

**The Determinants**  
*of the*  
**HIV/AIDS Epidemics**  
*in*  
**Eastern Europe**

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the 12th World AIDS Conference  
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## **Monitoring the AIDS Pandemic (MAP) Network**

MAP is a collegial network of internationally recognized technical experts seeking to assess the status and trends of the global HIV/ AIDS pandemic. Created in 1996, MAP is jointly sponsored by its founding institutions:



**Family Health International, funded by the United States Agency for International Development**



**The François-Xavier Bagnoud Center for Health and Human Rights of the Harvard School of Public Health**



**The Joint United Nations Programme on HIV/ AIDS (UNAIDS)**

MAP's more than 120 members in 40 countries are epidemiologists, modelers, economists, and social, behavioral, public health and international development specialists, recruited through a nomination process and currently guided by an Interim Global Steering Committee. MAP hopes to make its greatest impact by providing objective, timely and high-quality analyses of the most current information on the pandemic, for the improvement of prevention, care and social interventions worldwide.

MAP workshops and membership meetings are held in conjunction with regional and international HIV/ AIDS conferences. This enables MAP to function on a small budget and to distribute results from its analyses promptly to conference participants.

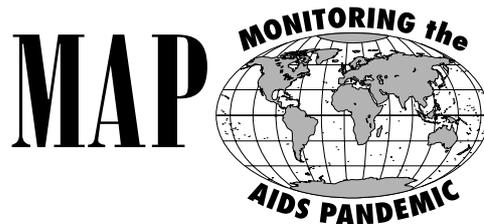
AIDS service organizations and regional networks of people living with HIV/ AIDS are invited to participate in MAP workshops. MAP works towards building consensus in an atmosphere of collegiality, cultural sensitivity, and mutual respect for conflicting points of view. It functions on the basis of volunteerism and personal and institutional contributions, with limited financial support from international organizations, including UNAIDS, and provides an independent perspective on issues raised by the HIV/AIDS pandemic.

Publications and other work products arising from the work of the MAP Network are the sole responsibility of the Network. The contents of this report and other work products do not necessarily reflect the views or policies of MAP's founding and sponsoring institutions.

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## **Previous Reports Produced by MAP**

*Workshop on the Status and Trends of the HIV/ AIDS Epidemics in Africa: Final Report,*  
Kampala, Uganda, December 1995 (English and French).

*The Status and Trends of the Global HIV/ AIDS Pandemic Final Report,*  
Vancouver, Canada, July 1996 (English, French, Spanish, Japanese, Chinese and Russian).

*The Status and Trends of the HIV/ AIDS Epidemics in Asia and the Pacific: Final Report,*  
Manila, Philippines, October 1997 (English, French, Japanese).

*The Status and Trends of the HIV/ AIDS Epidemics in Latin America and the Caribbean: Final Report,*  
Rio de Janeiro, Brazil, November 1997 (Spanish and English).

*The Status and Trends of the HIV/ AIDS/ STD Epidemics in Sub-Saharan Africa: Final Report,*  
Abidjan, Côte d'Ivoire, December 1997 (French and English).

*The Status and Trends of the HIV/ AIDS Epidemics in Eastern Europe: Final Report,*  
Veyrier du Lac, France, June 1998 (English, Russian version forthcoming).

*The Status and Trends of the HIV/ AIDS Epidemics in the World: Final Report,*  
Geneva, Switzerland, June 1998 (English, French version forthcoming).

### **MAP reports are available through the following websites:**

Family Health International  
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## 1. Introduction

Until 1995, central and eastern European countries, including the Asian republics of the former Soviet Union, did not seem to be confronted with a major HIV threat. On the basis of data obtained from mass screening of large segments of the population, such as pregnant women and military recruits, and from particularly vulnerable groups, such as arrested drug users, those attending drug treatment centers, and STI patients, the total number of infections for the entire region with its approximately 300 million inhabitants was estimated at less than 30,000. In comparison, 474,000 persons were living with HIV in western Europe, and 12.9 million, 4.2 million, and 1.2 million in Africa, Asia, and Latin America respectively.

Two years later, the situation had changed dramatically. In December 1997, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimated that the number of persons living with HIV/AIDS in eastern Europe had more than tripled, rising to more than 150,000. Two-thirds of the total number of infections were believed to have occurred during the 12 months prior to the announcement. In addition, the number of AIDS cases reported in the region was increasing.

This report describes the dynamics of the eastern European HIV epidemic. It draws on 20 short presentations prepared by epidemiologists and social scientists from seven countries of the former Soviet Union as well as experts from Denmark, the United Kingdom, and India, for presentation during the meeting on the status and trends of the HIV/AIDS epidemic in eastern Europe. The meeting was held under the auspices of the Monitoring the AIDS Pandemic (MAP) Network on June 23, 1998 in Annecy, France, with funding and preparatory input from UNAIDS. Presentations at the meeting focused on the socio-economic and behavioral determinants of the epidemic among specific vulnerable groups such as injecting drug users (IDUs), prison inmates, sex workers, and men who have sex with men (MSM), as well as issues of general concern such as testing policies, migration, and projections. In order to obtain an overview of patterns and determinants, this information was supplemented with data from United Nations reports as well other published and unpublished materials.

## 2. Overall socioeconomic and health situation

The countries of eastern Europe and central Asia have embarked upon a systemic transformation, the extent of which has few parallels in history. In all post-socialist countries in the region, the transitions to new market-oriented democratic societies which began in the early 1990s have followed similar paths. Each country has entered a period of economic crisis involving a rapid decline in Gross Domestic Product (GDP), particularly in industrial production, coupled with high and even hyperinflation. Privatization and the role of the shadow economy have expanded. Economic inequality has grown and those who are dependent on the state budget, for example, pensioners, the disabled, the unemployed, civil servants, and the military, have been affected by falling standards of living.

The difficult restructuring required by the transition from a command economy to a market economy has proven to be extremely harsh and socially costly in most countries. The resulting short-term consequences for many individuals have been dramatic, with incomes lost or reduced and savings wiped out. The sudden collapse of the Soviet system disrupted the very basis for production, which had at least provided a universal foundation for human security even if it did discourage initiative and restrain choices. This universal base included: full employment, controlled prices of essential goods, a universal system of health care and education, and widespread state benefits that ensured an adequate minimum standard of living to most people. Also, industry was often heavily localized—one enterprise would dominate a town and provide not only employment but also social and educational support. All this was dismantled in a few short years, giving people no time to adjust materially or psychologically. Many of the services once provided have not yet been replaced. The result has been not only the erosion of people's income and savings, but also an undermining of the capacities of individuals, families, and communities to maintain and develop their social and human potential. Closure of local industries left entire communities particularly affected and demoralized—for example, towns built after World War II, where the new inhabitants had few roots or traditional social networks for security, or those built around former Russian

military bases. This is not to imply that poverty did not exist before the transition period, when ideological dogmas obstructed the recognition of poor people, but during that period large-scale destitution had been avoided.

While the seeds planted in the interest of longer-term growth and sustainability began to bear fruit in some central European countries by 1994–95, the countries of the former Soviet Union are still faced with the enormous weight of social welfare obligations on the public sector, and the inability of the private sector to compensate for lost production. These countries are still very much grappling with the management of the transition process and are searching for an economic structure that can start to reverse the impoverishment trends and ensure a decent standard of living for their peoples.

A review of UNDP's Human Development Report for 1996 indicates a massive increase in the extent and the depth of poverty across the region, caused by declines in national income and production, increases in unemployment, loss of savings, nonpayment or partial payment of wages and state transfers, the erosion of enterprise benefits, inadequate development of a system of social protection, and very high levels of inflation. The reduction in social benefits has been characterized by the inadequate indexing of monetary transfers and the decreasing quality of social services. The costs of social coverage have been steadily transferred from the state to households, and have been increased by the process of the partial commercialization of some services, such as child care, education, and health care. Poverty has affected the more vulnerable groups, such as pensioners, children, students, women, unmarried mothers, the disabled, the unemployed, and veterans.

Rapidly falling living standards, growing environmental hazards, a deteriorating health care system, a lack of trust in state institutions, and a growing range of social problems have led to declining health. GDP in many countries fell by as much as one-half since 1991, and most countries made comparable cuts in real health spending. These slashed the real wages of health workers, capital investments in the health sector, and purchases of pharmaceuticals and consumables. The macroeconomic decline has also had broader health consequences. For example, heating shortages have led to an increase in pneumonia; the deterioration of the water supplies has led to epidemics of infectious diseases, including cholera; and broken

immunization systems have resulted in, among other things, outbreaks of diphtheria. Meanwhile, poverty has become widespread; nutrition has deteriorated; the quality of health services and access to them decreased; public health programs have faltered; and rates of suicide, domestic, and other violence; criminality; and murder have all increased. Health policies have been too weak to prevent the heavy promotion of cigarettes by international companies. Alcoholism has become rampant, and injecting drug use has risen.

The region's health indicators have worsened during transition. Non-communicable diseases showed such increases that Russian boys born in 1993 could expect to live 5.3 fewer years than those born in 1989. Dormant threats from some communicable diseases have re-emerged. For example, in Russia and the central Asian republics, the incidence rates of tuberculosis and diphtheria have risen to many times their prior levels. Infant and maternal mortality have also become more common in some countries. Death rates have increased, while birth rates have declined. In Russia there has been a sharp rise in adult mortality, with male life expectancy falling from 64 to 57 years. The drop is particularly linked with increases of cardiovascular diseases, malignancies, and violent deaths in adult men.

### **3. Increased vulnerability to HIV/STI**

The profound societal changes that have swept across the countries of eastern Europe and central Asia have created conditions that make them particularly vulnerable to the spread of HIV and STIs. Factors which are reported to have contributed to increased vulnerability to the spread of HIV/STIs in this and other regions include: widespread poverty; large gaps between the very wealthy few and an impoverished majority; migration due to economic hardship and civil strife, resulting in the disruption of households and family life; and deteriorating health and education services. What makes eastern Europe unique is that rapid socioeconomic changes appear to have been accompanied by a shift in ideology, from collectivism to individualism and consumerism, and by a massive increase in individual risk-taking in terms of unsafe sexual and drug use behaviors. Hypothesized linkages between socioeconomic change and

individual vulnerability to HIV/STI in the region include the following:

- Entire communities that had been dependent on single industries have faced economic collapse. The most entrepreneurial citizens tend to start their own businesses, migrate, or resort to crime. New entrepreneurs may be at increased risk in terms of unsafe sexual and drug use situations and behaviors.

- Rapidly rising unemployment rates and the seeming uselessness of the older generation's hard work have led to growing disillusionment, loss of purpose, and hopelessness among the young. Many youth seek relief through criminal activity or escape through drugs and alcohol.

- Social upheaval has led to massive increases in the number of children who no longer live with their parents. Several thousand or even tens of thousands of children live in the streets, in market places, or at railway stations in cities such as St. Petersburg. It is well known from past experience in other countries that street children are at particularly high risk for sexual exploitation, drug addiction, and HIV infection.

- The combination of easy access to, and strong demand for, illicit drugs has resulted in their consumption by a very large number of people. The individual risk of drug users' contracting HIV infection is linked to local patterns of drug preparation, drug markets and distribution channels, and injecting practices.

- Huge disparities in income now exist, and there has been a particular deterioration in the economic situation of women. Power and money are concentrated in a small group, while those at the other end of the scale have little or nothing. Many women have resorted to sex work as a coping strategy.

- Men who have sex with men (MSM) are another population group that is particularly vulnerable to HIV/AIDS. Since there is a weak tradition of social behavioral research, especially on sexual issues, few scientific surveys exist on sexual preferences, practices, and lifestyles in the region, including on same-sex contacts.

- Prisons in eastern Europe are affected by the socioeconomic crisis in the same way other public services are. Prison inmates represent a larger proportion of the population here than in western Europe. The large segment of the population incarcerated in the Newly Independent States (NIS) is exposed to the increased risk of HIV infection associated with imprisonment resulting from sex between men, possible forced sex, and drug use.

- Changing social standards, or rather the vacuum left by the removal of old standards along with the challenging of taboos (e.g., discussion of sex, greater acceptance of homosexuality), may have contributed to the relaxation of sexual norms, to changes in sexual behaviors and growth in the number of persons engaging in casual and commercial sex.

Institutional factors associated with increased vulnerability to HIV and STIs include the lack of effective sex education, legislation which is not conducive to HIV prevention among vulnerable groups, and the lack of quality condoms at affordable prices in many countries. At the same time, a more supportive environment is being created through democratic processes, growth and development of NGOs and self-help groups, greater tolerance and acceptance of differing lifestyles, and greater access to information.

