks the euphoric effects of heroin and other opioids completely, and is used to help patients remain abstinent from opioids. Patients must be detoxified before starting naltrexone. Although such therapy can be effective for some patients, high attrition rates and limited appeal have limited its effectiveness, and it is less likely to have a significant public health impact on opioid use or HIV transmission if it is the only treatment available.

Evidence for the effectiveness of some other abstinence-oriented treatments such as Narcotics Anonymous and residential approaches is limited, and attrition rates are high. However, these are important treatment options for opioid-dependent people who cannot gain access to methadone and buprenorphine, and for people addicted to stimulants and other classes of drugs. People who remain in treatment longer do better on a range of outcomes.

Unfortunately, no medications are yet available for treating addiction to stimulants such as cocaine and methamphetamine. Studies in controlled settings have shown that contingency management—a behavioral therapy in which patients who remain drug-free receive cash or other rewards—is effective in treating people dependent on stimulants. However, the real-world practicality of this approach is less clear. Although other psychotherapeutic approaches may be effective and are important treatment options, the need to develop and evaluate better treatments for stimulant dependence is urgent.

PROVIDING CLEAN NEEDLES AND SYRINGES

Avenues for making clean injecting equipment more widely available—and thus reducing drug-related HIV risk—include needle and syringe exchange; the legal and economical sale of needles and syringes through pharmacies, voucher schemes, physician prescription programs, and vending machines; supervised injecting facilities; and disinfection programs.

Needle and syringe exchange is usually one part of multi-component HIV prevention programs. Such programs may also provide condoms and education on disinfection, and refer them to drug abuse treatment and other services. Multi-component HIV prevention programs that include sterile needle and syringe access are effective in reducing drug related HIV risks such as needle and syringe sharing.

Undiluted bleach can inactivate HIV on injecting equipment in the laboratory, and in the field if used according to guidelines. However, in practice, injecting drug users do not use bleach correctly, so programs that distribute bleach should also educate drug users on proper techniques. In some countries, bleach is not available or acceptable, and it may be necessary to use other disinfectants. Drug users should rely on such methods only when they cannot stop injecting, or when they do not have access to new equipment.

As with drug treatment, a common concern is that sterile needle and syringe access may produce unintended results, including more new drug users, expanded networks of high-risk users, more frequent injection, and more discarded needles in the community. However, studies do not find evidence of such outcomes.

Sterile needle and syringe access can prove important in linking drug users to health and social services. Such programs also have the potential to help prevent hepatitis C—which is transmitted more readily by injection drug use than HIV—by providing other sterile injecting equipment, such as cotton swabs and alcohol wipes.

Although questions remain about the impact of multi-component programs that include sterile needle and syringe access on actual HIV incidence, the report recommends that high-risk countries act now to implement such programs. These programs should include multiple access points and methods of delivery, focus on reducing sexual risks, and actively refer drug users to other services.

OUTREACH AND EDUCATION

Outreach-based efforts to prevent HIV transmission—which may direct drug users to needle and syringe exchange, for example—have helped reduce drug-related risk behavior, including injection frequency and sharing of injection equipment. Outreach is effective in linking hard-to-reach injecting drug users with drug treatment and other health and social services. The impact of outreach on sex-related HIV risk behavior is less clear. High-risk countries should make outreach an important part of multi-component programs used to prevent HIV among injecting drug users, and to link hard-to-reach groups with medical and social services.

OVERCOMING BARRIERS TO REDUCING HIV RISK

Individual and structural—or environmental—factors influence HIV risk among injecting drug users, and can facilitate or undermine efforts to prevent transmission. One of the most important is tension between criminal justice and public health approaches. For example, drug users often fail to participate in HIV prevention programs because they fear arrest. To address this tension, nations should take steps to better align law enforcement and public health approaches.

Social stigma and discrimination—even among medical professionals—also affect whether drug users seek HIV prevention services, and the availability of those services. To address this, countries should tailor their HIV prevention efforts to local cultures and coordinate them with key stakeholders, including government agencies, law enforcement, and religious and civil society groups.

Limited public health infrastructure can further hamper efforts to scale up HIV prevention programs among injecting drug users—especially methadone and buprenorphine treatment. Many countries will need to expand the number of clinics and training for treatment providers and other professionals. Efforts to improve the infrastructure for HIV prevention among injecting drug users can build upon the global scale-up of infrastructure for treating and preventing HIV/AIDS more generally. Yet individual countries must also consider how best to use scarce funds to prevent HIV transmission among drug users. Careful forethought is critical because sustaining the gains from such programs requires stable funding.

Research and experience show that HIV prevention programs targeting injecting drug users can work, and high-risk countries should act now to implement them. However, these countries need to monitor and evaluate their programs from the start to ensure their effectiveness, given that most evidence now stems from studies in resource-rich countries.

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FOR MORE INFORMATION...

Copies of *Preventing HIV Infection among Injecting Drug Users in High Risk Countries* are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, <http://www.nap.edu>. The full text of this report is available at <http://www.nap.edu>.

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