

**Ministry of Health of Ukraine**

**Ukrainian AIDS Prevention and Control Center**

**SI “Institute of Epidemiology and Infectious Diseases  
named after L.V. Gromashevsky”, at AMS Ukraine**

**Central Sanitary and Epidemiological Station of the MOH of Ukraine**

# **HIV Infection in Ukraine**

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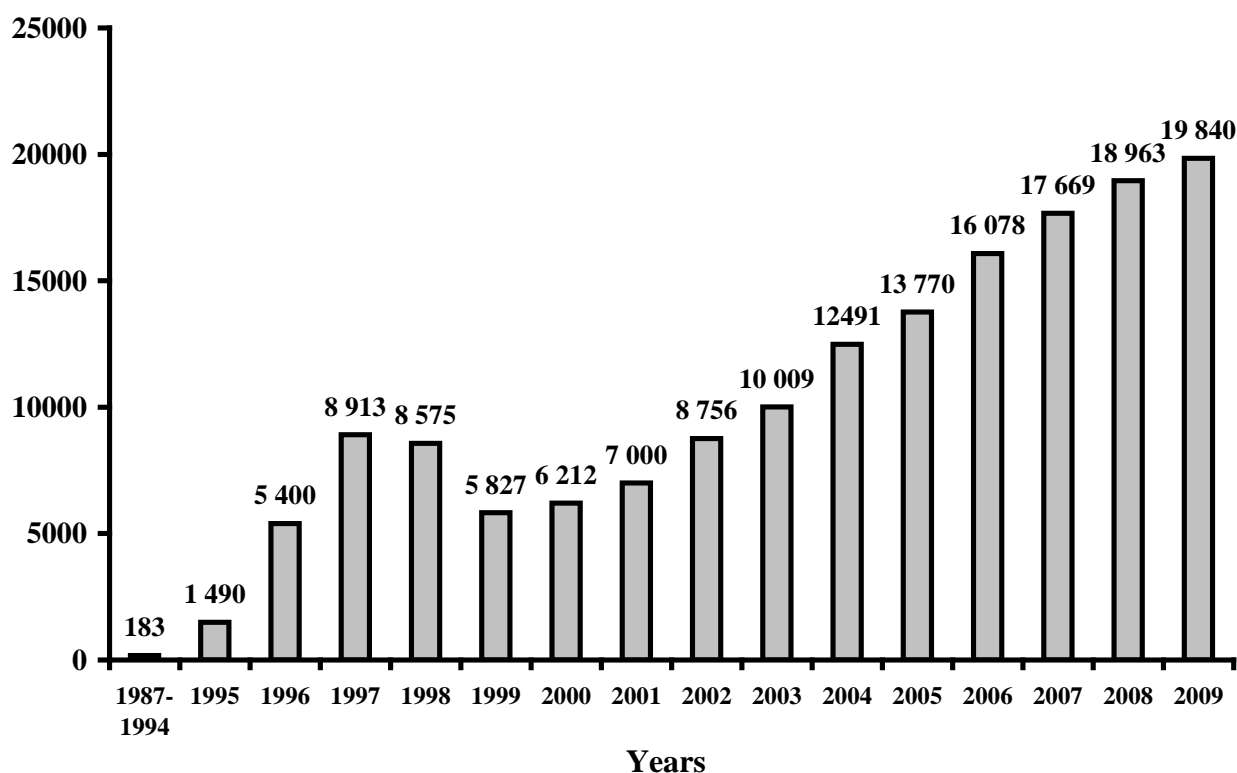
## Brief Review of Epidemiological Situation with HIV/AIDS in Ukraine by 01.01.2010

Epidemiological characteristics of HIV/AIDS epidemic constitute an important component of the national monitoring and evaluation system and are necessary to develop the adequate response of the country to the epidemic.

From the registration of the first HIV-infection case in 1987 and until 2009, the officially registered number of HIV-infection cases among citizens of Ukraine was 161 119, including 31 241 AIDS cases and 17 791 deaths of AIDS-related diseases.

In 2009, 19 840 new HIV-infection cases were registered in the country (43,2 per 100 000 population). Although since 1999 the number of newly registered HIV-infection cases has been growing annually, reduction in the growth rate of this indicator was observed during 2006–2009: 16,8%, 10,5%, 7,6%, 5,7% respectively.

