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Data brief of bio-behavioural surveys
of 2009, 2011 and 2013

HIV Prevalence and Risk Behaviour among Prisoners

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*DATA BRIEF OF BIO-BEHAVIOURAL SURVEYS
OF 2009, 2011 and 2013*

HIV Prevalence and Risk Behaviour among Prisoners.
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Analytical overview authored by I.Demchenko, PhD in economics. Commissioned by the UN Office on Drugs and Crime Office in Ukraine

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INTRODUCTION

Penitentiary facilities are seen as high-risk sites for socially dangerous infections across countries - one of such infections is HIV.

The sectoral programme on HIV/AIDS prevention, treatment, support and care in the penitentiary facilities and pre-trial detention centres was implemented during 2009-2013 in Ukraine. In addition, the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria has provided funds for interventions aimed at supporting HIV-infected inmates. With the support of EU, UNDP, international foundations and development agencies, additional programmes have been implemented in training, development of toolkits, etc.

Regular bio-behavioural surveys on knowledge and behaviour of inmates as the component of second-generation HIV epidemiological surveillance surveys are an important part of epidemiological control in Ukraine. They allow identification of bottlenecks in the response to the epidemics in prison setting, evaluate the efficiency of the response and develop proposals on timely adjustment of the response measures.

METHODOLOGY

In 2013, the third round of integrated bio-behavioural survey among the prisoners was conducted in Ukraine. It combined the survey and HIV testing of target groups. ELISA test kits were used for the voluntary HIV counselling and testing and the positive results were confirmed with test kits produced by other manufacturer. The previous rounds of surveys were carried out in 2009 and 2011. During these rounds, the prisoners answered self administered questionnaires, with the interviewer and prison officer supervising them. Access to prevention services, level of HIV/AIDS knowledge and prevalence of risky behaviours in terms of HIV infection were assessed with the questionnaire. In 2013 for the first time the survey included CD4 testing for prisoners who were tested positive for HIV. In addition, it was the first time when the prisoners were asked about the accessibility of care and support services in the prison settings, examining particularly the diagnostics and treatment of HIV, social support to HIV-infected prisoners, etc.

In 2009 and 2011, the survey covered 20 male and four female correctional colonies and two juvenile correctional colonies - 26 prison facilities in total. 1 300 prisoners were surveyed in total, including 1 000 men, 200 women and 100 minor inmates who stayed in correctional colonies.

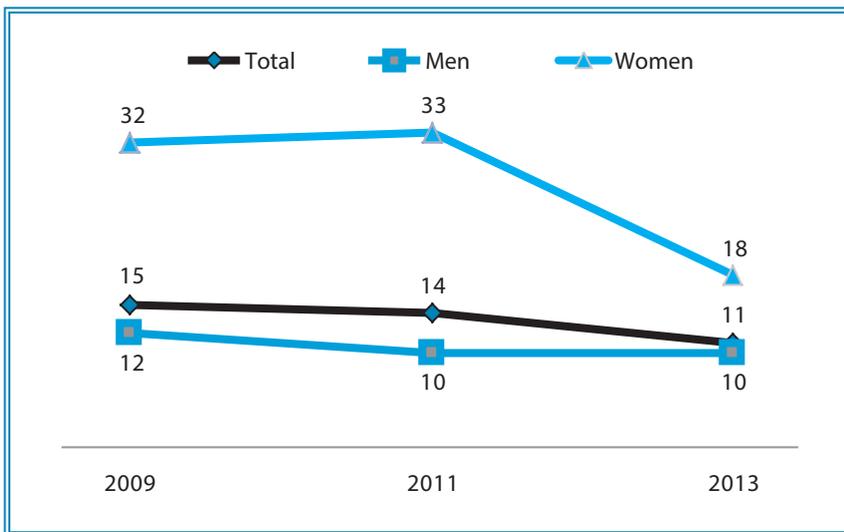
In 2013, the number of female correctional colonies in the sample grew up to six, and the number of juvenile colonies doubled, including the juvenile correctional colony for girls in the sample for the first time (see Annex 1). 1 471 prisoners were surveyed in total, including 1000 men, 300 women and 171 minor prisoners. 50 inmates were surveyed in each colony, but for Sambir correctional colony for boys, which accommodates 21 prisoners every inmate who stayed there at that time were surveyed.

