Regional Case Study: Eastern Europe and Central Asia

Strengthening harm reduction and expanding service coverage for people who inject drugs
I. Introduction

1. At its 24th session in June 2009, the PCB requested UNAIDS Secretariat and the Cosponsors, in particular UNODC, “to significantly expand and strengthen its work with national governments to address uneven and relatively low coverage of services among injecting drug users and to develop comprehensive models of appropriate service delivery for injecting drug use”.

2. Reducing transmission of HIV among people who inject drugs by 50% by 2015 is one of the goals outlined in the 2011 Political Declaration on HIV/AIDS, adopted by UN Member States in June 2011.

3. The Eastern Europe and Central Asia (EECA) region has the most recent and rapidly expanding HIV epidemic concentrated in key populations, especially people who inject drugs (PWID). Since 2004, UNAIDS has intensified support to countries in the region, mainly for HIV prevention among key populations. This paper presents key achievements in the region as well as major challenges. It also includes results of recent research conducted with support from UNAIDS, showing that expanding harm reduction, especially needle and syringe and opiate substitution programmes can significantly reduce HIV infections.

Snapshot of how UNAIDS made a difference

As a result of Joint Programme interventions in the region:

- Advocacy, technical support and partnership development by UNAIDS led to legislative and policy reviews and subsequent reforms (for example increased access to HIV prevention in prisons and closed settings across the region, and opioid antagonists were made available for overdose prevention and relapse prevention in Kazakhstan).

- Needle and syringe programmes (NSPs) with opioid substitution therapy (OST) have on average expanded three-fold across the region between 2000 and 2009.

- Collection and analysis of data and evidence has built an improved understanding of the response. An eight-country study demonstrated that NSPs were estimated to have averted 10-40% of HIV infections, and with Hepatitis C (HCV) reductions saved costs with a median return on investment of 1.6-2.7 times original investments.

- Kazakhstan and Moldova were identified to illustrate achievements in this report. In these two countries, UNAIDS provided support in the following areas of the national programme:
  - Legal reforms (e.g. Kazakhstan developed a programme which provides alternatives to incarceration for offenders using drugs who committed non-violent crimes);
  - Extensive scale-up of programmes and capacity (in Moldova, comprehensive services are available for PWID, including in the public and penitentiary sectors that includes social rehabilitation and reintegration; the overall harm reduction approach has reduced prevalence of PWID from 80% in 2000 to 16% in 2011).
II. Summary

Regional situation

4. The number of people living with HIV in the EECA region has almost tripled since 2000 and reached an estimated 1.5 million in 2010, equivalent to 0.9 percent HIV prevalence.

5. Many countries in the region have experienced rapid increases in the number of new HIV infections among PWID as a result of unsafe injecting practices. Between 2000 and 2009, five countries in the region saw HIV incidence increase by more than 25%: Armenia, Georgia, Kazakhstan, Kyrgyzstan and Tajikistan. In Eastern Europe, it is estimated that 57% of all new infections are attributable to injecting drug use.

6. In Eastern Europe and Central Asia around 3.7 million people inject drugs, one quarter of whom are estimated to be living with HIV as the sharing of contaminated drug injecting equipment is a highly efficient HIV transmission route.

Major achievements and progress

7. Legislative and policy reviews conducted in the region have resulted in legal reforms which facilitate drug users’ access to services; improved policies have also increased access to HIV prevention in prisons and closed settings.

8. In a study of eight countries in the region\(^2\), facilitated and part-funded by UNAIDS, NSP were shown to have been effective in reducing the risk linked to needle-sharing, led to reduced incidence of HIV and HCV among PWID, and were a very cost-effective prevention strategy for the region. Over the period, NSPs were estimated to result in 10 to 40% fewer HIV infections in the eight countries; a lower percentage of HCV infections were averted (~5-25%).

9. Financial investments in NSPs increased substantially between 2005 and 2010 in the region. The average number of needle-syringes distributed, and proportion of PWID reached, across all eight countries increased by more than 300%. For all countries, the reported levels of sharing decreased with increases in per capita distributions of needle-syringes.

10. NSPs were also found to already be cost-saving or cost-effective\(^3\) with respect to HIV alone in the short-term in four of eight countries (Armenia, Belarus, Kazakhstan and Ukraine), cost-effective in two countries (Moldova, Tajikistan), but not yet cost-effective in two countries (Estonia and Georgia).

