

## Features and Trends of the HIV/AIDS Epidemic in Russia and Ukraine, 1995–2008

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### Abstract

Despite efforts by government agencies, local governments, non-governmental organisations and international donors, the HIV/AIDS epidemic in Russia and Ukraine continues to spread at an alarming rate. According to data from the Joint UN Programme on HIV/AIDS (UNAIDS), nearly 90% of newly reported HIV diagnoses in eastern Europe in 2006 were from Russia (66%) and Ukraine (21%). This study gives an overview of HIV/AIDS surveillance in Russia and Ukraine, and then looks at AIDS itself and the most significant modes of transmission in both countries between 1995 and 2008. Reported HIV/AIDS cases from the official epidemiological register of the Ukrainian Centre for AIDS Prevention were analysed alongside data from the Russian AIDS Centre. UNAIDS country fact sheets were reviewed and analysed, and this information was supplemented with published HIV prevalence reporting information. The number of officially registered HIV infections increased in Russia from 39,688 in 2006 to 54,046 in 2008. Of the newly registered cases of HIV in Russia, the proportion due to intravenous drug use decreased from 65% in 2005 to 62.7% in 2008. There has been a considerable increase in heterosexual transmission of HIV infection, from 31.5% in 2005 to 35.1% in 2008. The number of officially registered HIV infections increased in Ukraine from 7,000 in 2001 to 18,963 in 2008. In 2008, 7,015 new infections were transmitted by intravenous drug use, 7,945 by heterosexual contact and 3,635 by vertical transmission from HIV-infected mothers to their children. The number of newly notified AIDS cases among HIV-infected Ukrainian patients increased from 867 in 2001 to 4,380 in 2008. There was a similar increase in the number of registered AIDS deaths in Ukraine, from 473 in 2001 to 2,710 in 2008. Russia and Ukraine, the most affected countries in eastern Europe, would appear to be worthy of the strongest possible support from the international community in its efforts to prevent the spread of HIV/AIDS. In order to protect people from HIV infection, it is important to find ways to empower them by implementing policies and specific prevention measures that increase their access to knowledge about the HIV/AIDS epidemic. If taken quickly enough and on a large scale, HIV-prevention steps can limit the scope of the HIV epidemic that is now unfolding in eastern Europe. This will require new models of government/non-governmental organisation co-operation, policy approaches for addressing structural factors underlying the epidemic and attention to human rights protection.

### Keywords

HIV/AIDS, eastern Europe, Russia, Ukraine

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Russia and Ukraine are among the European countries with the most rapidly increasing number of newly diagnosed HIV cases. By the end of 2008, >450,000 (cumulative total) HIV infections were registered in Russia (initial registration).<sup>1</sup> According to the Ukrainian Ministry of Health, the cumulative number of reported HIV infections by the end of 2008 amounted to 141,278, with 18,963 new cases.<sup>2</sup>

Some health officials believe that by 2010 there may be as many as 1.5 million HIV-infected individuals in Ukraine.<sup>3</sup> This article provides an overview of HIV and AIDS surveillance data for Russia and Ukraine, as well as behavioural, social, cultural and other HIV-epidemic-enabling factors, and indicates that since 1995 the rate of newly reported cases of HIV per million populations has increased in both countries. This article also looks at AIDS and the most significant methods of transmission in both countries between 1995 and 2008.

### Methods

Reported HIV/AIDS cases from the official epidemiological register of the Ukrainian Centre for AIDS Prevention and data from the Russian Federal Centre were analysed. Each AIDS centre provides HIV prevention, testing and counselling, treatment, surveillance and laboratory monitoring.

The 1995 federal law on HIV/AIDS in Russia called for obligatory blood screening for blood donors, health professionals who are particularly exposed to infection in their work and people who care for patients with illnesses that share the same forms of transmission as HIV (hepatitis, sexually transmitted infections [STIs], etc.).<sup>4</sup> Under this law, the state guaranteed anonymous and confidential HIV testing, pre- and post-test counselling and free access to healthcare and social welfare services for people living with HIV. Voluntary counselling and testing, although available on a large scale, are often compromised by their poor quality, lack of informed consent and lack of confidentiality.<sup>5</sup>

Since 1987, HIV infections and AIDS cases in Ukraine have been recorded by the Ukrainian Centre for AIDS Prevention in Kiev. The Ukrainian Centre for AIDS Prevention is the central institution in the field of recognising, preventing and combating infectious diseases, particularly the HIV/AIDS epidemic, and is responsible for co-ordinating 27 local Ukrainian centres for AIDS prevention. The core functions of the centres include scientific investigation, epidemiological monitoring and medical analysis and assessment of HIV/AIDS figures.