## **4. Testing strategies and epidemiological surveillance**

### **4.1. Development of new testing strategies**

Eastern European countries have inherited an extensive testing and reporting infrastructure. Testing policies and approaches have aimed to ensure blood safety; to detect cases and treat, support, and follow up on those infected; and to conduct epidemiological surveillance. Large-scale testing has traditionally involved groups such as pregnant women, blood donors, occupational groups, and hospital patients, as well as particularly vulnerable groups such as drug users, prisoners, and STI patients. Since 1987, testing has been considered a primary means of prevention and epidemiological control of HIV infection. The Ukraine passed a law in 1991 stipulating manda-

tory testing of drug users, sex workers, and foreign citizens. The law also enabled the Ministry of Health to define 15 other categories of the population to be tested at regular intervals. Between 1987 and 1994, more than 39 million tests were carried out.

Since the mid-1990s, testing policies have changed in many countries. Testing is increasingly seen as an inappropriate and ineffective prevention tool, unless it is accompanied by measures to improve counseling, ensure confidentiality, and prevent infections. The total number of tests has decreased in most countries, as certain groups—pregnant women and occupational groups in particular—are no longer routinely tested. In Ukraine in 1994, the National AIDS Committee planned to reduce the number of pregnant women and inpatients tested and effectively devolved the costs of testing to local authorities. However, the number of tests actually performed among pregnant women, for instance, has only very gradually been reduced, from about 373,000 in 1995 to 351,000 in 1996 and 326,000 in 1997. Many health officials and medical staff still perceive mandatory testing as the main component of HIV prevention and control. Since 1998, testing for reasons other than blood safety has been voluntary. Although the new law is ambiguous in that it does not mention pre-test counseling explicitly, it is seen as an improvement. A total of 2.5 million tests were conducted in Ukraine in 1997.

Even before the Ukraine, Russia introduced legislation that made HIV testing voluntary except among blood, semen, and organ donors. Nevertheless, testing without informed consent continues in many settings. Many health workers, particularly those outside the main cities, are ill-informed about the legal requirements, untrained and unskilled in counseling, and continue to routinely test patients. Prisoners, prostitutes, and drug users are frequently pressured to agree to being tested by police and prison authorities. Military recruits are tested compulsorily. In some regions, not only are HIV tests a precondition for treatment in health institutions, but the costs of the tests are charged to patients. As a result of these various factors, the total number of tests performed in the country dropped only slightly in 1995 and 1996, and increased again in 1997. With 20 million tests performed annually, more testing per person has been carried out in Russia than in Ukraine.

Large-scale screening involving several million people every year is also still practiced in

other parts of the former Soviet Union, such as Belarus and central Asia. The total number of HIV tests has dropped dramatically in the three Caucasus countries, however, due mainly to severe shortages in test kits. In the Baltic states testing also seems to have slowed. For instance, Lithuania tests 1.2 percent of the population per year, a significantly smaller proportion than in Russia. No information on testing policies from Latvia and Estonia was available for this paper.

In summary, there is strong recognition among policymakers and epidemiologists that testing strategies should shift towards more voluntary and better targeted testing, and that health workers need training in counseling and social support.

#### **4.2. Anonymous testing**

Anonymous voluntary testing sites have been established in the major cities of several countries, including Russia, Ukraine, and the Baltic states. These services are open to anyone who can afford to pay for the test. Preliminary assessments have shown that some of these services have been successful in attracting individuals who are particularly vulnerable to HIV, although some health workers still tend to confuse the purpose of anonymous testing and attempt to identify persons once their HIV seropositivity has been established.

There are two sites in Vilnius, the capital of Lithuania, which offer anonymous testing free of charge, and a similar voluntary testing site is being established in Tbilisi, Georgia. Voluntary and anonymous tests still account for only a small proportion of the large number of routine tests performed. Approximately 13,600 voluntary anonymous tests were performed in Russia in 1997.

Anonymous unlinked testing for surveillance purposes, as recommended by WHO since the early 1990s, has not been implemented in this region. The Ukraine is planning to pilot sentinel surveillance among vulnerable groups such as IDUs and sex workers in the near future, and there is some sentinel surveillance among inpatients and patients of women's clinics in Lithuania. Lithuania has also attempted to conduct testing among sex workers and drug users during outreach, but sentinel surveillance among MSM has failed. In general, however, a shift from mass screening and nominal case-reporting to anonymous unlinked testing lacks both official approval and acceptance by many epidemiologists and health workers in the region.

### **4.3. Partner notification**

No data on partner notification are available for this report, but it is plausible that rates could be decreasing. First, many people may no longer accept persuasive approaches and may resist partner notification. This assumption is somewhat verified by declining partner referral rates of STI patients. Secondly, with the focus of the epidemic moving from homosexuals to drug users (see below), compliance with partner notification programs may become more problematic. And thirdly, health authorities may be less inclined to use scarce resources for partner notification or provider referral.

### **4.4. Validity of HIV data**

HIV surveillance has thus far relied principally on the results of large-scale testing and HIV case-reporting. Although mass testing does not provide reliable information on HIV transmission among vulnerable populations, it does provide large amounts of information and some insight into patterns and trends. Additional data are available from interviews with every newly detected infected person, from partner notification, and from interviews conducted during voluntary and anonymous testing. Nevertheless, there is significant evidence that HIV case-reporting data might lack sufficient validity to describe patterns and trends in the region. Only between 50 and 80 percent of drug users on record with police, narcology services, or prisons were tested and, according to experts, only 10 percent of all drug users are on record, meaning that the development of the epidemic would therefore have been monitored on the basis of testing of only 5 percent of the IDU population. Similarly, the few voluntary tests in Lithuania yielded more HIV-positive results than the much larger number of routine tests performed in prisons and narcology services.

As the proportion of anonymous tests is likely to increase, registration of HIV-infected persons will become more difficult, and case-reporting data less useful. Alternative methods to monitor the levels and trends of risk and infection among vulnerable groups should be developed. Data obtained from blood donor screening will remain an important monitoring tool.

### **4.5. Registration of HIV cases**

HIV-positive results are routinely reported to regional AIDS centers and further compiled and confirmed at the national level. The process

involves two stages: the screening tests themselves, and then referral to a health institution for history-taking, advice, and official registration. In the Ukraine, only about half of those testing HIV-positive actually visit a doctor for advice, clinical management, and registration. Official figures are therefore an underestimate. In other countries such as Russia, similar procedures exist, although registration rates might be higher. From a surveillance point of view, interviews during clinic visits are also important, since they are used to classify patients according to transmission category.

## **5. The unfolding of the epidemic**

Vulnerability does not automatically translate into infection. In order for HIV to spread, it first has to be introduced into a population, and then transmission must be maintained through sexual and/or drug users' networks. Despite worsening overall health indicators, presumably widespread risk behavior, and massive testing, only a few cases of HIV were reported in eastern European countries, including the central Asian republics of the former Soviet Union before 1995, suggesting a low level of transmission.

### **5.1. The beginning of the epidemic**

One of the effects of the opening of borders in the early 1990s was the increased likelihood of introducing different HIV strains into the region. Eight of the ten known HIV subtypes, including rare and recombinant strains, have now been found in a region stretching from Belarus in the west to the Russian Pacific coast in the east. This viral diversity implies that HIV must have entered the region several times, and from different parts of the world. For instance, the HIV subtype A now commonly found among drug users in Ukraine and Russia differs genetically from the subtype B common among homosexual men, who had accounted for the majority of HIV infections until 1996.

The HIV epidemic in the former Soviet Union went through several distinct phases. A chain of sexually transmitted HIV infections was initiated in Russia in 1987 when the first infected person, who had contracted the virus in a high-prevalence African country, was detected. In 1989, an outbreak of nosocomial HIV infections oc-

curred among about 250 children in the southern Russian republic of Kalmykia. Between 1991 and also been predominant in the Baltic states and in Kazakhstan until very recently. In Ukraine, the majority of infections before 1996 were reported among foreigners; similarly, in central Asia and the Caucasus, infections among local citizens had remained extremely rare.

In 1995, mass screening and case-finding detected the emerging epidemics among drug injectors in Russia, Ukraine, Belarus, and Kazakhstan. HIV may have been introduced into the drug-using population in the southern Ukrainian port cities of Odessa and Nikolayev as recently as 1994 or early 1995. At the beginning of the drug-related epidemic in Russia in 1996 and 1997, researchers were able to confirm recent seroconversions in many of the drug users.

## 5.2. Ukraine

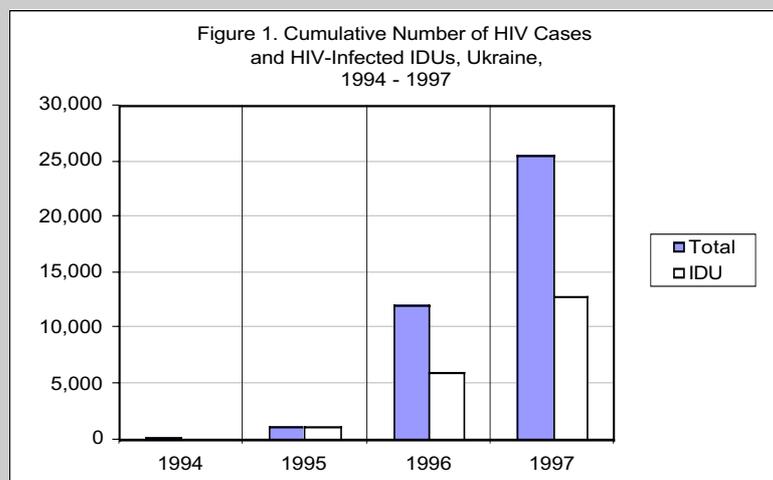
Before 1995, only 40 to 80 new HIV infections had been registered annually in Ukraine. From March to April 1995, more than 1,000 drug users in the southern cities of Odessa and Nikolayev were found to be HIV-infected. One year later, HIV infection among drug injectors was reported from all 25 regional capitals, with Odessa, Nikolayev, Crimea, Donetsk, and Dnipopetrov being the most affected cities/regions. The total number of diagnosed HIV infections rose to more than 12,000 in 1996, reaching more than 25,000 by the end of 1997, with one-half of the diagnoses among registered and confirmed drug users. During the first three months of 1998, the number increased to

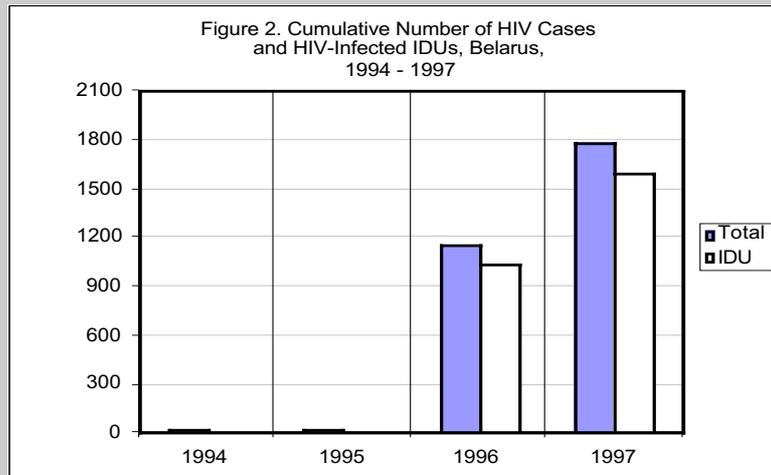
about 34,000; however, only 18,900 people were officially registered as HIV-infected in Ukraine at the beginning of 1998.

Seropositivity among registered drug users nationwide increased from virtually zero before 1995 to 2 percent in 1995 and 7 percent in 1996. In 1997, of 72,480 drug users tested, 7,835 (11 percent) tested positive. During the first three months of 1998 a slightly lower proportion of drug users tested (9 percent) was found to be infected. By the end of 1995, HIV infection among drug injectors in contact with narcology services and police in Odessa and Nikolayev in Ukraine had reached 31 percent and 57 percent respectively, and in 1997 rates were around 30 percent and 19 percent.

Slightly lower proportions of HIV-infected drug users, between 10 percent and 15 percent, were found in Dnepropetrovsk, Kiev, and Donetsk. Such data give only a tentative idea of the level of infection among drug users, as they have been obtained in a nonsystematic manner. Prevalence among prisoners and military personnel in Ukraine also increased in 1996 and 1997, with the vast majority of those testing HIV-positive being drug users (see figure 1).

Soon after the reported outbreaks in Ukraine, rapid spread of HIV among drug users was detected in cities of four other countries of the NIS: Belarus, Russia, Moldova, and Kazakhstan. More recently, smaller scale drug-related epidemics have been reported from the Baltic states and the Caucasus republics.





### 5.3. Belarus and Moldova

*Belarus.* Only a handful of new HIV infections had been reported annually in Belarus until November 1996, when large-scale testing in Svetlogorsk in the southern Gomel district revealed 632 HIV infections. Over 70 cases of HIV infection were also detected in a nearby town, Zhlobin; by the end of the year, HIV infections among drug users were reported from all administrative regions of Belarus. By the end of 1997, the total number of HIV infections had increased to almost 1,800, and by May 1998 to 1,975. The vast majority of these cases were drug users. Reported HIV cases remain concentrated in Svetlogorsk and Gomel district in 1998 (see figure 2).