11. While harm reduction programmes targeting PWID in the region have expanded since 2000, an equivalent of one US cent per day per person only is available for prevention programmes targeting this key population group in the region. This is insufficient to cover the provision of clean injecting equipment and opioid substitution therapy needed to reduce the number of new infections. Progress has been made as a result of grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and technical support from UNAIDS and other partners. However recent GFATM Board decisions could potentially have a negative impact on harm reduction programmes and HIV programmes in the EECA region.

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\(^2\) Armenia, Belarus, Estonia, Georgia, Kazakhstan, Moldova, Tajikistan and Ukraine.

\(^3\) According to WHO-CHOICE thresholds, interventions are defined as cost-effective if the cost per Quality-Adjusted Life Years gained is less than GDP per capita.
III. Background

12. EECA\(^4\) is the only region where HIV prevalence is rising. The number of people living with HIV in the region has almost tripled since 2000 and reached an estimated 1.5 million in 2010, 0.9 percent HIV prevalence. The HIV epidemics in the region are concentrated mainly among PWID, sex workers, and, to a lesser extent, men who have sex with men (MSM). In 2010, HIV prevalence among PWID in the region ranged from 38% in Georgia and 40% in the Russian Federation to 77% in Kazakhstan\(^5\).

13. In 2010, an estimated 160,000 became infected with HIV and 90,000 died from AIDS. Russia and Ukraine account for almost 90 percent of the region’s newly reported HIV diagnoses but estimates of infections show significant numbers of people infected with HIV in Belarus (17,000), Kazakhstan (13,000) and Uzbekistan (28,000)\(^6\).

14. Sharing of contaminated drug injecting equipment is the most important HIV transmission route in the region. In Eastern Europe and Central Asia around 3.7 million people inject drugs; one quarter are estimated to be living with HIV.

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\(^4\) UNAIDS’ Eastern Europe and Central Asia region includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Kyrgyzstan, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The Baltic states (Estonia, Latvia and Lithuania) are not included in the UNAIDS EECA region but are referred to in this case study.


IV. Addressing the HIV epidemic in the region

15. Injecting drug use accounts for the overwhelming majority of new HIV infections in the region and evidence shows that a comprehensive package of structural, biomedical and behavioural interventions are effective in reducing risk behaviour, preventing HIV infections, and facilitating access to care and treatment for PWID. The Technical Guide developed by WHO, UNODC and UNAIDS in 2009 was endorsed in a number of fora and its use was rolled out in the region. For the first time, the UN system clearly defined the programmatic components of harm reduction in relation to HIV detailed in the joint technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users (WHO/UNODC/UNAIDS Technical Guide).

A. Legal environment

16. Evidence and rights-based laws, policies and programmes are critical enablers of the HIV response. Through on-going advocacy, technical support and partnership development, UNAIDS has fostered transparent, human rights based and respectful coalitions between different sectors, national and international communities working on HIV epidemics, to strengthen the legal and policy environment in support of effective programmes. Legislative and policy reviews in the region have resulted in legal reforms in Central Asia. In Uzbekistan, opioid antagonists (naloxone and naltrexone) were made available for overdose prevention and relapse prevention in 2010, and in Kazakhstan, a programme to develop alternatives to incarceration for drug using offenders who had committed non-violent crimes was endorsed. Access to HIV prevention in prisons and closed settings has also increased as a result of improved policies advocated by UNAIDS. The 5th Inter-parliamentary Conference of Central Asia, countries was jointly organised by UNODC, The World Bank and the UNAIDS Secretariat in June 2010. Afterwards, Azerbaijan endorsed a new HIV law including provisions to improve access to HIV prevention, treatment and care for injecting drug users and prisoners.

B. Targeted programmes

17. Needle and syringe programmes and OST have expanded across the region in recent years, with support from the UNAIDS family, especially UNODC. There were substantially increased financial investments in NSPs between 2005 and 2010 and the average number of needle-syringes distributed, and proportion of PWID reached, across all eight countries increased by more than 300%. Between 2000 and 2009, coverage of NSPs increased three-fold, on average, with marked increases in coverage in Belarus from 16% in 2005 to 64% in 2010, and in Ukraine from 12% in 2005 to 59% in 2010.

18. Coverage rates for the nine interventions that constitute the components of harm reduction (WHO/UNODC/UNAIDS) vary greatly across the region. For example, the proportion of PWID reached by HIV prevention programs ranges from 1.7% in Azerbaijan to more than 60% in Tajikistan, with a regional average of 32.1%.