Due to the change of sample composition, comparing to the previous rounds, 2013 data array was weighted in order to keep the ratio of men and women and of prisoners surveyed in the correctional and juvenile correctional colonies.

1. HIV PREVALENCE AMONG THE INMATES AND CERTAIN GROUPS

Findings of bio-behavioural surveys in 2009, 2011 and 2013 depict a weak downward trend in terms of HIV prevalence among the prisoners: from 15% in 2009 to 11% in 2013 (see Graph 1.1). HIV prevalence among women is almost two times higher than among men (18% vs 10%¹). In comparison to previous years, this gap bridged significantly. In particular, it is due to the decrease of percentage of HIV-infected female prisoners (from 33% in 2011 to 18% in 2013), while the rate of HIV prevalence among male prisoners is the same. More detailed analysis proved that it was the increase of female prison facilities under survey rather than the particularities of 2013 sample that influenced the decrease of HIV prevalence among women² (see Graph 1.1).

Graph 1.1. HIV prevalence among prisoners, %



* The differences by year are significant if above 3%

** The difference of rates for men and women is significant if above 7%

All HIV-positive prisoners during bio-behavioural surveys were detected in the correctional colonies for adults. No HIV-positive inmates were found in the juvenile correctional colonies during the surveys in 2009, 2011 and 2013.

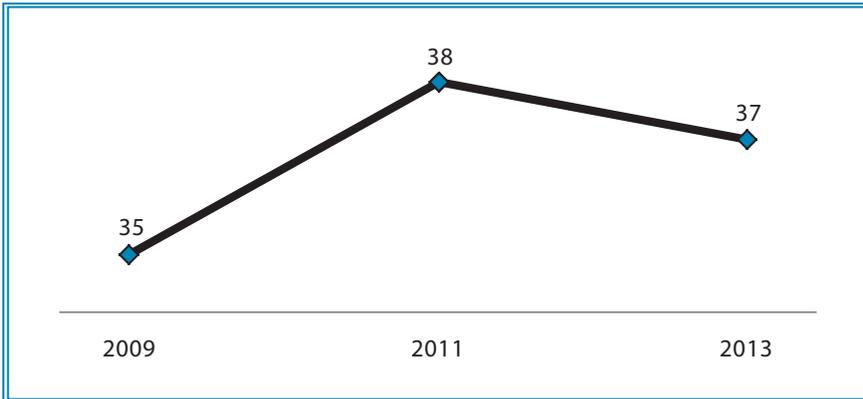
The experience of drug use among the prisoners significantly increases the risk of HIV infection. According to 2013 survey, HIV prevalence among prisoners who have drug use history (22%) is five times higher than among those who never injected drugs (4%).

This trend is quite important, whereas one third of surveyed prisoners (37%) have experience of injecting drugs (opioids, stimulants or methamphetamine that might be injected). This trend has persisted during the past years (see Graph 1.2).

1 The differences between groups are significant at the level of 1 per cent.

2 The rate of HIV prevalence is calculated only for those female correctional colonies that were included in the sample during 2009 and 2011 (colonies # 44, 54, 63, and 74). It numbers to 19% and does not differ significantly from the 2013 rate calculated for female correctional colonies that were included into 2013 sample.