The law 'AIDS prophylaxes and the social effect on the population' specified the following population groups in Ukraine as being obliged to have an HIV test: drug addicts, prostitutes, prisoners, blood donors and foreigner citizens or foreign students who want to enter Ukraine for more than three months.<sup>6</sup> In addition, pregnant women and Ukrainian citizens who want to travel abroad have to have an HIV test. People can also take an HIV test voluntarily at state hospitals.<sup>6</sup>

In both countries, reporting a new HIV case traditionally involves two stages: registering the screening test results and referral to a health institution for official registration, to record the patient's medical history and for advice. The visit to a clinic is also important because on the basis of the interviews there, patients are re-classified according to their transmission category. HIV tests are offered free of charge. Positive test results are first confirmed by a further enzyme-linked immunosorbent assay (ELISA) test; in special cases, such as inconsistent results, an additional Western blot test is carried out. The results are sent with the patient's name and date of birth to the appropriate regional centre for AIDS prevention and afterwards to the central registration office – the Ukrainian Centre for AIDS Prevention in Kiev or the Federal AIDS Centre in Moscow.

To be officially registered in Ukraine, the HIV-positive patient must also be clinically examined by a doctor. At this stage, other medical treatment is discussed alongside a repeated diagnosis, and social–psychological assistance is also offered. However, only about half of those entitled to this additional examination after testing positive to HIV take up the opportunity.<sup>7</sup> Since not all positively tested patients take up this additional offer, there is a considerable underestimation of those diagnosed with HIV in the official statistics. By the end of 2005, in total >162,000 new infections were registered within the framework of initial registration. By comparison, official statistics from the Health Ministry of Ukraine indicated that only about 89,000 people were diagnosed with HIV, among them about 33,000 women.<sup>7</sup>

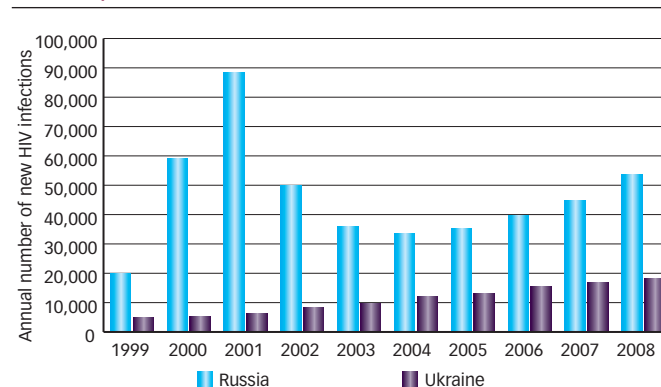
## Results

### HIV Infection

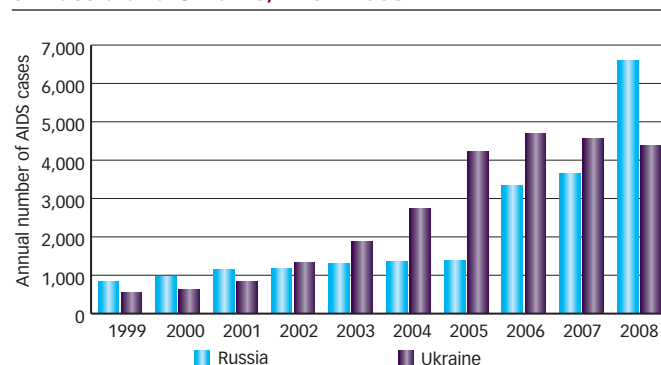
The first HIV infections in Russia were registered in 1987. In 2004, 33,740 HIV infections were registered (see *Figure 1*). In 2008, 54,046 new HIV diagnoses were officially reported, bringing the total number of infections documented since the epidemic began to >450,000.<sup>1</sup> However, the official count only reflects those people who have had direct contact with the HIV registering system. The actual number of people estimated to be living with HIV is much higher: 940,000 at the end of 2005.<sup>8</sup>

The annual number of newly registered HIV cases declined between 2001 and 2003, but has subsequently started to increase

**Figure 1: Newly Diagnosed HIV Infections in Russia and Ukraine, 1999–2008**



**Figure 2: Registered AIDS Cases in the Total Population of Russia and Ukraine, 1987–2008**



again. A partial explanation for the decline in HIV diagnoses after 2001 is that fewer HIV tests were carried out in some of the population groups at high risk of HIV infection, such as intravenous drug users and prisoners.