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7 The Commission on Narcotic Drugs, the UNAIDS Programme Coordinating Board, and the Economic and Social Council (ECOSOC) of the UN General Assembly.
8 www.unodc.org/centralasia
9 1. Needle and syringe programmes (NSPs); 2. Opioid substitution therapy (OST) and other drug dependence treatment; 3. HIV testing and counselling (T&C); 4. Antiretroviral therapy (ART); 5. Prevention and treatment of sexually transmitted infections (STIs); 6. Condom programmes for PWID and their sexual partners; 7. Targeted information, education and communication (IEC) for PWID and their sexual partners; 8. Vaccination, diagnosis and treatment of viral hepatitis; and 9. Prevention, diagnosis and treatment of tuberculosis (TB).
19. Few countries in the region distribute more than 100 needles and syringes per PWID per year\textsuperscript{10}, with distribution ranging from four in Russia, to 20-30 in Belarus, Ukraine, Armenia, and Moldova and 150 in Kazakhstan. Kazakhstan and Armenia started implementing pilot OST projects in 2009 and Tajikistan in 2010. In spite of policy support for OST in the region, the coverage of OST programmes remains low. Three countries do not provide OST: the Russian Federation, Turkmenistan and Uzbekistan.

20. For all countries, reported levels of sharing decreased after per capita distribution of needle-syringes had increased.

C. Strategic information and programme effectiveness

21. UNAIDS and partners have built capacity in the region for the use of data and tools to support an improved understanding of the HIV epidemics and response. This corresponds to a concerted approach to strengthen evidence and strategic information used by national programmes for prioritization and decision-making. Technical expertise and resources were provided by UNAIDS to implement data collection and analysis for the “Modes of Transmission” (MOT) studies, projection methods, data triangulation, and costing. Early results highlight a more nuanced understanding of epidemics in countries, leading to better prioritization within national planning, in Armenia and Moldova.

22. UNAIDS has also supported evidence and facilitated studies conducted jointly with national government, academic institutions and affected communities on priority areas. Recent work includes:
   a) a review of the effectiveness and cost-effectiveness of needle and syringe programmes\textsuperscript{11} in eight countries;
   b) a study of access to treatment and care for female drug users in the Russian Federation; and
   c) research to generate stronger evidence on young injecting drug users and initiation into injecting drug use in four countries (Bosnia, Moldova, Serbia and Ukraine) (with UNICEF support).

23. Eight countries of the EECA region took part in research to generate evidence on needle and syringe programmes and the transmission of HIV and HCV (Armenia, Belarus, Estonia, Georgia, Kazakhstan, Moldova, Tajikistan and Ukraine)\textsuperscript{12} (Wilson, 2012). This study was part of a regional study on harm reduction, supported by UNAIDS at regional and country levels. Regional workshops were conducted with data custodians and key experts from each country with a focus on rigorous evaluation of NSPs in the geographical region. Training and support were provided by UNAIDS to triangulate country data on epidemiology, behaviours, programme costs, programme coverage, and healthcare costs as well as to synthesize and interpret data to establish consensus with country representatives and independent investigators on assumptions and scenarios. Results were subsequently analysed as a regional consortium.

24. Study results show that NSPs have effectively reduced the risk of transmission from unsafe injecting and led to reduced incidence of HIV and HCV among PWID; they are a very cost-effective prevention strategy for the region. Over the period, NSPs were estimated to have averted 10-40\% of HIV infections in the eight countries; a lower percentage of HCV infections were averted (~5-25\%).

\textsuperscript{10} Threshold levels based on studies investigating the levels of syringe distribution and impact on HIV transmission (in developed country settings). Levels required for the prevention of HCV are likely to be much higher (WHO/UNODC/UNAIDS)

\textsuperscript{11} Funding and technical support: UNAIDS, World Bank; Funding: Australian Government, ARC.

\textsuperscript{12} Wilson et al. 2012. The cost-effectiveness of needle-syringe exchange programs in Eastern Europe and Central Asia: costing, data synthesis, modeling and economics for eight case study countries.
25. NSPs were found to already be cost-saving or cost-effective with respect to HIV alone in the short-term in four of eight countries, just cost-effective in two countries, but not yet cost-effective in two countries. When considering the additional health benefits of averted HCV infections, or the lifetime benefits of HIV infections averted, NSPs were very cost-effective to cost-saving in all countries with median return on investment of 1.6-2.7 times original investments.