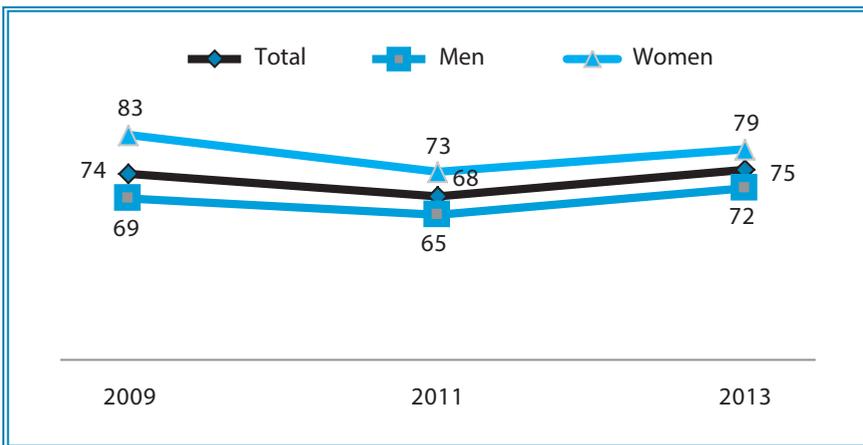
Graph 1.2. Rate of IDU³ among prisoners, %



* The differences are significant if above 3%

The rate of injecting drug users among HIV-positive prisoners identified during the survey is high. During past years, the rate of IDUs among HIV-positive respondents varied within 73-83%. The differences between female and male respondents are not significantly important (see Graph 1.3).

Graph 1.3. Rate of IDU among HIV-positive convicts, % (n=162)



* The differences by year are significant if above 10%

In general, the rate of HIV prevalence among convicted IDUs is two times higher than among all convicts (see Graph 1.4).

3 Hereinafter the IDU have the following meaning: a person who injected drugs at least once during the life.

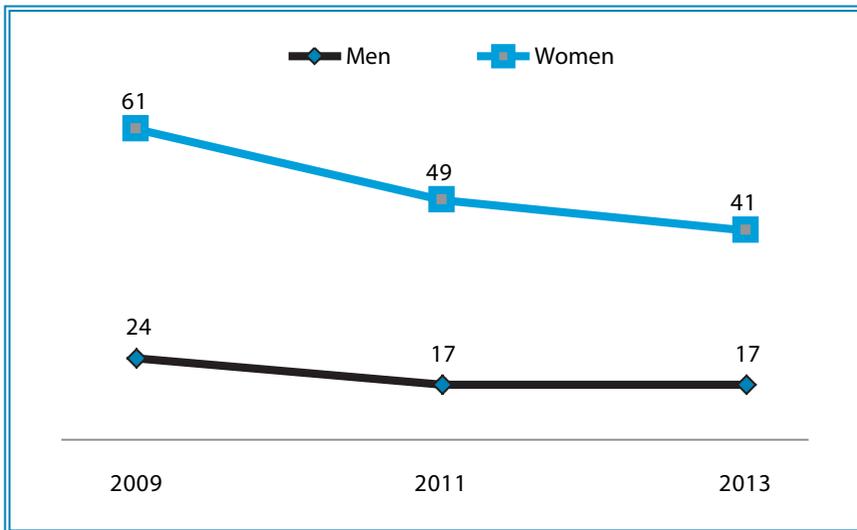
Graph 1.4. HIV prevalence among all convicts and convicted IDU above 18, %



* The difference between groups are significant at the level of 1%

According to the results of 2013 survey, almost half (41%) of female IDUs who serve sentences in the penitentiary facilities are HIV-positive. For men, this rate is two times lower – 17%. Notwithstanding the significant differences in these rates during 2009, 2011 and 2013, HIV prevalence among female prisoners IDU remains the same during the survey lifespan. The same concerns the men of this risk group (see Graph 1.5).