*Moldova.* Until late 1996, Moldova was considered a low-prevalence country, reporting one to seven HIV cases annually. Only one case of HIV infection among drug users was reported by the end of 1995. In 1996, a total of 55 new infections were reported, mainly in the capital Chisinau, 38 of them among IDUs (70 percent). In 1997, the cumulative total increased to 471, with 77 percent among drug users.

### 5.4. Russian Federation

At the end of 1995, out of a total of 1,052 reported cases of HIV infection in Russia, only seven were injecting drug users. Starting in 1996, transmission among drug users increased dramatically, resulting in a rapid rise in the number of HIV cases reported. In 1996, 61 percent of a total of 1,535 new HIV infections were drug injectors. For another 27

percent, no conclusive data on transmission category were available. By January 1998, the total number of cases had again more than doubled to 7,024 cases, with about 60 percent of new infections that year among persons with a known history of drug injecting (see figure 3).

With more than 1,700 cases reported by the end of 1997, 79 percent of them among drug injectors, the northwestern enclave of Kaliningrad is by far the most affected Russian region. Central and southern Russian locations with rapidly spreading HIV epidemics (and more than 300 IDU-associated cases) are Krasnodar, Nizniyi-Novgorod, Rostov, Saratov, and the Moscow region. Smaller numbers were reported from several other cities and most other regions, including from Siberia and the far north. As in Ukraine, the proportion of prison inmates and military personnel testing positive for HIV increased in 1996 and 1997. HIV infection figures for prisoners amounted to 21.8 and 106.5 per 100,000 persons in 1996 and 1997, respectively.

### 5.5. Caucasus republics, Baltic states and central Asia

The eight other NIS in the Caucasus and central Asia and the three Baltic states have not been spared IDU-associated HIV infections, but so far have been less affected. With the exception of Kazakhstan, they have all reported fewer than 100 cumulative HIV infections.

In Georgia, virtually all newly detected infections (except for one blood recipient infected

much earlier) since 1996 have been among drug injectors. In Azerbaijan, HIV infection among drug users had been unknown before 1995, but accounted for almost half of the cumulative total by mid-1997. In Armenia, where the total number of HIV cases increased from three to 65 in 1996, 14 infections among drug users were reported in 1997. At the same time, the number of tests significantly decreased in all three countries, as a national policy of mass screening implemented during the 1980s and early 1990s was followed by severe shortages of test kits.

In the three Baltic states, most HIV infections had been detected in homosexual men prior to the onset of infections among IDUs. In Lithuania, the total number of cases of HIV infection reported as of January 1998 was 87. While before 1997 mostly homosexual men and sailors had been affected, IDUs have since accounted for 30 cases. In Latvia, a total of 76 persons, including only one drug user, had been diagnosed as HIV-infected by September 1997, when the National AIDS Program was first contacted for this review. But in November and December 1997, five new IDU cases were reported, followed by another seven IDU-associated infections in January 1998. Estonia, the smallest country in the region, with a population of 1.5 million, has not yet reported any cases of IDU-associated HIV infection.

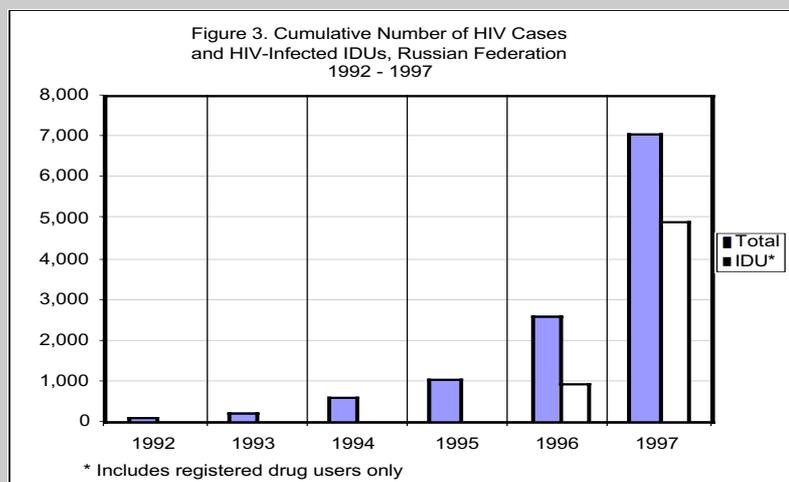
In central Asia, Kazakhstan is the most affected country, reporting 69 cases of HIV infection by mid-1996. Following the detection of HIV infection among imprisoned drug users in the city

of Temirtau in the northern Karagandy oblast, testing among drug users was intensified. By December 1997, 445 HIV-positive persons had been newly registered, 422 (95 percent) of them drug users, resulting in a cumulative total of 514 reported HIV/AIDS cases (excluding foreigners). By May 1998, the total number of registered HIV infections increased to 651.

Turkmenistan had registered only one HIV-positive citizen by the end of 1997, and Tajikistan and Kyrgyzstan four and two respectively. Foreigners and citizens of neighboring NIS countries are registered separately. In Uzbekistan, despite the routine testing of 22 different population groups and several million people each year, only a total of 19 HIV infections among Uzbek citizens were reported. An additional 26 foreigners were found HIV-infected and were deported (see table 1).

## 6. Determinants of the epidemic among drug users

Although the picture is far from complete and evidence is largely anecdotal, several factors seem to have been fueling the HIV epidemic associated with drug use in the former Soviet Union. They include increased drug demand, supply, and consumption; migration; and specific local patterns of drug production and use.



\* Includes registered drug users only

Country	Population (m illions)	Cum .No. reported HIV infections	Cum .H IV per 100,00	No.H IV - infected IDU	% IDU among total HIV	Date of report
Armenia	3.8	65	1.8	14	22	Jan. 1998
Azerbaijan	7.5	37	0.5	17	46	Sept. 1997
Belarus	10.3	1787	17.3	1522	85	Jan. 1998
Estonia	1.5	73	4.9	0	0	July 1997
Georgia	5.4	66	0.7	31	47	May 1998
Kazakstan	16.6	514	3.1	422	82	Jan. 1998
Kyrgyzstan	4.5	2#	0	0	0	Jan. 1998
Latvia	2.5	88	3.5	5	6	Jan. 1998
Lithuania	3.7	87	2.4	30	34	Jan. 1998
Moldova	4.3	471	11	362	77	Jan. 1998
Russian Federation	148.1	6944	4.7	4155	60	Jan. 1998
Tajikistan	5.8	4#	0.7	0	0	Jan. 1998
Turkmenistan	4.5	1#	0	0	0	Jan. 1998
Ukraine	51.5	27671	53.7	13679*	49*	Jan. 1998
Uzbekistan	22.8	19#	0.1	0	0	Jan. 1998
<b>TOTAL</b>	<b>292.8</b>	<b>37,829</b>	<b>9.7</b>	<b>20,237</b>	<b>55</b>	

Table 1. HIV Statistics for Russia and the NIS, 1997

Sources: National surveillance data; Meeting on the Surveillance of HIV Infection in Europe, 18-20 February 1998, Saint Maurice, France.

# Foreigners excluded.

\* Excluding drug users tested for others reasons than drug use (e.g., prisoners)

### 6.1. Increases in drug supply

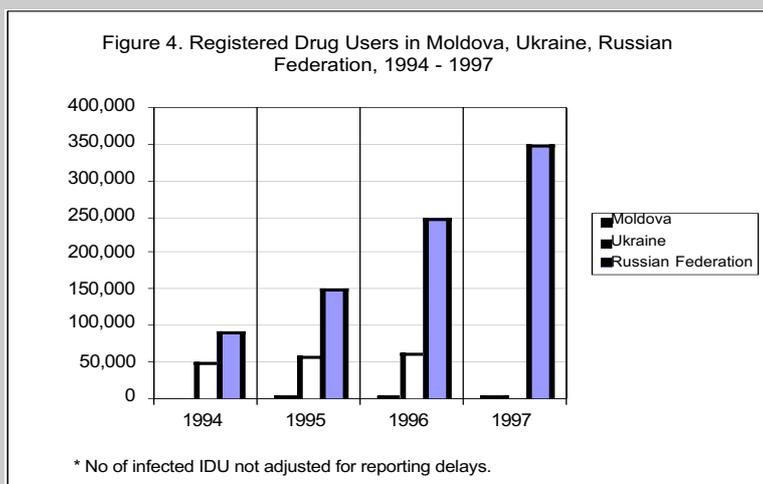
Homemade opiates are the most commonly used drugs in the region. An estimated 70 percent of drug injectors in Ukraine and Russia use them. Cultivation of poppies is traditional in the central Asian republics, Ukraine, parts of Russia and in parts of the Baltics. In Afghanistan and three of the central Asian republics which border it, Uzbekistan, Tajikistan and Turkmenistan, poppy crop areas and opium production have expanded rapidly in recent years. Seizures of drugs other than raw opium, including heroin, cocaine, and amphetamines, have also been reported by national authorities in Russia and other countries in the region.

Central Asian, Caucasus, and Russian railways and, to a lesser extent, roads are used as drug trafficking routes from production areas to harbors on the Baltic and Black Seas. In St. Petersburg in 1996, for example, a team of UNAIDS experts was told that the control of city drug markets was divided along geographic lines or ethnic origin of the dominant criminal gangs, with one suburb controlled by the Chechnyan Mafia, another by Tajiks, and others by other groups, each supplying its own clientele. The increasing international drug traffic in Russia and the other NIS may well contribute to creation of drug demand and increased domestic use.

### 6.2. Size of IDU problem

Easy access to drugs has facilitated injecting drug use throughout the region. Despite shrinking resources, the Ukrainian narcology and police services have officially registered more than 63,000 IDUs in 1996, up from about 30,000 at the beginning of the 1990s. Sources estimate that the number of illicit drug users in treatment in Russia rose from 91,000 in 1994 to 149,000 in 1995, 249,000 in 1996, and 350,000 in 1997. About two-thirds are believed to use injectable drugs. In Moldova and Belarus, 2,732 and 3,549 drug users were on record, respectively (see figure 4, page 10).

Drug users registered through narcology and police services represent a small minority of all drug users. In the city of Odessa alone, there were an estimated 35–40,000 injecting drug users in 1997, representing an increase of 500 to 600 percent since 1990, when the number was estimated at only 6,000. Anecdotal reports from other cities in Ukraine and from Russia and the other NIS seem to indicate similar patterns. Estimations of the number of illicit drug users (other than those who use alcohol and solvents) throughout Russia vary from 600,000 to several million. Brunet (1997), for instance, quoted official sources in St. Petersburg suggesting that a figure of 200,000 IDUs would be a reasonable estimate for that town alone. It is estimated that the approximately 600



HIV-infected IDUs in Kazakhstan constitute about 1 percent of all drug users in the country.

Although there is little doubt that drug use is increasing, reported numbers of registered drug users should be used with great caution. Several epidemiologists have found that figures reported by the various Ministries and institutions tend to vary according to the purpose of presenting them. During the Soviet period drug use was not officially acknowledged and still today fear of repressive measures, including imprisonment, drives many drug users underground and out of reach of the very authorities who estimate their numbers. With the exception of Odessa, where drug users' residences and places where drugs are produced are mapped, neither detailed mappings nor capture/recapture calculations have been used in the NIS to enumerate drug use populations.

### 6.3. Geographic and demographic characteristics of drug users

No systematic assessment of determinants of drug demand has been carried out in the region. Several reports mention that up to 70 or 80 percent of drug users are unemployed or working in the informal sector. Many drug users are also dealers. In Svetlogorsk, for instance, drug trading constitutes the main source of income for a considerable segment of the population. A large proportion of drug users is incarcerated at any given time (this will be discussed in the next section). Lastly, there is overwhelming and relatively consistent evidence that injecting drug users are mostly male (estimates

vary between 75 and 85 percent in the various countries) and mostly young, becoming ever younger. For example, in St. Petersburg, and in Ukraine, up to 20 percent of injecting drug users are teenagers, with the youngest around 12 years old.

Local approaches to drug production, distribution, and consumption have been found to be very resourceful. In Ukraine, the vast majority of drug injectors use opiates (*himier*), but use of multiple drugs, including amphetamines (*vint*), is frequent. In Moscow, drug use varies enormously, from cocaine and heroin use among wealthy upper-class users to ketamine, amphetamines (made out of cough syrups), and opiate consumption by students, other youth, and residents of the city's suburbs. The relatively slow spread of HIV among IDUs in cities such as Moscow and St. Petersburg may be related to the fact that synthetic drugs are more widely used there than elsewhere. On the other hand, opiate users living in the deprived suburbs of Moscow may be the city's largest drug-user category, subject to the same risks as users in other cities. In addition to regular users and addicts, thousands of young Muscovites seem to inject drugs occasionally for recreational use.