**Figure 1. History of officially registered new HIV-infection cases among citizens of Ukraine by years, 1987-2009.**



During 2007-2009 in Ukraine there was an increase in the number of screening tests for HIV antibodies – from 2 866 000 tests in 2007 to 3 358 000 in 2009. It should be noted that with the constant number of tests performed among injection drug users (code 102), the number of detected HIV infection cases among them remains practically unchanged. The similar situation can be observed with tests among persons with identified sexually transmitted infections (code 104). At the same time, with the doubled number of tests performed among people having

numerous unprotected sexual contacts (code 105), the number of detected HIV infection cases among them has not practically changed.

The analysis of the territorial specific features of HIV-infection prevalence in IDUs (code 102) can show that against the average HIV-infection prevalence in Ukraine at the level of 13,34%, considerable fluctuations in this indicator can be observed in the regions. The highest indicators have been registered in Kyiv region – 35,43%, Kyiv city – 32,60% and Ivano-Frankivsk region – 32,04%

The results of the regional analysis on the HIV-infection prevalence among persons by registration codes 104 and 105 are attracting attention. They are also the highest in Kyiv region (6,09 and 7,23 % respectively) and Kyiv city (5,26 and 4,64 %). High levels of infection by codes 104 in Kirovograd region and by code 105 in Ternopil region cannot be taken into consideration because of very small number of tests performed.

In the recent years the test practice existing in Ukraine envisages the procurement of test systems for blood donors and pregnant women at the expense of the state budget, the rest of the population has to be tested at the expense of the local budgets. When comparing the percentage of tests performed at the expense of the local budgets one can see considerable territorial variations in this indicator. The distribution of regions by the indicator rating on the number of tests procured from the local budgets is given in the correspondent table of the annex. The highest indicators have been registered in Chernigiv, Kherson and Sumy regions, the lowest - in Poltava, Vinnytsya and Lviv regions. But to our mind, it is more important not only to look into the indicator of tests procured for the local budget costs in general, but also into the share of tests performed among vulnerable groups. The best situation with these indicators is with Mykolaiv, Cherkasy and Khmel'nitsk regions.

It is known that the HIV infection incidence among pregnant women (more precisely) and blood donors (less) reflects HIV infection incidence among general population of the country. In the last three years the incidence rate among pregnant women was 0,33 – 0,34 % and blood donors - 0,13-0,14%. Along with that, the HIV-infection prevalence among pregnant women according to the results of primary testing (code 109.1) was on the average 0,55% in Ukraine. When analyzing the regional data one can observe that this indicator fluctuated considerably from 0,04% in Zakarpattia region to 1,59% in Kyiv region and in Mykolaiv, Dnipropetrovsk and Kirovograd regions it exceeded 1% (1,28 %, 1,12 %, 1,03% respectively). This data can point out at the possible generalization of the epidemic process of HIV-infection in some regions.

As for the primary blood donors (code 108.1) the most dangerous situation can be observed in Odessa and Mykolaiv regions with the rate of incidence at 0,53 and 0,80% respectively (indicator by Ukraine 0,20%).

By official data, HIV infection was diagnosed in 54 people, AIDS was diagnosed in 12 people, and seven people died of AIDS-related diseases every day in 2009.

Of all officially registered HIV cases among citizens of Ukraine since the beginning of the epidemic and by 01.01.2010, 101 182 persons were under the

medical follow-up (220,9 per 100 000 population), including 11 827 diagnosed with AIDS (25,8 per 100 000 population).

It is universally recognized that the official data does not reflect the real scale of HIV/AIDS epidemic in Ukraine, in particular the real number of HIV-infected persons. These data only provide information on the persons who received an HIV antibody test, in whom HIV infection was found, and put into the official register of HIV infection cases. A considerably larger number of persons can be infected, but they are not aware of their status.

Updated HIV/AIDS estimates in Ukraine show that at the beginning of 2010, 360 000 HIV positive persons aged 15 and over were living in Ukraine. This data differs from the official statistical data on the number of people living with HIV/AIDS and under the medical follow-up in specialized health care facilities (101 182 persons) at the beginning of 2010. The difference between these indicators shows that only 28% or every fourth person, living with HIV in Ukraine received an HIV test and knows his/her HIV-positive status.