Graph 1.5. HIV prevalence among convicted IDU (adults), %



* The differences by year are not significant

** The difference of rates for men and women is significant at the level of 1%

During 2013 survey, the doctors of penitentiary facilities proposed to undergo CD4 testing among all 162 prisoners who received positive result of HIV test (except for 18 prisoners who

were released from penitentiary facilities). 14 prisoners refused to participate in the second stage of the survey, hence only the blood sample of other 131 prisoners were taken for analysis. After the blood samples were brought to Ukrainian Centre for Diseases Control of the MoH of Ukraine, the employees of lab discarded 4 blood samples as unfit to laboratory research due to excessive gouts. Therefore, only 126 prisoners from 17 penitentiary facilities underwent CD4 testing. This accounts for 77% of all HIV-positive prisoners identified at the first stage of the survey.

20 patients (16% of all surveyed prisoners) have $CD4 \leq 200$ cells/mkl that indicates the stage of AIDS. 36 patients (28% of total number) have 201-350 cells/mkl (see Table 1.1). The results demonstrate that 56 HIV-positive patients (44% of all surveyed prisoners) evidently need anti-retroviral therapy in line with the requirements of clinical protocol of treatment of adults and adolescents, approved by the Order of MoH # 551 as of 12 July 2010 "On Approval of Clinical Protocol of Anti-retroviral Therapy of Adults and Adolescents".

Table 1.1.

Results of CD4 examination, % to total number of surveyed patients (n=126)

Range of CD4 lymphocytes (number/mkl of blood)	Number of people	% to total number of surveyed patients
Under 200	20	16
201-350	36	28
Over 350	70	56

More than half of the patients (56%) have $CD4 > 350$ cells/mkl. Unfortunately, the questionnaire did not allow learning the HIV/TB or HIV/hepatitis B comorbidity. Therefore, it is not possible to make a conclusion on the number of HIV-infected prisoners who have $CD4 > 350$ cells/mkl and who are eligible for ART.

According to the analysis, only one fourth (25%) of PLWH who evidently need the antiretroviral therapy (those who have CD4 cell count below 350 cells/mkl) actually receive it. Although this rate is quite approximate – taking into account the significant error (+/-13%) – and although it is impossible to determine the percentage of those who need ART (among those who have CD4 cell count above 350), it is evident that the needs of prisoners in ART are not covered to a large extent.

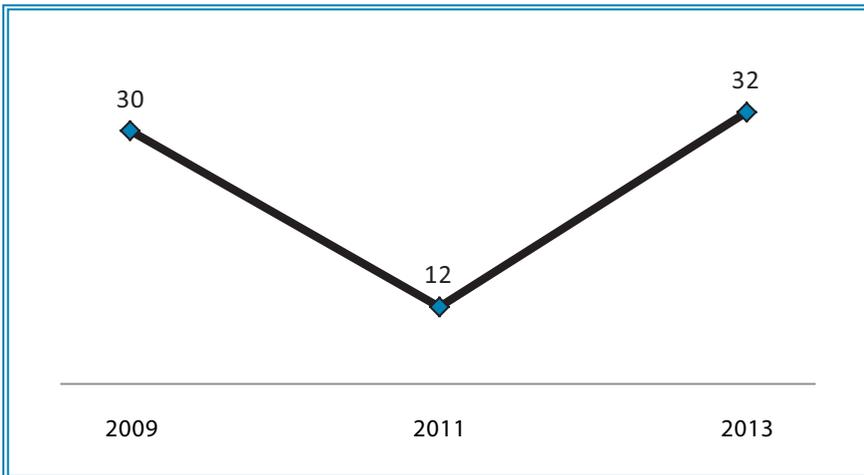
2. RISKY BEHAVIOUR

Unprotected sexual intercourse (irregular use of condoms during the intercourse, including during the same-sex intercourse), using non-sterile injecting equipment to inject drugs (sharing the needle, syringe or hand-made equipment) and using non-sterile equipment for tattooing are the practices that significantly increase the risk of contracting HIV.

The survey of such risky behaviours in prison settings faces some limitations. First of all, it is highly likely to receive dishonest reply from the respondent due to personal reasons. Secondly, the Internal Code of Conduct prohibit to consume alcohol and narcotic drugs, to store needles, equipment for tattooing and to practice same-sex intercourse in the penitentiary facilities.