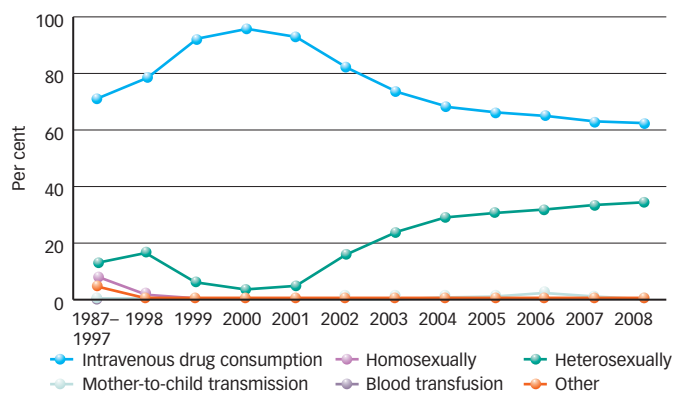
In data from the HIV registry of the Federal AIDS Centre, HIV prevalence is shown by age group: in children ≤15 years of age, the cumulative number of HIV infections is >2,000; in those between 15 and 20 years of age it is >55,000; in those between 20 and 30 years of age it is >200,000; in those between 30 and 40 years of age it is >56,000; in those between 40 and 50 years of age it is >14,000; and in those between 50 and 60 years of age it is >3,000.<sup>1</sup>

The first HIV infections in Ukraine were also registered in 1987. By the end of 1987, six Ukrainian citizens (including five women) were registered as HIV-positive. Until 1994, the number of newly infected Ukrainian citizens fluctuated yearly between six and 40 people. In 1995, there was an explosive increase in the number of new HIV infections, with a total of 1,490 registered cases.<sup>2</sup> Since then, the number of people tested as HIV-positive has risen rapidly. In 2008, 18,963 new HIV infections were registered in Ukraine (see *Figure 1*).

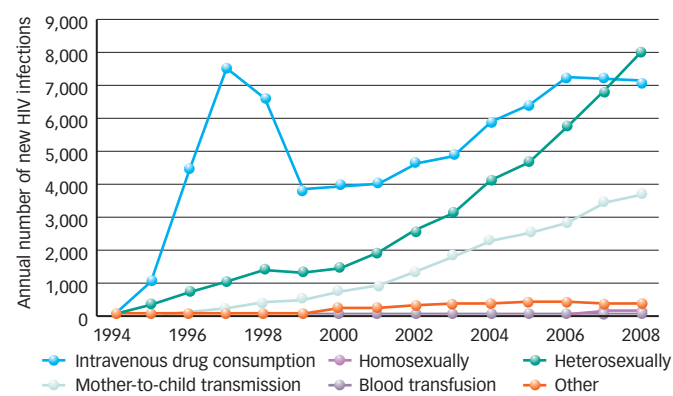
### AIDS Cases

A considerable increase in the number of newly registered AIDS cases in Russia has been seen since 1999. The figure rose from 839 in 1999 to 6,590 in 2008 (see *Figure 2*). The number of newly registered AIDS cases in Ukraine rose from 45 in 1995 to 4,380 in 2008 (see *Figure 2*). There was a similar increase in the number of registered AIDS deaths in both countries.

**Figure 3: Rates of HIV Transmission in Russia, 1987–2008**



**Figure 4: Rates of HIV Transmission in Ukraine, 1994–2008**



### Modes of Transmission

Since 1987, most HIV infections have been transmitted in Russia by intravenous drug use, followed by sexual contact and mother-to-child transmission. At the beginning of the HIV epidemic between 1987 and 1994, HIV was also transmitted through homosexual contact (see *Figure 3*).

Between 1987 and 1991, the occurrence of HIV infections in Russia remained very low (0.335 per 100,000).<sup>9</sup> Between 1990 and 1991, HIV transmission among homosexuals became the most significant route of infection, increasing from 22.4 to 47.8%, which characterised the beginning of a new stage of the epidemic.<sup>9</sup> The current figures in the official statistics show that homosexual men do not currently account for a large proportion of the total cases in Russia and Ukraine. Undoubtedly, the stigmatisation of this group causes misreporting of this transmission route.