D. Challenges

26. In spite of the earlier expansion, overall services to prevent the spread of HIV among PWID are insufficient. While progress has been achieved in preventing HIV, the coverage of prevention programmes targeting populations at higher risk of infection is insufficient and needs to be increased significantly. Evidence shows that scaling-up NSPs would lead to substantial additional gains in health and cost savings, and be very cost-effective. Scaling-down services would reduce services and lead to a resurgence in the spread of HIV and HCV among drug users.

27. UNAIDS has contributed to mobilizing resources to expand harm reduction for PWID in the region and was instrumental in securing grants from the Global Fund as well as support from other partners. In November 2011, the GFATM Board made a series of decisions likely to have a negative impact on HIV programmes in the EECA region. Round 11 was canceled and replaced by a Transitional Funding Mechanism providing limited new funds on a more restrictive basis. Policies for grant renewals were revised to specify that reprogramming should focus on “essential services”; and a new rule introduced that 55% of all funding should go to low-income countries.

28. A number of structural barriers need to be removed to allow expansion of services. Increased domestic and national resources will need to increase to maintain and scale up the coverage of key harm reduction interventions in the region, in particular OST and NSPs.

29. Country-specific evidence including Modes of Transmission studies need to continue to inform the scale up of prevention in the region, including Harm Reduction and NSPs. While recent case-reporting from some countries in the EECA region suggest growing numbers of heterosexual infections, trends needs to be placed into the broader epidemic context. As the HIV epidemic spreads from PWID (predominantly male) to their sexual partners, the proportion of women living with HIV in the EECA region is likely to grow. By 2009, women represented 45% of people living with HIV in the Ukraine, compared to 37% in 1999.

30. As the epidemic matures, an increasing number of HIV infections in sexual partners of PWID and people who use (both injecting and non-injecting) stimulant drugs are reported. HIV epidemics in Southeast Asia showed a similar pattern in the late 1990s. These trends underline the importance of consolidating and expanding prevention programmes and messages targeting populations of people who use drugs while addressing both injecting and sexual risk behaviours among these populations.

31. Two countries in the region were identified to illustrate achievements and progress made towards reducing HIV transmission in people who inject drugs in the region, with support from UNAIDS: Kazakhstan and Moldova.

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32. Kazakhstan’s harm reduction programme was the first in Central Asia; the UNAIDS Secretariat and Soros Foundation played a key role in setting up harm reduction in 1997. Programme expansion was made possible with on-going support to the government by UNAIDS and partners, notably in mobilizing resources from the Global Fund. As Kazakhstan will no longer be eligible for Global Fund or other funding beyond 2015, the government is gradually taking on the cost of the harm reduction.

33. The Republic of Moldova was one of the first countries in the region to initiate harm reduction for PWID both in the public and penitentiary sectors in 2000. Country leadership and commitment with support from UNAIDS have resulted in making harm reduction part of the 2003 and 2007 Law on AIDS, implementing UNAIDS/ WHO/ UNODC comprehensive services for PWID, making methadone available in public and penitentiary sectors and including social rehabilitation and reintegration for PWID. This approach has resulted in effectively reducing HIV prevalence in PWID from 80% in 2000 to 16% in 2011.

V. Harm reduction in Kazakhstan

34. HIV transmission due to unsafe injecting remains the leading cause of new infections in Kazakhstan. The prevalence of HIV in people who inject drugs remains the highest among most-at-risk populations. Even among sex workers and MSM, HIV is largely confined to those with a history of injecting.

35. In 2010, the majority of newly reported HIV infections in men were due to unsafe injecting (72%). Increasing numbers of cases are also being reported in women with 25% of all new reported infections in women attributable to unsafe injecting (2010). The proportion of people under the age of 25 who inject drugs decreased from 28% in 2005 to 15% in 2009 while those above the age of 35 increased to 35%.

Graph 1, top line: newly reported HIV infections due to injecting, bottom line: newly reported HIV infections due to heterosexual sex (source: national case reporting)

36. The first harm reduction programme was introduced in 1997 in response to an outbreak of HIV in people who inject drugs in the city of Temirtau. Introducing such public health interventions that do not traditionally benefit from the support of professionals or the general population demonstrated bold leadership on the part of the government.

37. Harm reduction programmes in Kazakhstan have expanded with support from Global Fund grants, secured with support from UNAIDS and other partners. This also included technical support, particularly from UNODC, in legislative and policy analyses towards legal reforms in Central Asia (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan). In Azerbaijan, the analysis led to a new HIV law being
endorsed with a provision to improve access to HIV prevention, treatment and care for PWID and prisoners. In Kazakhstan, alternatives to incarceration for offenders who use drugs that had committed non-violent crimes were developed with the help of UNODC, and a programme was endorsed. In Uzbekistan, opioid antagonists (naloxone and naltrexone) were made available for overdose prevention and relapse prevention.