Basing on the above, the results of the survey demonstrate that it is unprotected sexual intercourse with spouses that is the most widespread kind of risky behaviour in prison settings. In 2013, one third of respondents (32%) had such intercourse during the past six months. In comparison to 2011, this rate increased almost three times, thus having returned to the rate of 2009 (see Graph 2.1). No significant differences between female and male prisoners were observed.

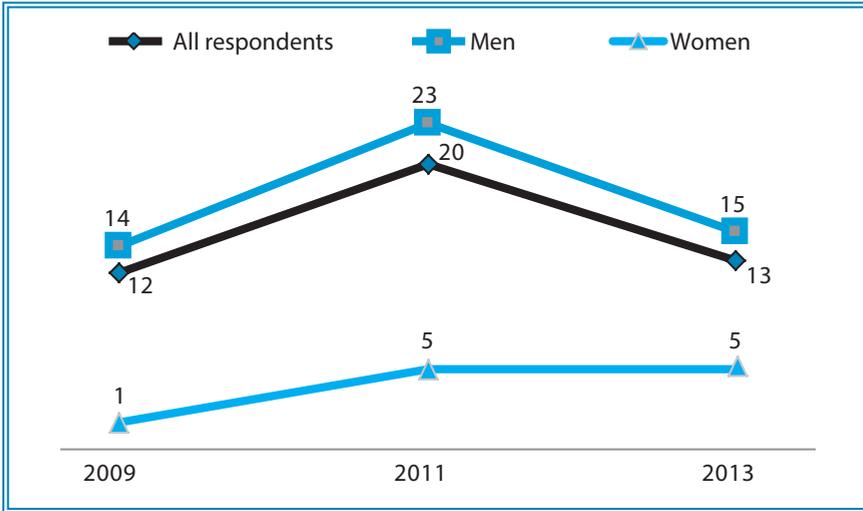
Graph 2.1. **Experience of unprotected sexual intercourse during past 6 months, %**



** The differences are significant if above 3%*

When it comes to tattooing, positive trends are observed: the rate of prisoners who made tattoos in the penitentiary facilities during the last year decreased to the level of 2009: from 20% in 2011 to 13% in 2013. Men make tattoos much more often than women (see Graph 2.2).

Graph 2.2. Experience of tattooing in prison settings during past 12 months, %

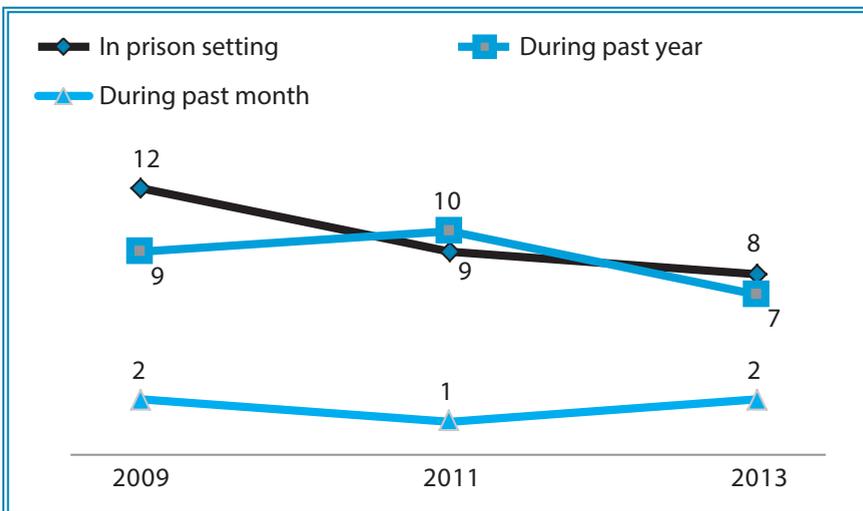


* The differences by year are significant if above 3%

** The difference of rates for men and women is significant if above 7%

Injecting drug use while in prisons is not a widespread practice among the target group, but it still persists. The rate of those who confirmed injecting drugs during last year (7-10%), last month (1-2%) as well as directly in prison setting remains within the scope of statistical error (12-8% of respondents indicated that they used opioids, stimulants or methamphetamines 'in prison or at liberty' or 'only in prison' (see Graph 2.3).