### 6.4. Needle/syringe sharing

Specific drug-use behaviors facilitate the spread of HIV. Sharing of syringes and needles, considered the main mode of HIV transmission among injecting drug users, appears to be the norm in places in the region. Sharing of injection equipment has been

described as common in reports from various cities including Kaliningrad, Odessa, and Poltava. In Vitesbsk, Belarus, for example, 74 percent of drug users had used another person's syringes. Behavioral investigations in three Ukrainian cities found that only 15 to 20 percent of drug users interviewed had used a new syringe for each injection, and that between 60 and 80 percent shared their syringes and needles with someone else. There is anecdotal evidence that in Moscow, opiate users share needles and syringes more frequently than any other drug users, partially due to a lack of money.

Sharing injection equipment might not, however, be the only or even the most important risk factor for the transmission of HIV and other blood-borne diseases. Before the sharing of potentially infected needles and syringes lies a long chain of production and distribution behaviors and procedures that facilitate the spread of HIV.

### **6.5. Risks associated with drug preparation**

HIV may be introduced into the drug solution during the preparation process itself. The production of homemade opium involves several steps: immersing and heating the poppy straw in chemical solvent, decanting the poppies, burning off the remaining solvent, and further heating. The freshly prepared solution is then often tested during the preparation process by drawing it directly from the mixing container and injecting it. The remainder is returned to the container after the testing, with the obvious risk of accidentally introducing the tester's blood into the solution. The mixing containers and decanting equipment may have been contaminated during previous use, and it is unclear whether the heating effectively sterilizes the liquid.

There are important anecdotal reports from several cities in Russia, Ukraine and Belarus that human blood is added to the drug solution as a cleansing agent to precipitate solid particles, to stabilize its acidity level, or to check whether it causes hemolysis. In most cases the person who "boils" the drug solution uses his own blood. Assessments of HIV outbreaks in several Russian regions and cities including Kalininskaya and Saratovskaya, Novorossiysk, Tver, and Nizhni Novgorod suggest that drug "boilers," either negligent or unaware of their HIV status, might have spread the virus in this way. The real risk of spreading HIV via freshly prepared *himier* and through the equipment used during the production and distribu-

tion process is unknown. There are plans to perform virological tests on such equipment.

### **6.6. Concentration of drug production**

Transmission might be more widespread where drugs are produced in large quantities for sale, rather than in small quantities for consumption by individuals or small groups. The degree of control which drug users have over the risk of injecting infected liquids depends on the degree to which the production and consumption processes are separated. In Odessa, the most widely used opiate was likely to be produced for distribution, and direct and indirect sharing of injecting equipment among people not in close proximity to the person producing the drug appeared to be frequent. In contrast, homemade amphetamines were more likely to be produced by the user.

In Odessa, while 70 percent of opium users were found to know how to prepare their drugs, only one-fifth continued to prepare them themselves. Because large-scale drug dealers have monopolized the drug market, it is becoming increasingly difficult to buy opium poppy for home production of *himier*. Similarly, in Svetlogorsk, Belarus, significant drug sales reportedly started only recently. Until mid-1996, all drug users had procured raw materials and produced the drugs themselves.

### **6.7. Risks associated with drug distribution**

Those who do not produce the drugs for themselves buy them from dealers, either in syringes or other containers. Reports suggest a variety of ways in which HIV might be associated with the distribution process. Some drug users provide their own equipment when buying from a dealer (cleaned or not) although they might not have control over whether the same syringe is filled and returned. Others refill their small syringes by frontloading from the dealer's larger syringe or a container. Many of the dealers are IDUs themselves and intermittently inject from the same solution, thus effectively sharing equipment with their clients. Behavioral surveys in the Ukraine mention that 60 percent of drug users had shared the same drug container. Between 38 and 50 percent had brought ready-made drugs in used syringes from dealers, and even among those rinsing their needles and syringes as a risk reduction measure, two-thirds had shared rinsing containers.

### **6.8. Migration and transport links**

The importance of migration for the spread of HIV in the region has not yet been systematically examined. In general, economic links have remained close between the various NIS and have likely facilitated the spread of HIV. The epicenters of the epidemic are either ports such as Kaliningrad and Odessa or places that have good transportation links with harbors, such as Krasnodar in northern Caucasus, where the first large-scale IDU-associated HIV outbreak in Russia proper was reported. Migrants are reported to have played a major role in the introduction and spread of the epidemic in Georgia. Close contacts between Georgian, Ukrainian, and Russian authorities have established that the majority of known HIV-infected Georgian citizens were infected in the southern Russian city of Rostov and the city of Donetsk, Ukraine. Migration is also mentioned in the spread of HIV in Kazakhstan. Researchers report that Lithuanian drug users in Klapeida might have contracted HIV through cross-border contacts with Kaliningrad. In Tumen, a middle-size town in western Siberia, all detected HIV-infected drug injectors in 1997 were temporary workers from Ukraine. Further documentation on the role of migration in HIV transmission is urgently required.

### **6.9. The role of drug policies and programs**

Regional and national policies and NGO interventions have the potential either to reduce or to increase the risk of HIV transmission. Official policies and approaches to drug use in the region may have further increased the vulnerability of drug users and, possibly, accelerated the spread of HIV. For example, in Ukraine, punitive actions against IDUs have been preferred to social support, driving many drug users underground and effectively rendering them unreachable for prevention work. Fears of having privacy and confidentiality breached have probably prevented many health workers from coming forward for information, testing and treatment. In Ukraine, few drug users seem to have adequate access to health care due to a combination of factors, including lack of anonymity, high costs of treatment, and reluctance of health workers to treat them.

Policies leading to shortages of syringes and needles or to a sudden reduction in drug availability may also occasionally increase the risk of HIV transmission. For example, in neighboring Poland HIV infections suddenly rose as a consequence of a

police raid which confiscated equipment and locally-produced drugs. Drug users resorted to sharing needles and syringes and to using drugs from unknown, potentially infected, sources.

Incarceration of drug users could also increase the risk of HIV transmission, as drug users might continue injecting inside prisons, where they have little or no control over drug supplies and equipment. Finally, as NGOs are often better suited to work with vulnerable populations such as drug users, the degree to which authorities support them may also ultimately influence vulnerability patterns.

### **6.10. Specific projects**

Most countries in the region have taken some measures to effectively prevent HIV transmission. In the most affected regions in Russia, for example, risky drug preparation practices seem to have been reduced following the dissemination of targeted information and education among drug users on the dangers of adding human blood to the preparations, along with other harm-reduction messages. In 1997, small-scale needle exchanges were operating in several cities. A restrictive new drug law nevertheless hinders this work.

In Ukraine, several outreach and harm-reduction projects have been established since 1996, and a model for adaptation elsewhere in the region has been developed. These projects have had visible successes. HIV awareness among drug users has risen and safer behaviors have been adopted. The use of one's own syringes appears to have doubled and the buying of ready-made drugs reduced to 14 percent in the intervention areas. There is also anecdotal evidence that dealers have started putting drugs into clean instead of used, and potentially contaminated, syringes. Participation of NGOs and active involvement of drug users in information and education activities among both users and dealers has been crucial to this success. The experience of the first project in Odessa has been used to sensitize militia and other law enforcement officials. In addition, harm-reduction strategies have been included in the majority of regional and city AIDS prevention plans.

In Belarus, a harm-reduction project has been implemented in Svetlogorsk—the most affected city—since 1996. A preliminary evaluation of the project has shown positive results: 85 percent of all syringes/needles distributed by the project were brought in and exchanged for clean ones. The risk of HIV infection was estimated to have dropped

significantly. Moreover, the project was successful in reducing the social tension in the city. A supportive environment was created, as punitive action changed into support and partnership. Both injecting drug users and city administration officials believe that recruitment of young new drug users was reduced significantly during the project. After the Republican AIDS Committee recommended the documentation and dissemination of the project's results throughout the Republic, several of the most affected regions started designing their own projects. The Belarus State Program for HIV Prevention envisages the organization of syringe and disinfectant outlets funded through the national budget in the near future.

A first needle/syringe exchange project, similar to the one in Belarus, has started operating through three outlets in Temirtau, Karagandy oblast in Kazakhstan. Information and education on safe injection and disinfection of injection equipment was also strengthened. At the same time, a directive has been issued to narcology centers to call in drug users for mandatory treatment.

No documentation of experiences with outreach and needle/syringe exchange programs in Moldova, the Caucasus, or the Baltic states were available for this review. Latvia and Lithuania are the only countries of the former Soviet Union where small-scale substitution therapy (methadone) programs have been implemented.

## **7. HIV among prisoners**

HIV in prisons deserves special attention for two reasons: first, because a relatively large proportion of drug users (infected and noninfected) is arrested for drug-related crimes. Imprisoned drug users therefore constitute a large vulnerable group which is easy to reach with information and education. Secondly, HIV prevention in prisons poses serious dilemmas to policymakers, as prevention strategies remain very controversial. The two documents from Russia and Ukraine submitted for presentation during the MAP symposium, and for consolidation in this report, illustrate two opposing views with regard to HIV prevention strategies in prisons: while the Ukraine has decided to abandon mandatory testing and segregation of HIV-positive prisoners, Russia still has plans to further strengthen the "quarantine" approach by constructing separate buildings for HIV-infected prisoners.

### **7.1. Size of the problem**

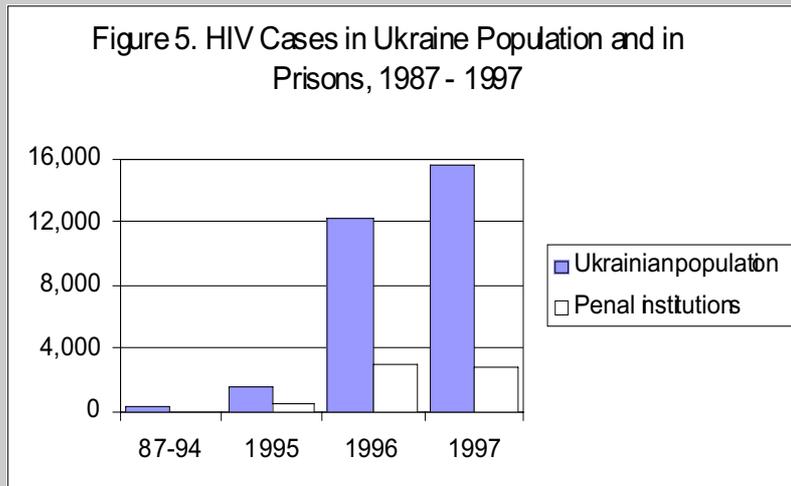
No data have been made available on the total number of prison inmates or on the proportion of drug users, but it is estimated that more than a million people are imprisoned in the 15 countries concerned every year. There were 1,636 HIV-infected in confinement institutions in Russia in 1997, out of more than one million total imprisoned. Several thousand drug users are likely to be imprisoned in the 15 countries every year, most of them not HIV-infected.

The number of HIV-infected prisoners in Russia has increased dramatically in recent years. During the nine years from 1987 to 1995, 46 HIV-infected prisoners had been identified, none of them drug users. In 1996, the situation changed dramatically, with 300 HIV-infected individuals arriving at penal institutions, almost 90 percent of them drug users. This trend continued in 1997, with 1,636 newly imprisoned HIV-infected inmates, 1,516 (93 percent) of them drug users. Thus up to one-half of all registered HIV-infected drug users must have been in contact with the prison system in 1997. Since early 1998, another 468 HIV-infected prisoners have arrived at the penal institutions, including 434 (93 percent) drug users.

As of May 1998, about 20 percent (1,732) of all people registered as HIV-infected were imprisoned. Reflecting the geographic distribution of reported HIV infection in the country, the highest number of imprisoned people living with HIV/AIDS was counted in Kaliningrad (370), followed by Krasnodarsky krai, Rostovskaya region (274), Tverskaya region (201), Nizhegorodskaya region (105), and Moscow Departments of Interior Affairs (100).

In Ukrainian prisons, only 11 HIV infections had been registered by the end of 1994. The annual number of newly reported infections then rose from 455 in 1995 to 2,937 in 1996. In 1997, following changes in policies from mandatory to voluntary testing, 2,779 cases were reported. In 1996, the real number of persons living with HIV infection in prisons in Ukraine was projected to increase to approximately 60,000 by 1998 (see figure 5).

In both Ukraine and Russia, most infections are detected at the time of entry into an investigative ward, although in 1997, in Russia the proportion of first HIV diagnosis decreased to about 60 percent. Thirty-five percent had already been diagnosed elsewhere before arrest. It is also reported that in Ukraine in 1996, the prison system was identifying 200 to 300 new infections per month.



### 7.2. Evidence of HIV transmission in prisons

From the papers reviewed, there is not sufficient evidence to suggest that HIV transmission occurs in eastern European prisons, but it is plausible that it does. First, there are anecdotal reports that sex between men, including rape, occurs in prisons, although little is known about its frequency. Risk behaviors such as sexual relations in prisons are considered a severe violation of regulations in Russia, and suppressed by the institutions concerned. Whether such suppression can ever be complete is doubtful. A fuller account of the determinants of HIV spread among men who have sex with men is given in a later section.