38. In Estonia and Lithuania, efforts have effectively led to reductions in risk behaviour observed in surveys suggesting an upward trend in safe injecting practices across the country, and a reduction in sharing both injecting paraphernalia and syringes.

Graph 2, share of PWID who report sharing any injection equipment last time they injected, BBS 2005-2009

Graph 3, Proportion of people who inject drugs reached by HIV prevention programs, 2006-2010

39. Kazakhstan is one of eight countries having taken part in the regional study of needle and syringe programmes. NSP in Kazakhstan was found to be highly cost-effective in preventing HCV and HIV from 2000 to 2010. An estimated 78,606-85,616 Quality Adjusted Life Years (QALY) were gained by averting new HIV and HCV cases as a result of implementing NSP. The average cost per QALY gained was estimated at USD $312-352; the saved health costs amounted to $2.31-2.60 million.

Graph 4, left bar: average number of syringes per people who inject drugs; right bar: average number of syringes per injector reached by services
40. Expanding the scale and geographical availability of opioid maintenance and substitution therapy is another imperative for the national AIDS response. OST is urgently needed in Kazakhstan as a treatment option for heroin dependence and is key to reducing HIV incidence in localities with high HIV prevalence among PWID. However, only 102 people were enrolled on OST in Pavlodar, Temirtau and Ust-Kamenogorsk in 2010.

41. Another emerging challenge is the growing number of infections transmitted sexually from HIV-positive PWID to their female sexual partner(s). While people who inject drugs receive condoms through harm reduction programmes (7,099,650 units in 2009), low condom use with primary sexual partner is common in the general population as well as among PWID, especially when they are not aware of their HIV sero-positivity.

Graph 5, share of PWID reporting condom use during last sex

42. In 2010, 55% of PWID reported condom use during last sex. This percentage is consistently higher among those who are younger than 25 years (65% in 2010, 60.5% in 2009, 55.5% in 2008) and lower among those who are older than 25 years (54.7% in 2010, 43.1% in 2009, 36.7% in 2008). In 2010 male people who inject drugs reported higher condom use than women who inject drugs: 56.3% and 48.3% respectively.

43. The provision of HIV prevention, sexual and reproductive health counselling to HIV discordant couples through existing prevention services working with injectors is critical. The Joint Programme is working with the National AIDS Council to modify the current model of the needle and syringe programme in order to respond effectively to new challenges and prevent the sexual partners of people who inject drugs from getting infected.

HIV in prisons and closed settings

44. It is common that many PWID find out about their HIV status in detention centers and prisons where HIV-testing is mandatory. The overall proportion of new infections that are registered in prisons is substantial. Given that a) the overwhelming number of new in-prison HIV infections are due to unsafe injecting, and b) HIV prevalence is the highest among imprisoned population; the existing HIV prevention programs in prisons seems inadequate to tackle the problem.

45. UNODC, WHO and the UNAIDS Secretariat provided advocacy and technical advice to the Kazakh Ministry of Justice, following which it endorsed harm reduction in prison settings and the initiation of needle and syringe programmes and methadone maintenance therapy in selected prisons (planned under GFATM Round 10 grant).

14 Apart from counselling and the distribution of disinfectant, neither NSP is organized nor is the OST provided.
46. Non-government organizations implement HIV prevention for key populations at risk and the government recognizes civil society as a crucial partner, reflected in the law on purchasing social services from non-government organizations passed in 2005. The law was meant to institute a system that enables non-government organizations to access public funds, including for harm reduction. For instance, the Government of Almaty (the former capital and largest city) assigned USD 0.54 million and USD 0.58 million in 2011 and 2012 respectively to purchase social services from NGOs operating in the city.

47. This system has not been used widely by AIDS-service NGOs due to the availability of GFATM and PEPFAR grant facilities. For instance, only 39 out of 97 AIDS-service NGOs in Kazakhstan received public funds for HIV prevention in 2010. However, this system will be increasingly in use as international funding wanes. UNAIDS and the NAC will advocate for local governments to introduce standing invitations to bid for AIDS in the oblasts most affected.