Graph 2.3. Prevalence of injecting drug use, %



* The differences are significant if above 3%

It is worth noting that one third of the inmates who confirmed to have injected drugs

during the last year (35 of 102 prisoners) did it in prison settings.

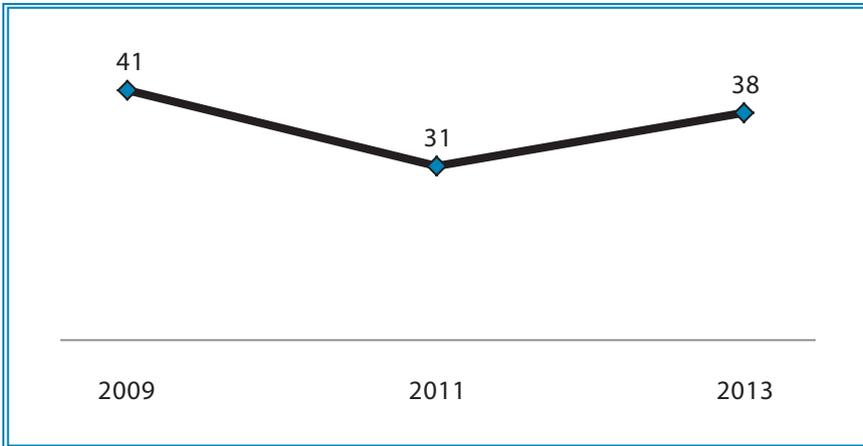
The trend of risky practices of injecting drugs that was noticed during the previous years still persists. In 2013, 57 prisoners (4%) reported sharing the syringe or injecting equipment ring the last 12 months. In 2009, the same rate numbered to 5%⁴.

3. PRISONERS' AWARENESS OF HIV/AIDS

The level of prisoners' awareness was measured through the general indicator of awareness. It is calculated as the rate of respondents who have accurate knowledge of the ways to prevent HIV transmission and know how it is not transmitted.

Analysis of the dynamics of awareness in general demonstrates that in 2011 this rate decreased significantly (compared to 2009), and in 2013 it grew again and almost achieved the rate of 2009 (see Graph 3.1).

Graph 3.1. **Dynamics of general rate of awareness by years, %**



* The differences are significant if above 3%

The general level of awareness of convicted IDUs is significantly higher than of respondents who do not have experience of injecting drugs. Furthermore the gender differences appeared to be insignificant (see Table 3.1).

⁴ 2011 data are not available, whereas the respective question was not a part of the questionnaire.

Table 3.1

Dynamics of general level of awareness depending on the drug use history and on gender, %

		2009	2011	2013
Convicted IDU	Total*	51	43	48
	Men**	49	43	47
	Women**	61	44	53
Prisoners having no drug use history	Total*	36	24	32
	Men**	37	23	30
	Women**	29	25	38
All respondents	Men***	41	31	37
	Women***	43	34	43