Perhaps more important from an epidemiological point of view is to what degree drug distribution and consumption is taking place in prisons. Experience in many countries has shown that it is difficult to stop drugs from being smuggled into prisons. Once drugs are available, needle and syringe sharing tends to be common, as disposable and clean equipment is usually not available. Under such circumstances, drug injectors are at extremely high risk of contracting HIV. The outbreak of HIV among prison inmates in Temirtau, Kazakhstan, which is almost certainly due to HIV transmission *inside prison*, is proof of this risk.

### 7.3. Prevention policies and programs

The traditional approach to the control of HIV in prisons in the region has been mandatory testing of all those arrested and under criminal investigation, and repeat testing after regular, usually annual,

intervals; along with isolation of the HIV-infected from other prisoners.

In Russia, Kazakhstan, and perhaps other countries, this policy continues. In 1996, following the outbreaks of HIV among drug users, the Russian Ministry of the Interior stipulated that managers of territorial penal system departments should make arrangements to isolate HIV-infected people who were suspected of, charged with, and/or sentenced for having committed a crime. The Russian Criminal Code also provides for adequate treatment of HIV-infected prisoners. Nevertheless, no funds were allocated for the building of specialized wards, and local authorities in the most affected provinces resisted funding the establishment of such wards from their budgets. As a result, HIV-infected prisoners are now kept in separate sites within penal institutions at the place where they are convicted under conditions which do not allow for adequate treatment and surveillance.

Although the separation of HIV-infected prisoners from the noninfected is expected to prevent transmission of HIV within the prison system, there is reason to believe that transmission cannot be completely avoided by such measures. Despite strict control, drug use may continue in prisons—for example, in investigation wards—and separation of the infected from those detained in “healthy wards” is unlikely to be complete. Also, serological tests may not yet show the virus if HIV testing has been delayed or the infected person has contracted the infection only recently.

In Kazakhstan, paralleling events in Russia, a

series of directives were issued by the then Senior State Physician, and an order by the Minister of Internal Affairs was given whereby all convicted HIV-infected prisoners were transported to two labor camps in Karaganda for observation and treatment.

In 1997 in the Ukraine, the traditional system of mandatory testing and confinement in isolation of HIV-infected inmates was reviewed and found inadequate and “erroneous.” After estimating the number of people likely to be living with HIV in prisons in the years to come and calculating the cost of testing and establishing special wards, the reviewers concluded that the system was not sustainable or effective in stopping the spread of HIV.

The main components of the new penal system policy are as follows:

- the provision of voluntary confidential testing accompanied by pre- and post-test counseling,
- the dissemination of information and education about the risk of HIV infection and measures to prevent infection among all prisoners,
- the availability of condoms and disinfecting agents, and training in their use, and
- prohibition of blood donation by prisoners.

In order to implement this policy, a series of steps has already been taken. These include the elaboration of an action program, the revision of regulations related to medical assistance of prisoners, training of medical personnel in counseling, and the appointment of medical advisors in every institution. The Ukrainian authorities (the Ministry of Internal Affairs) have no illusions that the spread of HIV can be stopped in the near future but hope that with an open policy and commitment, and through raising awareness among senior decision-makers, conditions will be created that reduce the likelihood of HIV transmission.

## 8. Projections

All projections hinge on the linkage between the current, mainly IDU-driven HIV epidemic and its potential spread, via sexual intercourse, into the non-drug-injecting general population. So far, epidemiological data which

may confirm an early spread are sparse, of doubtful quality, and difficult to interpret.

### 8.1. HIV prevalence among pregnant women and blood donors

In both Russia and Ukraine, the most affected countries, annual prevalence rates among population groups such as pregnant women and blood donors (which are usually thought to be representative of the general population) have been increasing. In Ukraine, HIV prevalence in pregnant women has increased from 0.0002 percent in 1993, before the IDU-associated outbreaks, to 0.002 percent in 1995 and 0.05 percent in 1996. Prevalence was highest in Nikolayev, with 0.24 percent of all pregnant women testing HIV-positive. Prevalence rates among Ukrainian blood donors have also dramatically increased from 0.05 per 100,000 in 1995 to 0.12 in 1994, 2.09 in 1995, and 37.60 per 100,000 in 1996. Increases in Russia have been less marked than in Ukraine. No significant increases have been detected (or no data were available) in other NIS countries. HIV prevalence among blood donors in Russia has increased from 0.02 per 100,000 in 1993 to 0.15 in 1995 and 0.52 in 1996. Prevalence figures for 1997 were not available for this review. It is also reported that 28 pregnant female drug users in Kaliningrad were found to be HIV-positive.

For various reasons these figures are difficult to interpret. First, it is unclear how the reduction in the number of tests among pregnant women has affected the representativeness of the data. Those at higher risk of HIV infection may have had a higher chance of getting tested than those who are at lesser risk. In order to examine localized prevalence patterns, the data would have to be disaggregated and testing policies and practices analyzed at the local level. Secondly, most HIV-infected women appeared to have been drug users. Increases in prevalence might well, therefore, reflect the expanding epidemic among drug users rather than heterosexual transmission.

Severe selection biases also almost certainly exist where blood donors have been tested. Throughout the former Soviet Union, blood transfusion services have been operating under severe constraints. The formerly semi-voluntary system whereby, for instance, large numbers of factory workers were encouraged to donate blood has not been replaced by a coherent system of voluntary donations. There are reports that an increasing number of drug injectors in Ukraine are using blood

donation as an opportunity for HIV testing.

Perhaps more indicative of a movement toward a generalized epidemic are rising trends of HIV infections among male STI patients in Ukraine, and to a lesser extent in Russia. In Ukraine, HIV prevalence among male STI patients has increased from 0.005 percent in 1993 to 0.027 in 1995 and 0.37 in 1996. It is unclear whether this indicates an increased risk of HIV spreading from (predominantly male) IDUs to persons engaging in high-risk sexual behavior, or whether it represents the beginning of a heterosexual epidemic.

### **8.2. Sexual partners of drug users**

Of course, the lack of clear epidemiological evidence of a large-scale HIV spread into the general heterosexual population does not imply that sexual partners of infected drug injectors are not at risk. Several behavioral surveys have established that high-risk sexual behavior is common among drug users. For example, in the Ukraine, between 44 percent and 60 percent of drug users reported having casual sex. Twenty to 45 percent of these sexual partners were not drug users, and in 60 to more than 80 percent of most recent sexual encounters, no condom had been used. Between 10 and 20 percent of drug users (mostly females) had engaged in commercial sex. Group sex and other high-risk practices have also been reported. Amphetamine injectors seem to be more sexually active than opiate users. Nevertheless, it is not clear from these data whether and to what degree HIV is transmitted beyond drug users' primary sexual contacts.

### **8.3. Projections**

In 1996, a team of epidemiologists examined two scenarios for the further development of the HIV epidemic in Ukraine and the other NIS, using as case studies Italy, where there was little evidence of a significant spread of HIV beyond partners of drug users; Brazil, where there was significant spread from drug users into the general population; and Thailand, where the epidemic was first seen among drug users, then among sex workers and subsequently among pregnant women. Pointing to the existing lack of data on drug users' sexual networks and on the importance of sex work in the spread of HIV, experts concluded that it was too early to decide whether the Ukraine, and the region in general, would follow a western European focalized pattern of the epidemic or a more generalized one, similar to those in Brazil or Thailand.

The two scenarios lead to different projections. On the assumptions that a significant epidemic started in 1994, that HIV prevalence among the general adult population had been around 0.02 percent in that year and that prevalence among drug users was around 10 percent in 1996, and choosing the "high" scenario (a significant spread into the general population), researchers arrived at a figure of 1.5 million infected people. Significantly less infection would be expected if the "low" scenario was chosen. Independently, preliminary and rather pessimistic projections by the Russian Minister of Health in 1997 arrived at a projection of 800,000 HIV infections, mainly among drug users, by the year 2000, and one million by the year 2003.

## **9. Determinants of STI/HIV spread among female sex workers**

Most of the findings presented here stem from surveys among more than 300 sex workers; discussions with STI and narcological clinic staff, police, and militia; focus group discussions with street workers, NGOs, and private practitioners; and training programs conducted by an Indian expert over the past three years in Ukraine, Belarus, and Moscow. Project and mission reports from Odessa and central Asia have also been used. Male sex work will be discussed in section 11.

Sex work, whose existence had long been denied under the old political regimes, has become a survival strategy for many women to support themselves and their husbands, children, and elderly parents. It has also become a means to earn extra income for a number of professional women including nurses, engineers, and other academic professionals. A new generation of entrepreneurs and an influx of visiting businessmen and tourists have provided increasing demand for sex workers. For pimps, traffickers, police, and the Mafia, the sex industry is a profitable business.

### **9.1. Size of sex worker populations**

Hardly any data are available on the number of sex workers in the NIS. Moscow may have anywhere between 13,000 and 30,000 sex workers. Other states and cities only record those who are registered with the police. In Odessa, Ukraine, 620 women working in the sex industry are registered

with the militia, but the real number is probably much higher. During the summer season, the number of sex workers in the city is estimated to grow to more than 5,000. In Almaty, Kazakhstan there are an estimated 2,500 women working as sex workers. The sex-worker population is a mobile one, and many women work on a part-time basis, making it even more difficult to estimate their numbers.

### **9.2. Categories of female sex workers**

Studies in several countries have shown that there are several categories of sex workers, ranging from upper-class workers in hotels and escort agencies, who sometimes serve high officials, to lower-class railway-station and street workers. There are also women who offer their services through advertisements in journals and newspapers. Child prostitutes are very much a hidden group, as are young working women or students who have multiple partners and sometimes receive payment in cash or in kind. There are many local particularities, such as in Odessa, where sex workers are also available near the docks and occasionally on board ships, or in Almaty, where a group of prostitutes specifically serves truck drivers. While in several countries street workers seem to be the largest category of sex workers, in Chisinau, Moldova, most sex workers work in the town's 20 unlicensed brothels. In Odessa, an estimated 80 percent of sex workers operate from motorways, bars, restaurants, or casinos.

In Russia, the Baltic states, and perhaps other countries, a large proportion of sex workers come either from other cities within the same country or from neighboring countries, while in Ukraine, Belarus, and Moldova, they are mostly local. In Moscow, for example, female sex workers come from Ukraine, Belarus, and Georgia. In Chisinau, Moldova, 50 percent of sex workers were reported to be local, and the other half migrants. In Minsk, some sex workers came from other parts of the country in search of work, but most women were local.

Large numbers of women from Ukraine, Russia and Belarus also work in neighboring western countries—Holland, Germany, France, Spain, Italy, and Turkey. Many others are taken to the Middle East, and some even travel to India and China. Many who work abroad did not work in the sex industry in their own countries. They are often professional women, including doctors and engineers, who are lured abroad by friends and neigh-

bors. Sometimes they go in response to advertisements for jobs as bar girls and belly dancers and then find themselves working in prostitution.

### **9.3. Earnings from sex work**

Sex workers can earn as little as US\$5 to US\$7 per client (operating on the highways or railway stations) and as much as US\$1000 per client (for example, at clubs and five-star hotels). Sex workers in Russia earn more than their Ukrainian and Belarussian counterparts, perhaps because more international business people and tourists visit Russia than other parts of the former Soviet Union. The average charge in the center of Moscow is US\$200, while in Minsk it is US\$100–150. In Odessa, street workers charge US\$15 for oral sex, US\$20 for vaginal, and US\$25 for anal intercourse. Migrant sex workers' income depends on their age (the younger the woman, the more she is paid) and how much control the pimp has over their services.

Women often have to pay off police officials in cash in order to avoid harassment. If a woman operates from a bar or hotel, the owners, reception staff, doormen, and others have to be given their cut. Women give 40 to 50 percent of their earnings to the various power brokers. Despite this, the income from sex work far exceeds what women can earn from other jobs. A nurse in Minsk earning a monthly income of US\$40 can work as an escort girl earning as much as US\$500 for five to six days of work per month. This gives her a choice to work every month or every two months. It also allows her to educate her children in a good school, provide health and social support to her parents, and, of course, attain a fairly high standard of living compared to what she could have managed from her nursing profession.

The temptation to make money quickly has also contributed to women going to western Europe and other countries to do sex work. Many women return to their own countries with the latest electronic equipment, designer clothes and shoes, and other luxury items. Neighbors and friends are informed that the returning women are working in bars, hotels, and other similar jobs.

#### **9.4. Differences in risk and vulnerability**

A sex worker's risk of becoming infected with an STI or HIV seems to depend on the following factors:

- use of drugs;
- knowledge of HIV/AIDS and safer sex practices;
- whether they work for an escort service or work on the streets;
- whether they work independently; and
- age and experience.