**Country challenges**

48. Following a promising start, the expansion of methadone maintenance therapy (MMT) is currently on hold. The implementation of MMT has come under attack from the public and medical/drug dependence treatment professionals; clients are hesitant to enroll\(^{15}\). The UN Resident Coordinator, WHO, UNICEF, UNODC and the UNAIDS Secretariat have given the Ministry of Health consistent support in public and professional arenas where debates on public health benefits of methadone maintenance therapy take place. While firm in its intention to retain MMT as a key harm reduction component, the Ministry of Health plans to take charge of the procurement of methadone from the GFATM project. A major challenge will be for local governments to agree to open new MMT sites.

VI. Harm reduction in Moldova

49. HIV in the Republic of Moldova is concentrated among PWID with recent seroprevalence surveys among this population showing an HIV prevalence of 16.4% in the main site (country capital). Survey data from the capital city and from two other survey locations show a stable trend with HIV prevalence among PWID at 16.4% in 2009, 17.5% in 2007 and 14.4% in 2003/2004). In the last three years, the number of newly reported HIV cases among PWID tested for HIV has decreased although the proportion in males has increased compared to females; HIV prevails in the age group above 30 years.\(^{16}\)

50. Harm reduction in Moldova has been implemented according to the 1997 Strategy and a three-pronged approach to ensure legalization and scaling up of activities. Phase I (1997-1999) aimed at launching three harm reduction projects on a pilot basis, one in the civil society sector, the second one in the penitentiary institutions and the third one within the Narcology Service. Results of phase I of the strategy were concluded in a Governmental Decision Nr.1173 of December 7, 1998 stipulating, in principle, a legislative framework for implementation and scale up of harm reduction in the Republic of Moldova.

51. Phase II was launched to scale up activities at national level (1999 -2002) during which needle and syringe programmes previously identified were equipped, staff selected and trained, harm reduction supplies (syringes, condoms, disinfectants) purchased and informational materials printed with technical support from UNAIDS and the Soros

\(^{15}\) Source: UNAIDS

Foundation. Full implementation of the programme started in January 2000 and since 2003 the Harm Reduction is in its third phase.

52. Data from the National Centre for Health Management shows that by the end of 2011 15,354 individual PWID had received harm reduction services out of an estimated 31,562 PWID (2011).

53. The Republic of Moldova is recognised in the region as an example of good practice as a result of successfully implementing Harm Reduction in key populations at risk in the public sector (PWID, sex workers, MSM) and in penitentiary institutions (PWID). During the period 2010-2011, services extended in three other localities, including the left bank of the Nistru River (PWID). Twenty six out of 60 localities including the left bank of the Nistru River are covered by Harm reduction Programmes for key populations of PWID. Needle and syringe programmes are also implemented in nine penitentiaries of the national penitentiary system. Methadone Substitution treatment is provided in both public and penitentiary sectors (right bank of Dniester river only). The number of needles and syringes distributed in Moldova increased during the past decade (2000-2010) (from ~825,545 to ~1.6 million).

**Strategic information**

54. In the broader context of maximizing programme effectiveness and using resources efficiently, effectiveness and cost-effectiveness studies have become important analytical tools to help assess HIV investments and whether interventions have contributed to averting new infections and AIDS deaths, and if so, at what cost. Moldova took part in the eight-country study led by UNAIDS to generate evidence on needle and syringe programmes.

55. Research results demonstrated that NSP is a cost-effective and cost-saving strategy for reducing HIV transmission. Moldova’s NSP was assessed as being very cost effective, particularly with respect to its core aim - prevention of HIV and HCV infections in injecting drug users. In particular, it established that investments in NSPs in Moldova between 2000-2009 have resulted in infections and deaths being averted, estimated at 3,049 (2,777-3,116) HIV infections; 3,081 (2,882-3,128) HCV infections; and 146-167 HIV-related deaths.

56. Needle and syringe programs also result in cost savings associated with HIV diagnostics and treatment (HIV testing, screening, laboratory tests, ART). An estimated USD 192,969 to 221,300 in HIV-related health costs have already been saved due to NSPs in Moldova during the period 2000-2010. Lifetime savings of USD 6,257,658 to 7,002,058 are expected.

**Challenges**

57. Further scale-up of NSPs would lead to substantial additional gains in health and cost savings and be very cost-effective. A number of structural barriers have been removed, allowing expansion but a decrease in funding for NSP could lead to reduced services and subsequent resurgence in the spread of HIV and HCV among drug users. Increased resources need to be secured (including domestic and international funding) to maintain and expand coverage and ultimately avoid reducing the initial return on investment.
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