* The differences between groups are significant if above 5%

** The differences between groups are significant if above 11%

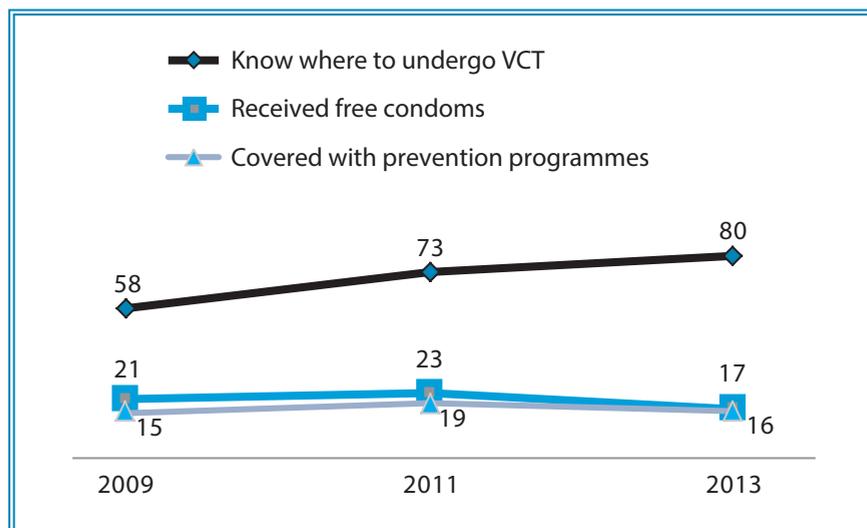
*** The differences between groups are significant if above 7%

4. COVERAGE WITH PREVENTION PROGRAMMES

As suggested by international requirements, the coverage of prisoners with prevention programmes was evaluated on the basis of the rate of respondents who know where they can undergo HIV testing and who received free condoms during the past year.

In 2011, the total rate of coverage with prevention programmes was substantially higher than in 2009, and in 2013 it fell down to return to the level of 2009 (see Graph 4.1). Herein, the rate of prisoners who know where they can receive voluntary counselling and testing is growing sustainably. Thus, it is the limited access of prisoners to free condoms that lead to the lack of positive dynamics in terms of coverage with prevention programmes.

Graph 4.1. Dynamics of coverage with prevention programmes by years, %



* The differences are significant if above 3%

The rate of coverage with prevention programmes has some dependence on the drug use history of prisoners. The level of coverage of male prisoners with prevention programmes stays almost at the same level during 2009-2013, whereas the rate of covered women is getting down gradually (see Table 4.1).

Table 4.1

Dynamics of coverage with prevention programmes depending on the drug use history and gender, %

		2009	2011	2013
Convicted IDU	Total*	18	19	17
	Men**	18	20	20
	Women**	15	13	4
Prisoners having no drug use history	Total*	14	20	14
	Men**	15	22	17
	Women**	11	9	3

* The differences between groups are significant if above 5%

** The differences between groups are significant if above 11%

Gender differences in terms of coverage with prevention programmes are explained by deterioration of access of female prisoners to free condoms (see Table 4.2).

Table 4.2

Rate of prisoners who received free condoms depending on drug use history and gender, %

		2009	2011	2013
Convicted IDU	Total*	23	23	18
	Men**	25	25	21
	Women**	15	15	4
Prisoners having no drug use history	Total*	20	24	16
	Men**	21	26	19
	Women**	14	9	3

* The differences between groups are significant if above 5%

** The differences between groups are significant if above 11%

CONCLUSIONS

The data of bio-behavioural surveys carried out in 2009, 2011 and 2013 showcase that the rate of HIV prevalence among prisoners in the penitentiary facilities is slowly decreasing: from 15% in 2009 to 11% in 2013.

Drug use history of a prisoner is a factor that significantly increases the likelihood of contracting HIV infection. According to 2013 survey, HIV prevalence among prisoners who have drug use history (22%) is five times higher than among those who never injected drugs (4%). The majority of HIV-positive respondents are IDUs: according to 2009, 2011 and 2013 the rate of IDUs among HIV-positive respondents varied within 73-83%.