Independent of drug use, young street workers in the 12–16-year age group appear to experience the highest level of risk among all categories of sex workers. In Ukraine and Belarus many of the young women are runaways, and some of them have been raped. Sex work provides them with money for food. They seek shelter in railway stations and bus stations, caring little or nothing about their future. Their basic needs are immediate, and HIV is an abstract phenomenon to them. They live in constant fear of the police who forcibly take them to the “closed” clinics, where they are involuntarily tested for syphilis and HIV. In focus group discussions in these “closed” clinics, sex workers expressed little concern expressed about disease, illness, or risk. A nineteen year old sex worker-cum-pimp in Moscow felt a shorter but comfortable life was preferable to a longer life with no comforts or luxuries.

The people who control the sex trade create major barriers to safer sexual behavior. There is little concern among pimps for the sex worker's long-term health. Instead they value the immediate income that a worker can earn. Resistance by women often results in violence, a more immediate concern for them than being infected with an STI or HIV. Women rarely report such violence to the police.

Sex workers in the higher income groups seek private treatment for STIs from gynecologists or dermatologists/venerologists in order to maintain confidentiality. They pay up to US\$500 for their treatment, but they can continue with their work while under treatment. In contrast, street workers picked up by the police are compelled to stay in closed clinics, and, if found to test positive for syphilis, to undergo inpatient treatment for four to six weeks. This deprives them of income, and when they do return to street work, they often engage in

riskier behavior in order to make up for lost earnings.

#### **9.5. Condom use**

Both imported and regionally manufactured (Russian) condoms are available and can now be bought at kiosks in Ukraine, Kazakhstan, Russia, Belarus, and, presumably, other countries. Sex workers are generally aware that condoms prevent HIV infection, but their knowledge is incomplete, and sufficient condom education has not been carried out, especially among the street workers. Discussion with women in closed clinics and on the streets revealed that they were not aware of the specifics of lubricants (oil-based rather than water-based lubricants were generally used as a result), nor were they aware of condom expiration dates. Many women (and men) buy condoms if the packet has a “sexy” picture on the wrapping or based on reports of reliability from friends.

Clients of sex workers in all these countries are reluctant to use condoms and are willing to pay more for sex without condoms. While higher-class sex workers are in a stronger position to negotiate safer sex, street workers and child prostitutes often find it difficult or impossible to persuade their clients to use condoms. Another dangerous situation for many sex workers occurs when a pimp and a client agree on a price for the services of a sex worker. The worker goes with the client to an apartment or a room, where she finds several other men waiting as well, and is forced to provide services to all of the men for the price of one client. She is, in this situation, powerless to insist on condom use. Often clients agree in the presence of the pimp to use condoms, but refuse to use protection once they are away from the pimp. Men are liable to resort to physical and sexual violence if the women are very insistent and challenging. Some women in Minsk reported that they work in pairs to prevent such situations and will refuse to go with a client who they suspect has consumed too much alcohol.

In Odessa, in a survey among 205 sex workers (mostly street workers), the number of clients ranged from two to three daily and 10 to 20 weekly. Most clients were prepared to use condoms, but frequently failed to do so.

#### **9.6. The epidemiological situation**

Hardly any epidemiological data from sex worker populations have been published in the region. The Ukraine reports an exponential increase in HIV

infections among women with multiple sex partners, from 0.004 percent in 1993 to 0.04 percent in 1995 and 0.4 percent in 1996. In Odessa, epidemiologists tested 241 sex workers; six (2.5 percent) of them were HIV-infected. Interviews in Belarus, Ukraine, and Russia suggested that about 25 percent of sex workers may be injecting drug users. This, of course, puts them at increased risk of HIV infection. Out of a small sample of 103 sex workers arrested in the streets of the city of Kaliningrad by Ministry of Interior officials, 33 (32 percent) were HIV-positive injecting drug users. According to the same source, 82 percent of female HIV-infected patients treated at the Regional AIDS Center make their living from commercial sex.

While levels of HIV infection among all groups of sex workers are probably still relatively low, high levels of syphilis and other STIs have been reported, particularly among street workers who were picked up by the police and taken to “closed” STI wards. Other sex workers seek private (and expensive) treatment which provides them with anonymity, and little is therefore known about their health status. In Odessa, syphilis prevalence in sex workers was between 4.5 and 10.8 percent. Between 55 and 65 percent of women had a history of venereal disease, and cases of hepatitis have also been reported.

### 9.7. Prevention programs

Official approaches to sex work and HIV prevention among sex workers have so far been characterized by either negligence or repression. Almost all countries lack legislation on sex work, and sex workers are frequently detained with no legal basis, or because they do not have the required residence documents. The police in Moscow and probably other places are also occasionally involved in pimping.

The region has a large number of STI clinics, dispensaries, and gynecological centers. With a little additional training and resources, these centers could provide a very useful service in educating women both in the outpatient and inpatient sections about safer sexual practices and protection against HIV, AIDS, and STIs. In the dozen or so STI clinics visited in Ukraine, Moscow, and Belarus, however, there was no evidence that HIV/AIDS or STI education was provided to women. Sex workers in Moscow, Donetsk, Odessa, and Kharkiv all reported negative attitudes among clinic staff.

There are very few projects in the region specifically designed to empower sex workers to adopt safer behaviors and to prevent STI and HIV transmission among them. With the possible exception of one or two small-scale drop-in or outreach services in Latvia and Estonia, there is probably only one other outreach program operat-

Figure 6. Syphilis rates per 100,000 population, Lithuania, Latvia and Estonia 1972 - 1997

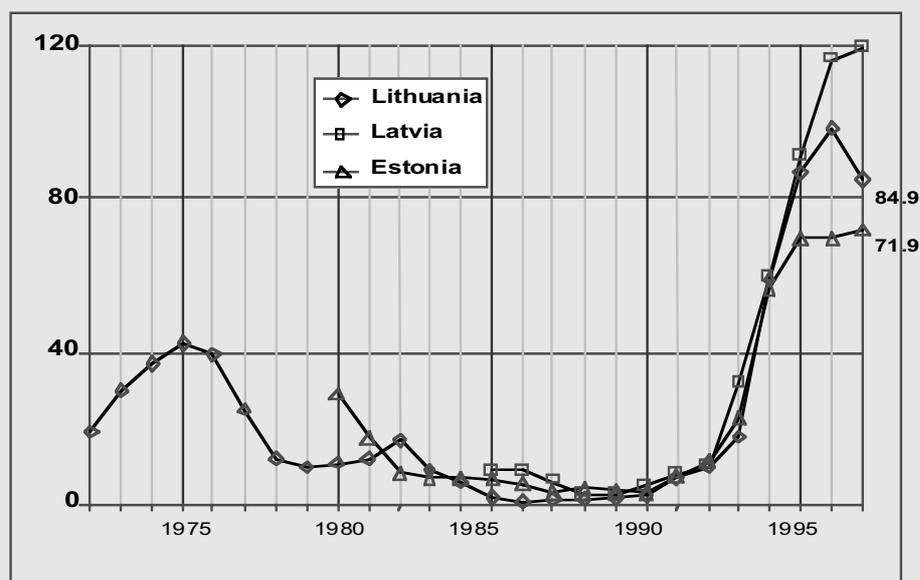


Figure 7. Syphilis rates per 100,000 population, Russian, Belarus, Moldova and Ukraine 1976 - 1997

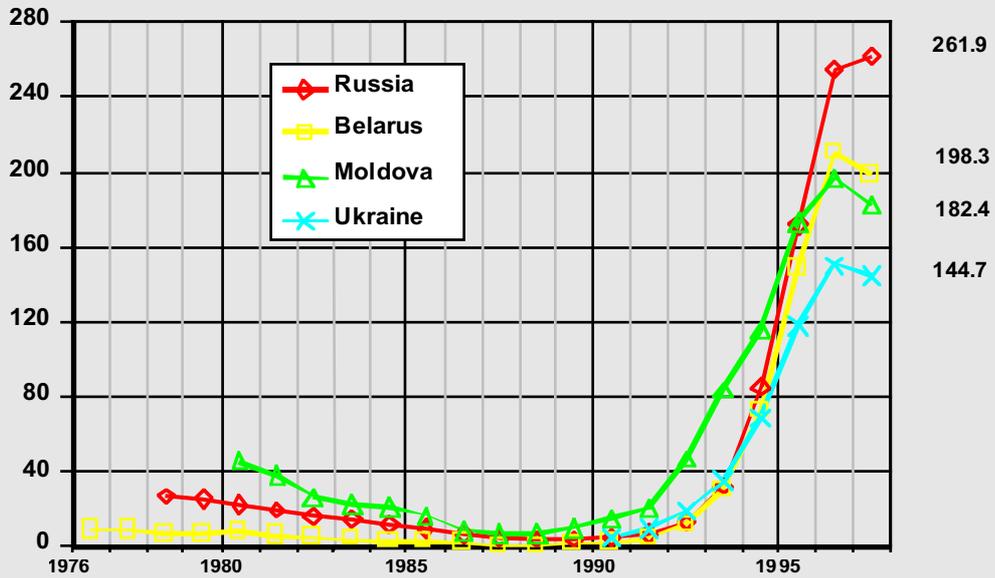
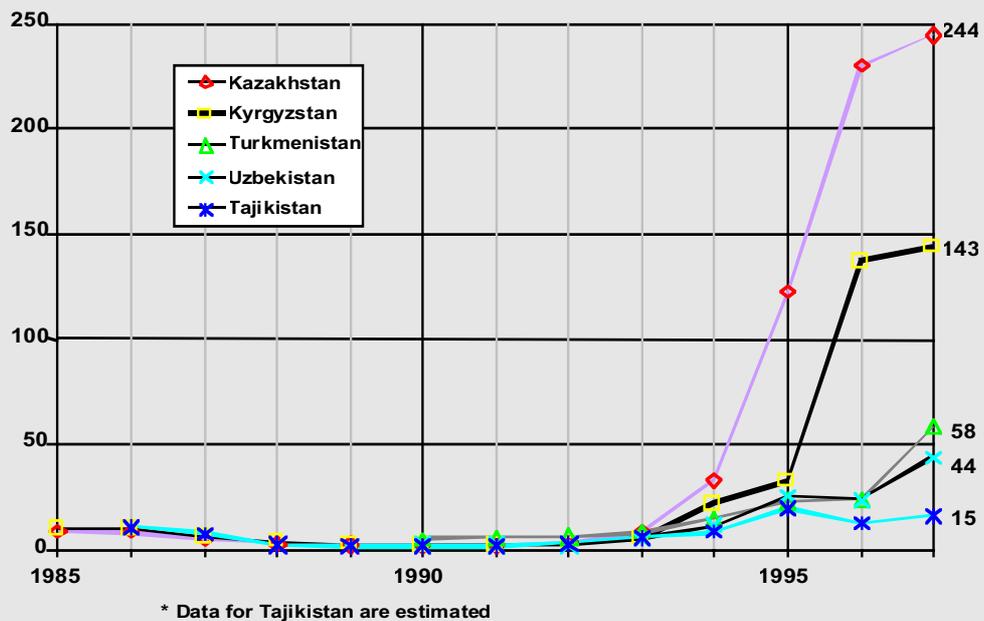


Figure 8. Syphilis rates per 100,000 population, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan and Tajikistan 1985 - 1997



ing in the 15 countries of the former Soviet Union. This Odessa program, implemented by the NGO Faith, Hope, and Love, reaches sex workers with STI treatment, peer education, and condom distribution services. It provides a model which can be implemented in other parts of the region. In Moscow, initial efforts have also been made by another NGO, AIDS Infoshare, to distribute condoms and provide health education to sex workers. Plans have also been established to provide STI treatment services through links with other agencies.

A major constraint on establishing these programs has been the weakness of local NGOs, in terms of their number, management capacity and, in some cases, the commitment of their staff. The NGO concept is relatively new in this part of the world, and many organizations have been set up by doctors, paramedics, and other state service workers to increase their own income by encouraging sex workers to use private services, and not primarily as an effort to reduce STI and HIV transmission.

## **10. Sexually transmitted infections**

Fears that the current IDU-driven epidemic might be followed by a second, even more important, wave of HIV infections predominantly spread through sexual intercourse are aggravated by the fact that the countries of the NIS are currently experiencing an epidemic of classic STIs, especially syphilis.

### **10.1. Magnitude of the problem**

In virtually all parts of the NIS, including Russia, Belarus, Ukraine, Moldova, Central Asia, and the Baltics, rapid increases in reported syphilis rates have been reported since 1991–1992 (see figures 6, 7, and 8). In 1997, reported rates of new infections per 100,000 varied: 16 in Tajikistan, 44 in Uzbekistan, 59 in Turkmenistan, 72 in Estonia, 85 in Lithuania, 120 in Latvia, 145 in Ukraine, 144 in Kyrgyzstan, 182 in Moldova, 198 in Belarus, 245 in Kazakhstan, and 262 in Russia. In the three Caucasus countries, STIs also seem to be spreading rapidly, but reported data are scarce and of dubious quality.