Of the newly registered cases of HIV in Russia, the proportion due to intravenous drug use decreased from 65.0% in 2005 to 62.7% in 2008.<sup>1</sup> There has been a considerable increase in the heterosexual transmission of HIV, from 31.5% in 2005 to 35.1% in 2008. Between 1987 and 1994, HIV infection in Ukraine was predominantly transmitted through heterosexual and homosexual contact.

The number of officially registered HIV infections increased in Ukraine from 7,000 in 2001 to 18,963 in 2008. In 2008, 7,015 new infections were related to intravenous drug use, 7,945 to heterosexual contact

and 3,635 to vertical transmission from HIV-infected mothers to their children (see *Figure 4*).

Until the beginning of the 1990s, an increase in drug consumption was registered in all of the former Union of Soviet Socialist Republics (USSR).<sup>10,11</sup> In 1990, there were 22,466 registered drug addicts (4.3 people per 10,000 of the population) in Ukraine. In 1999, this figure reached 74,554 (14.9 people per 10,000).<sup>12</sup> The actual number of drug addicts is five to 10 times higher according to estimates of the Health Ministry of Ukraine.<sup>13</sup>

In HIV sentinel surveys carried out in six Ukrainian cities in 2007, HIV prevalence among intravenous drug users ranged from 10% in Lugansk to 13% in Kiev and 89% in Krivoi Rog. HIV prevalence among sex workers ranged from 4% in Kiev to 24% in Donetsk and 27% in Nikolaev.<sup>14</sup>

The presence of sexually transmitted diseases (STDs) can also increase the risk of HIV transmission by 10-fold.<sup>15</sup> The Ukraine still has the fourth highest rate of syphilis among children and young people between 15 and 19 years of age in the Community of Independent States (CIS). Syphilis rates among children increased steadily between 1990 and 2003. The rate for boys between zero and 14 years of age was 0.14 per 100,000 in 1990 and 2.72 per 100,000 in 2003, while the rate for girls of the same age group increased from 0.25 per 100,000 in 1990 to 3.60 per 100,000 in 2003.<sup>16</sup>

### Limitations

The official surveillance data provide information about people who have been tested and diagnosed with HIV or AIDS, and not those who remain untested and thus undiagnosed. The HIV prevalence data in both countries should be treated with caution because they do not refer to HIV incidence and depend heavily on patterns of HIV testing that may vary across space and time.

### Conclusions

Russia and Ukraine are among the European countries with the most rapidly increasing number of newly diagnosed HIV cases, mainly transmitted by intravenous drug use, but also increasingly through heterosexual contact in the general population and by mother-to-child-transmission. The rapid increase in HIV/AIDS in both countries following the collapse of the USSR was remarkable, but perhaps not surprising. The deterioration of the economic and social fabric of the countries that followed created a vacuum in which illicit drug use and prostitution flourished. Until the beginning of the 1990s, an increase in drug consumption was in evidence in all of the former USSR.<sup>11</sup> By some estimates, there might be as many as 4–5 million intravenous drug users in Russia alone.<sup>17</sup>

According to data from the Joint UN Program on HIV/AIDS, a large number of people in Russia and Ukraine are unaware that they are infected with HIV.<sup>18</sup> Recent epidemiological research using sentinel surveillance indicates that the prevalence of HIV among those most at risk in the population is higher in specific cities in both countries than indicated by the official system of routine epidemiological surveillance. This emphasises the importance of extending sentinel surveillance to monitor the spread of HIV in both countries.

The motivation for this article is to support the selection of future policy directions for tackling HIV/AIDS in Russia and Ukraine. This is an area of considerable current concern within Russia and Ukraine and internationally to develop an effective national strategy to counter the HIV/AIDS epidemic, organising awareness-raising campaigns among vulnerable groups of the general population. Free HIV tests, programmes for the prevention of mother-to-child transference, information and access to condoms, clean hypodermic needles, drug sentence programmes and medical treatment of STDs would be important measures for prevention and healthcare.

Without a considerably more efficient package of counter-measures, together with effective prevention and intervention, the HIV/AIDS epidemic in Russia and Ukraine may soon become a burden too great for these countries to handle by themselves, with serious repercussions for neighbouring European countries. ■



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