According to 2013 results, one may suggest that in line with the requirements of clinical protocol of treatment of adults and adolescents, approved by the Order of MoH # 551 as of 12 July 2010 "On Approval of Clinical Protocol of Anti-retroviral Therapy of Adults and Adolescents", at least half of the prisoners need ART. In particular, 44% prisoners who underwent CD4 test evidently need ART, because their CD4 cell count is below 350. Herein, the prisoners with HIV/TB or HIV/HBV comorbidities were not taken into account. If the updated protocol of HIV treatment that includes new WHO Guidelines on early start of treatment is approved, the prisoners' needs for ART will grow significantly.

LIST OF ABBREVIATIONS

AIDS – Acquired Immunodeficiency Syndrome

ART – anti-retroviral therapy

CD4 cells (CD4 lymphocytes) – immune cells that are destroyed by HIV. Their number demonstrates the condition of immune system of a person

CES – Criminal executive service

EU – European Union

HCU – health care unit

HIV – Human Immunodeficiency Virus

IDU – injecting drug users

MoH – Ministry of Health

PLWH – people living with HIV

SPSU – State Penitentiary Service of Ukraine

UNDP – UN Development Programme

VCT – voluntary counselling and testing

ANNEX 1. LIST OF THE SPS FACILITIES WHERE THE SURVEY WAS CARRIED OUT

Region	Correctional/juvenile correctional colonies		
	2009	2011	2013
AR of Crimea	#102, Simferopol	#102, Simferopol	-
	#126, Kerch	#126, Kerch	-
Vinnytsia oblast	-	-	#123, Lityn
	-	-	#8, Vinnytsia city
Donetsk oblast	#32, Makiivka	#32, Makiivka	#32, Makiivka
	#87, Donetsk city	#87, Donetsk city	#12, Donetsk city
	-	-	#107, Mariupol
Zhytomyr oblast	#4, Zhytomyr city	#4, Zhytomyr city	#4, Zhytomyr city
	#71, Korosten	#71, Korosten	#71, Korosten
Zaporizzhia oblast	-	-	Melitopol juvenile correctional colony
Kyiv oblast	-	-	#119, Boryspil
	-	-	#85, Hostomel
Lviv oblast	#50, Mykolaiv	#50, Mykolaiv	#50, Mykolaiv
	#30, Lviv city	#30, Lviv city	#30, Lviv city
	-	-	Sambir juvenile correctional colony
Luhansk oblast	#19, Krasnolutska	#19, Krasnolutska	-
	#36, Sukhodilska	#36, Sukhodilska	-

Region	Correctional/juvenile correctional colonies		
	2009	2011	2013
Mykolaiv oblast	#83, Iuzhnoukrainsk	#83, Iuzhnoukrainsk	#72, Voznesensk
	#53, Olshanske	#53, Olshanske	#53, Olshanske
Odesa oblast	#51, Odesa city	#51, Odesa city	#51, Odesa city
	#14, Odesa city	#14, Odesa city	#14, Odesa city
	#74, Odesa city	#74, Odesa city	#74, Odesa city
Poltava oblast	#64, Poltava city	#64, Poltava city	#64, Poltava city
	#69, Kremenchuk	#69, Kremenchuk	#69, Kremenchuk
	-	-	#65, Bozhkove
	-	Kremenchuk juvenile correctional colony	Kremenchuk juvenile correctional colony
Ternopil oblast	#63, Dobri-Vody	#63, Dobri-Vody	#63, Dobri-Vody
	Berezhanska juvenile correctional colony	Berezhanska juvenile correctional colony	-
Kharkiv oblast	#12, Kharkiv city	#12, Kharkiv city	#12, Kharkiv city
	#25, Kharkiv city	#25, Kharkiv city	#25, Kharkiv city
	#54, Kharkiv city	#54, Kharkiv city	#54, Kharkiv city
	-	-	Kuriazka juvenile correctional colony
Cherkasy oblast	#62, Cherkasy city	#62, Cherkasy city	#62, Cherkasy city
	#92, Stari Babany	#92, Stari Babany	#92, Stari Babany
Chernihiv oblast	#44, Chernihiv city	#44, Chernihiv city	#44, Chernihiv city