In Russia, reported STI incidence varied, with the highest rates of more than 600 per 100,000

reported from Kaliningrad and several regions in east Siberia, including the worst affected region, Yakutia, with 1,230 cases per 100,000. In Moscow, annually reported syphilis incidence increased from 30 per 100,000 in 1992 to 212 per 100,000 in 1996. It decreased slightly to 196 per 100,000 in 1997. Slight decreases in reported cases in 1997 have also been reported from other countries. Reporting delays are likely to play a major role in explaining these drops.

Absolute figures are enormous. For example, in 1997 more than 380,000 new cases of syphilis were reported in Russia. About one-third of all syphilis cases reported were primary ulcers; this proportion was higher in men than in women. In the much smaller Belarus, 21,616 new cases of syphilis were reported in 1997, 152 times the 1988 level. As a result of the syphilis epidemic among women of childbearing age, congenital syphilis has also increased, with 470 cases reported in Russia in 1997.

High rates of other STIs have also been reported. In Russia nationwide, for example, 139 cases of gonorrhea per 100,000, 106 per cases of chlamydia 100,000, 11 cases of herpes per 100,000, and 342 cases of trichomoniasis per 100,000 were reported. In Belarus it is estimated that the 2,500 reported cases of chlamydia may constitute only 5 percent of the real number of infections. In Russia, chlamydial infection was diagnosed in 50 percent of woman with PID, in 58 percent of sterile women, and in 87 percent of those with spontaneous abortion.

In both countries, a reversal in the proportion of reported syphilis and gonorrhea cases has been noted. During the 1970s and 1980s, many more cases of gonorrhea were reported than syphilis. In some places, such as St. Petersburg, syphilis continued to increase while the number of other STI cases was reported to drop.

All experts concur that the real situation in Russia and the NIS is characterized by increasing rates of *all* traditionally prevalent STIs, and that changes in relative proportion of individual pathogens merely reflect changes in testing and reporting practices. Official gonorrhea rates, for example, have probably not increased to the same extent as syphilis rates, simply because many patients have avoided attending the underfunded public services and have resorted to semi-private care or self-medication. Many chlamydia infections may not be discovered because of lack of laboratory tests. Experts in Belarus have estimated

that perhaps 90 percent of syphilis patients, 30 percent of gonorrhea patients, 60 percent of trichomon patients and 5 percent of chlamydia patients are being registered. The prevalence of second-generation STIs (chlamydia, mycoplasma, etc.) still needs to be established in many population groups. In order to estimate the real magnitude of STIs in the region as a whole and in individual countries and population groups, epidemiological surveillance methods other than routine case-reporting will have to be introduced.

### **10.2. Two groups of determinants**

A problem analysis by WHO/EURO has divided the determinants of the STI epidemic in eastern Europe into two groups:

- those affecting the spread of STI pathogens, and
- those affecting the length of time a person remains infectious once he/she has contracted an STI pathogen.

The first group essentially refers to sexual behavior patterns, changes in underlying norms, and, more indirectly, to sex education, preventive education, and health services. The second is related to the performance of STI care services and to care-seeking behaviors of the population. Both groups of determinants are linked to the economic decline in many areas of Russia and the other NIS.

### **10.3. Changes in sexual behaviors**

Many authors mention that changes in social standards, or rather the vacuum in standards left by the removal of old values and challenging taboos (e.g., discussion of sex, pornography, etc.) may have contributed to the relaxation of sexual norms and to changes in sexual behaviors. As has been stated in reports, the problem is a socioeconomic, psychological, ethical, and moral one.

Commercialization of sex, increases in poverty and violence, and increases in drug addiction and alcoholism have all been associated with widespread risk behavior and, as a result, STI epidemics. Other determinants such as the lack of sexual education of youth and inadequate access to quality condoms in some places have also been mentioned.

Large segments of the general adult and adolescent population (not only sex workers and their clients) are thus assumed to engage in casual and commercial sex. Recent publications by

researchers in Ukraine, Belarus and other NIS seem to confirm a trend towards increased casualness of sexual relationships throughout all strata. Most studies, however, do not go beyond proving that sexual initiation occurs at younger age than it previously did among school and university students, and that the sampled adolescents had a relatively large number of partners.

Little is known about the sexual behavior of segments of the population other than school youth. It is difficult to compare sexual behavior in eastern Europe with that in other world regions, as there is little knowledge about other segments of the population or standard indicators, such as the number of partners during specified periods of time. Finally, little is known about sexual network patterns and the proportion of men who have contacts with sex workers.

### **10.4. Demographic characteristics of STI patients**

More insight into the determinants of STIs in the NIS can be gained from studying the demographic characteristics (age, sex, and marital and employment status) of patients treated by public STI clinics. Most STI patients are young, between 15 and 30 years old. STI rates among teenagers are increasing and STIs among seven to 14 year olds have become a major concern. In Belarus, 75 percent of 15- to 19-year-old STI patients are female. The proportion of students among syphilis patients decreased from 4 percent to 1 percent from 1988 to 1996; at the same time the proportion of unemployed persons rose to 48 percent. Further inquiries into the demographic correlates of STI infections are required.

### **10.5. Factors related to the health care system**

The traditional STI control system of the USSR was reported to be effective within the political, social, and ideological environment of its time. The main elements and features of the system were clinical services that provided free high-quality diagnosis and treatment; exhaustive procedures for tracing the sexual contacts of an infected individual; an extensive program of routine screening and case-finding in clinically and occupationally defined groups; a requirement for patients to produce identity documents; and the use of criminal and civil sanctions to enforce treatment, contact tracing, and screening. While STI cases throughout the region have multiplied during the transition, the

capacity to deal with these problems has shrunk.

In many of the countries, severe financial constraints in the health care system—including STI care—have resulted in a deterioration in the quality of services, occasionally unmotivated staff, pervasive shortages of supplies, and obsolete, poorly-maintained buildings and equipment. Importantly, clients are now less prepared to accept the breaches of privacy and confidentiality that were common during the old regime. The result has been a substantial growth in semi-private provision of care and self-treatment. No studies of care-seeking behavior have been published, but it is widely believed that the majority of symptomatic patients (except perhaps in the case of syphilis) do not attend public clinics.

Public STI control programs have established a network of anonymous STI testing and treatment sites. Unfortunately, consumer charges have often been introduced in exchange for anonymity. The danger inherent in this approach is that while it increases the attractiveness of services for the rich, it reduces acceptability and affordability of STI services for those who are most affected, namely the young and poor. The lack of accessible and acceptable STI services is likely to cause a delay in effective treatment of STIs, which increases the average duration of infectiousness and thereby the probability of further transmission.

Another major drawback of traditional approaches to the control of STIs is an almost complete lack of primary prevention interventions and the absence of acceptable services targeted at vulnerable population groups.

## **11. Determinants of the epidemic among men who have sex with men**

Very little information exists on same-sex sexual behavior and risk behavior of MSM in the NIS. The following analysis is largely based on the findings of rapid assessments of the potential for sexual transmission of HIV between men conducted in Belarus (1995), Kyrgyzstan (1997), Kazakhstan (1997), and Uzbekistan (1997). More anecdotal reports are also available from Moscow and Minsk, as well as reports on reviews of National AIDS Programs in the Baltic states. Their main finding is that the vulnerability of MSM in Russia and the NIS is to a large degree determined

by negative public attitudes toward homosexuality, resulting in partner choice and sex taking place underground and in hidden circuits, often under conditions that are not at all conducive to safe sex.

### **11.1. Legislation and public attitudes towards homosexuality**

MSM were one of the groups subjected to mandatory HIV testing in the USSR. Those found to be HIV-positive came under great pressure to reveal their sexual contacts and to abstain from sexual activities. Article 121.1 of the USSR penal code, which made male homosexuality punishable with five to seven years' imprisonment, was introduced by Stalin in 1933, suspending the relative freedom enjoyed by sexual minorities following the October revolution. This law ushered in a long epoch of very strong repression of homosexuality in the USSR. In the wake of the social changes since 1993, the ban on homosexuality has been repealed in most NIS. According to the Ministry of Justice, the law is no longer applied in Georgia. Nevertheless, total bans on homosexuality persist in Armenia, Azerbaijan, Uzbekistan, Tajikistan, and Turkmenistan.

Police repression has relaxed to some extent in recent years, even in countries where the ban on homosexuality prevails. The vice squads have stopped actively prosecuting homosexual men, and private homes are no longer raided. Harassment by the poorly-paid militia has, however, become commonplace in some countries under the pretext of fighting public indecency. This represents an obvious opportunity for bribery.

In spite of the legal changes, public attitudes toward homosexuality remain largely hostile. In a 1991 USSR survey, 82 percent of respondents regarded homosexuality as very bad, and 60 percent thought it necessary to put homosexuals away in camps. In government mass-media campaigns, male-to-male sexual behavior is referred to neutrally at best; more often it is neglected or characterized as behavior to be avoided.

### **11.2. Main features of male-to-male sex in Russia and the NIS**

There appear to be at least two distinctive cultural patterns with regard to male-to-male sex in the NIS: a European pattern, found among Russian citizens and ethnic Russian populations, and an Arab or Asian pattern, found in non-Russian traditional cultures. The main difference is that the traditional cultures appear to have a less stigmatiz-

ing attitude toward male-to-male sex behavior among adolescent and unmarried young men. The European pattern is, however, dominant due to the powerful role of ethnic Russians in most countries.

Estimates of the number of men with homosexual orientation are not available. Very rough estimates have put the population of men who have ever had sex with men in Minsk, Belarus at 30,000. Tentatively, MSM may be divided into those who are open about their homosexuality and make it known to friends, colleagues, and sometimes their parents; those who largely avoid disclosing their orientation, but do have homosexual friends; and those who do not consider themselves homosexuals, but nevertheless have sex with other men periodically. The assessments also pointed to the existence of frequent same-sex behavior in institutions where men are obliged to spend long periods of time in all-male company, such as the military, labor camps, and prisons.

Many homosexual men have internalized the stigma against homosexuality and regard themselves as bad, sick, and of no use. They hide their sexual orientation even from their closest friends and family, and most are married and have children. They go through a period of guilt and shame and live with the constant threat of having their hidden lifestyle revealed, with the likely consequences of losing their families and jobs and becoming social outcasts. As a result, sexual contacts among MSM are largely confined to hidden, underground networks.

Only recently, among younger people, have a small, though growing, number of individuals been able to withstand the social pressure to get married and seek to develop a life independent from the family. With the possible exception of Moscow, there are no open gay scenes like those found in western Europe.

### **11.3. Underground circuits**

Underground MSM circuits can be divided into pleasure circuits and commercial circuits. In *pleasure circuits* social and sexual contacts are established for pleasure and money plays little or no role. Throughout the region, the pleasure circuits are by far the largest and are structured around certain spaces such as cruising areas and pick-up points in public parks, main streets, parking places, bus or railroad station areas, public toilets, public bath houses, restaurants, bars, and discos. Extensive informal networks of friends have grown from meetings in these areas. The

friendship networks are usually centered around one leader, typically somebody with a well-paid job and access to important resources (an apartment, car, video recorder, money, etc.). The friends organize get-togethers or small parties.

In most places *commercial MSM circuits* exist only in nascent stages. They are much smaller than circuits of female sex workers and their clients. Some male sex workers operate on their own, seeking customers among the elite and foreigners at restaurants, bars, and hotels or through advertisements in newspapers. In some cities operators are in business, charging a commission for setting up arrangements between the sex workers and the clients through advertisements in newspapers, providing accommodation if necessary. A portion of homeless men offer paid sex to men in the streets, often hanging around in the vicinity of hotels or bus and railroad stations. Finally, old systems of patronage still exist, where homosexual men in affluent positions provide young men with jobs, support their careers, or grant other favors in exchange for sex.

### **11.4. Main behavioral determinants**

Among MSM interviewed, the assessments found a high prevalence of risk behavior in terms of unprotected anal sex and multiple partners, indicating the significant potential for transmission of HIV and STIs among MSM.

There are no Knowledge, Attitudes, Behavior, and Practices (KABP) studies among MSM in the NIS, but there appear to be great differences in knowledge about the risk of different homosexual practices between different countries and social groups. Educated and well-to-do men in general, seem relatively well informed about the transmission routes of HIV. A survey in Kyrgyzstan showed the existence of numerous small groups of MSM, each with different social characteristics, types of gay lifestyle, and levels of risk awareness. There were differences in AIDS/STI knowledge between urban and rural men and between different age groups. The less conservative urban 25- to 30-year-olds had the highest awareness of AIDS/STI risks.

Most MSM know that unprotected anal intercourse involves the greatest risk of transmitting HIV. There is still great ignorance, however, including misconceptions about HIV transmission through sharing of food, wet kissing, etc. For many MSM, HIV/AIDS appears not to be a major concern, though some fear does exist. The reported HIV prevalence among MSM in the NIS is low. HIV-positive individuals within the gay communi-

ties are inclined to hide their HIV status, rightly fearing stigmatization and exclusion from the community. Thus AIDS is frequently considered a disease of foreigners or, more recently, of drug users.

The rapidly increasing rates of STIs are also affecting MSM and are considered a problem. Many seem, however, to have accepted the risk of STIs and go to a private practitioner or, as has become standard practice for many homosexual men, simply buy antibiotics for self-treatment. Most do not understand the link between STIs and HIV.

Social repression and hidden, underground sexual circuits are not conducive to the formation of stable, monogamous relationships. In Belarus, for example, advertisements in the only same-sex newspaper are banned, the only gay discotheque and meeting place has been closed, and gay men in smaller towns are reluctant to disclose their orientation.

Many MSM have anal and oral sex with a high number of partners. Condoms and lubricants are rarely used. High-quality condoms now appear to be available in most countries from a series of outlets, but condoms for anal sex are rare and, in general, very expensive. Water-based lubricants are rarely available; even when available, they are prohibitively expensive and are packaged only in impractical large quantities.

Some homosexual men who have many partners go regularly for HIV testing, and, when found HIV-negative, continue having unsafe sex with many partners. Many MSM concerned about STIs also employ risk assessment of partners as a prevention strategy. Individuals who do not look healthy, are dirty, or are known to have many sexual partners are avoided for sexual contact. Those who have sex with street children are more inclined to use condoms. Men who have sex with soldiers or with people who have regular HIV tests seldom use condoms, relying instead upon the regular HIV and syphilis screening in the army and other relevant institutions.

Low self-esteem in combination with ignorance and wrong ideas about prevention seem to be the key constraints in the promotion of safer sex in MSM communities. In addition, conditions in all-male settings in the NIS are particularly conducive to unsafe same-sex sexual behavior. In prisons men are gathered in overcrowded cells for very long periods with no possible contact with women. The prevailing power relations between the prisoners shape, and are defined by, sexual roles; sexual

services are exchanged for favors. Somewhat similar sex and power relations can be found in the army. Both in prisons and in the army, homosexual individuals seek to hide their orientation, since homosexuals are considered to be at the bottom of the power and sex hierarchies and are in constant danger of being humiliated, sexually abused, and raped.

### **11.5. Epidemiological data**

Almost half of the number of reported sexually transmitted AIDS cases in the NIS are related to homosexual transmission, but, due to the long AIDS incubation period, AIDS surveillance data cannot reflect the emerging HIV epidemics in the NIS. The Baltic states appear to be following the pattern of most western European countries and North America, with 70 to 85 percent of all AIDS cases related to homosexual transmission. Homosexual transmission also dominated in Russia and Kazakhstan before the outbreaks among IDUs. In 1997, there were still almost twice as many cases in the Russian Federation related to homosexual transmission (46 percent) compared to those related to heterosexual transmission (25 percent). Since 1996, IDU or heterosexual transmission cases have outnumbered homosexual transmission cases in all NIS except perhaps Estonia, where an IDU-associated epidemic has not been seen.

The validity of data on HIV as indicators for current patterns of HIV transmission is limited for several reasons. The 1987 USSR regulation concerning HIV screening provided for mandatory testing of homosexual and bisexual men, but very few cases were identified in this way. The mandatory testing affected only homosexuals registered by the police, and these individuals often belonged to age groups who were less sexually active, and thus less likely to be infected. Subsequent epidemiological investigation of all HIV-positive cases revealed a higher number related to homosexual transmission. Still, MSM who were found HIV-positive through testing of STI patients, blood donors, etc. would be strongly inclined to hide their sexual orientation to avoid social stigma. Further, there are strong incentives for MSM to avoid HIV testing: the lack of confidentiality, coerced contract tracing, and the legal and social repression associated with a positive HIV status. Some homosexual men with many partners, however, go regularly for HIV testing in order to feel secure. Still, in all likelihood the few cases of HIV found among MSM underestimate the true

HIV prevalence among MSM.

There is no information available on the proportion of syphilis cases related to homosexual transmission within the current rapid increase of reported cases in the NIS. Only data on age, gender, and occupational groups are registered. The findings of the assessments do, however, confirm the classical perception of MSM as a highly affected STI high-risk group.

### **11.6. Prevention programs and projects**

Since 1989, gay groups have emerged in most of the NIS except the Caucasian republics, Uzbekistan, Turkmenistan, and Tajikistan. HIV/AIDS made it possible to break the taboo on homosexuality for the first time ever, and many groups include HIV/AIDS information in their activities. Most groups tend, however, to focus mainly on their members, rarely addressing the much wider target audience of MSM who may not belong to these groups. Most organizations are weak and small, marked by internal conflicts and rivalry, and have very few resources at their disposal.

There are few examples of government initiated/funded interventions targeting MSM. Only in the Baltic states and Belarus has there been some support and collaboration with gay groups. Upon requests from these governments, UNAIDS and WHO/EURO established small-scale pilot projects on HIV prevention focusing on outreach to MSM circuits, recognizing the potential for a rapid spread of HIV among MSM in the NIS. The projects involved information dissemination in Bishkek, STI services in Karaganda and Almaty, and condom programming among MSM in Minsk.

## **12. Conclusion and recommendations**

### **12.1. What we know**

It is clear that the region is confronted with several simultaneous epidemics and trends: drug use, HIV, prostitution, and classic STIs. Each epidemic seems to have its own specific features and determinants depending on who describes it. AIDS program managers and epidemiologists have followed the various HIV epidemics since the 1980s and monitored the spread in different populations, including foreigners, children, MSM,

and, lately, IDUs. Their focus has been the analysis of information obtained from those testing HIV-positive and their partners. Venerologists have analyzed the demographic characteristics of STI patients and their partners. The few researchers who have studied sexual behavior have largely done so among school youth and university students. Ministries of the Interior and law enforcement institutions collect data among people arrested, investigated, or convicted for having committed a crime.

Risk behaviors certainly existed before the breakup of the former Soviet Union, but the political changes have exacerbated the situation, leading to a rapid increase in the numbers of people practicing high-risk drug and sexual behaviors. This is creating conditions for rapidly expanding HIV epidemics. But it is also clear from the previous chapters that large vulnerable populations exist that are not yet HIV-infected, including many young people who either already inject drugs and engage in unsafe sexual behavior or might start doing so in the future. Nevertheless, the data presented here are patchy and of mixed validity, particularly with regard to sex workers and MSM.

In summary:

- There is little doubt that mass testing in Ukraine, Russia, Belarus, Kazakhstan, and the other countries has allowed the emerging epidemics among drug injectors to be detected at a relatively early stage.
- STI reporting systems have been successful in describing the expanding syphilis epidemic and have drawn attention to potential determinants of the spread of STIs.
- Data on drug distribution and consumption and on the extent and types of sex work are scarce and soft. Recently established NGO intervention projects have greatly contributed to the establishment of a database on drug use behaviors.
- Data on sex workers and MSM remain very sparse, and efforts to systematically assess the determinants of HIV in both groups and to consolidate existing data are still confined to efforts by international experts.
- Studies on risk behaviors in prisons and the army remain taboo in the majority of countries.

## 12.2. The limits of knowledge

Despite reasonable knowledge of overall trends, a comprehensive and coherent picture of the dynamics of the HIV epidemic and the potential for a further spread in the region remains elusive.

- The sexual behavior of youth in general, or of out-of-school youth other than sex workers, for example, is largely unknown.

- We are nowhere near to obtaining clear ideas about how many men frequent sex workers and what the determinants of men's sexual behavior are.

- The differential risks among different segments of the population and in various geographic locations are much less evident than overall trends in STI, HIV, or drug use. There is an acute lack of comparative and in-depth studies.

- The nature and extent of the interrelationships between the various epidemics is not clear.

- The potential for the further spread of HIV in the general population has not been examined.

Too few linkages exist between different data collection efforts to identify such gaps, and responsibilities are not yet clearly established. The study of the determinants of HIV has become increasingly difficult in recent years, as many people are neither formally employed nor enrolled in schools, or otherwise linked to any institution. Investigations of the informal sector are notoriously problematic because of the methodological issues (lack of experience with outreach and qualitative research training), staff motivation, and, occasionally, security concerns. Where traditional collaboration across sectors once existed—for example, collaboration between health services and police in partner-tracing—it is now rarely practiced.

## 12.3. Remaining questions and recommendations

One common determinant of all trends and epidemics in the region certainly exists: the breakup of the Soviet Union and the following economic transition. Nevertheless, there is an acute lack of detailed studies linking epidemiological data to geographic and socioeconomic events. Detailed mapping of various socioeconomic, demographic, and behavioral factors is urgently required. Why, for ex-

ample, do some regions (e.g., Siberia) report very high rates of STIs but no IDU-related HIV epidemics as yet, if both trends are very broadly the result of the deterioration of the socioeconomic situation? There are many more questions that remain unanswered.

*Drug demand: Why is drug demand so high in some cities and not in others? Is drug demand statistically and causally related to unemployment rates (however defined)? Is Krasnodar particularly vulnerable because drug trafficking routes pass by this Caucasian city? References to the generally deprived local economy might be insufficient as an explanation since many cities and regions in Russia and the NIS are now impoverished.*

*HIV among drug users: Is HIV most prevalent in Odessa and Kaliningrad because of the early entry of HIV into the drug-user populations in these two port cities, or because of the high concentration of drug users, or both? Is the presence of large numbers of imprisoned IDUs associated with HIV spread within prisons and the areas surrounding them? Why do Moscow and St. Petersburg not report major increases in IDU-associated HIV? Is it because of the greater availability of synthetic drugs which are not associated with risky preparation patterns? Or are Moscow and St. Petersburg so far spared from Odessa-style epidemics because a relatively smaller proportion of the population is vulnerable and those who are have greater capacity to cope with it? Civil society in the form of professional associations, NGOs, media, self-support groups, etc. are burgeoning in these two cities, much more so than in Ukraine, Belarus, and Moldova, and awareness of HIV risk, self-efficacy, and protective behavior may become more important. More precise determinants and indicators of societal stress and vulnerability to drug use and HIV urgently need to be defined.*

*STIs: Similar research needs exist with regards to the further study of STIs and sex work. To what extent are geographic differences in STI rates associated with differences in sexual behaviors? Are relatively lower STI rates in the Baltics due to fewer people having multiple partners or to underreporting of STI, or are they even the early result of the re-orientation of the health system, as some enthusiasts have suggested? What is the evidence that coercive policies and stricter religious norms in central Asia constitute a relative barrier against unsafe sex and STIs?*

*Links between sex work and STIs: To what extent are STI figures associated with the preva-*

*lence of sex work in a particular region or of certain categories of sex workers, such the number of street workers? Is sex work more widespread in the worst STI-affected areas in Siberia? Can economic factors such as the price of sexual services in different places be linked to STI risk?*

*Sex work: There are many more questions related to the largely underresearched area of sex work. In order to assess the potential spread of STIs and HIV, studies must be carried out to design appropriate prevention strategies.* Studies on migration patterns linked to sex work should find out whether migrant sex workers are more vulnerable and at greater risk of infections. How is sex work organized in different places, and what determines the frequency of clients' visits to sex workers? What factors determine condom use among clients?

*Men who have sex with men: Much more needs to be known about MSM's specific vulnerability and risk of infection.* In recent years, IDU-associated epidemics have been the overriding concern for policymakers and epidemiologists. Even high-risk settings such as commercial MSM circuits and prisons have been completely neglected in both research and prevention work.

*Overlap between vulnerable groups needs to be better described. How can sexual networks of drug injecting sex workers be better studied?* Street children who are subject to multiple risks, including sexual exploitation and drug use, need to be brought into the analysis. In order to estimate the size of problems and to design successful prevention strategies, detailed mapping of residences and working and cruising areas, as well as behavioral

assessments of all three particularly vulnerable groups—IDUs, sex workers, and MSM—need to be carried out in many cities.

*Testing: Finally, the degree to which the epidemic may spread or may already have spread from drug users to the general population should be tightly monitored.* Testing policies should rapidly shift from mass screening, which produces data of often unpredictable validity, to a combination of voluntary and anonymous testing, sentinel surveillance, and sero-surveys among vulnerable populations. Case-reporting should emphasize transmission categories rather than occupational groups.

Three areas of support appear to require the most urgent attention:

- The shift from routine and mandatory testing to more targeted and voluntary testing must be accompanied, for both prevention and surveillance, by the development of effective counseling systems, including confidentiality, pre- and post-test counseling, and care and support for HIV-infected persons.
- Epidemiological and behavioral surveillance systems must be established to facilitate the efficient monitoring of the current status and trends of the epidemic and to forecast future trends.
- Qualitative and quantitative research skills must be developed in order to design and implement prevention-focused interventions among vulnerable populations.

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