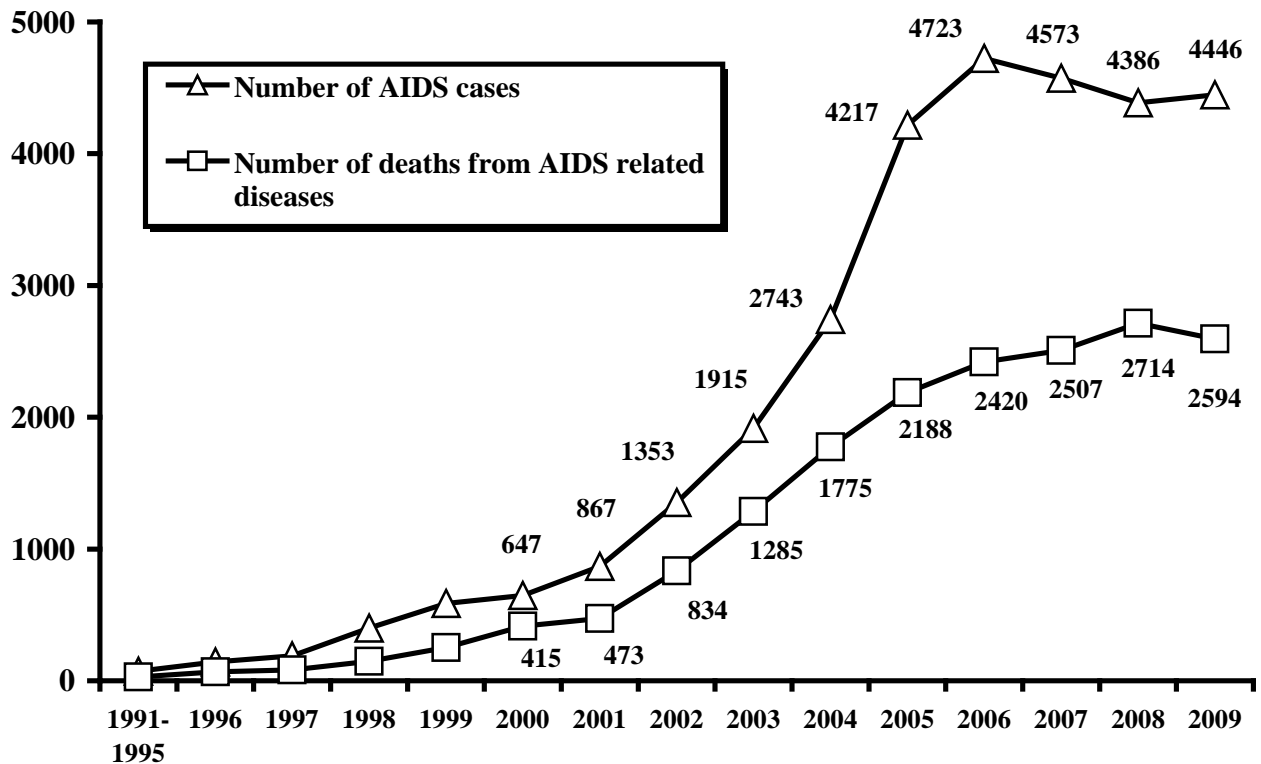
These data are the result of the latest national estimates on HIV/AIDS in Ukraine as of early 2009. A considerable number of national and international organizations involved in the process of HIV/AIDS epidemic monitoring in Ukraine, have made their contribution into these estimates, which became a component of the global estimates on HIV/AIDS as of the end of 2009.

The number of AIDS patients in Ukraine increased annually up to a record level of 4 723 cases in 2006. Due to the introduction of a large-scale antiretroviral therapy, by the end of 2007 the country for the first time registered a slight decrease in the number of AIDS patients (figure 2). And although during the last three years, 2007-2009, the number of people diagnosed with AIDS is registered practically on the same level (9,8; 9,5; 9,7 per 100 000 population), AIDS remains a serious challenge for the health care system of Ukraine. AIDS treatment is still expensive.

During the entire period of epidemiological surveillance over HIV infection in Ukraine the number of people, who died of AIDS-related diseases has been growing. In 2009 for the first time in comparison with the previous year the number of AIDS-related deaths declined from 2710 to 2591 (from 5,8 to 5,6, per 100 000 population that is by 2,6 %) which is the first significant evidence of the positive influence of the antiretroviral therapy (ART) introduction in Ukraine. But the access to antiretroviral therapy still does not satisfy the patients' needs.

The rate of treatment of active injecting drug users remains limited (according to 2009 data, only 7.5% of the total number of those receiving ART) because of insufficient availability of substitution therapy, and hence problems with forming adherence to ART.

**Figure. 2. Number of new AIDS cases and deaths of AIDS related diseases among citizens of Ukraine, 1991-2009.**

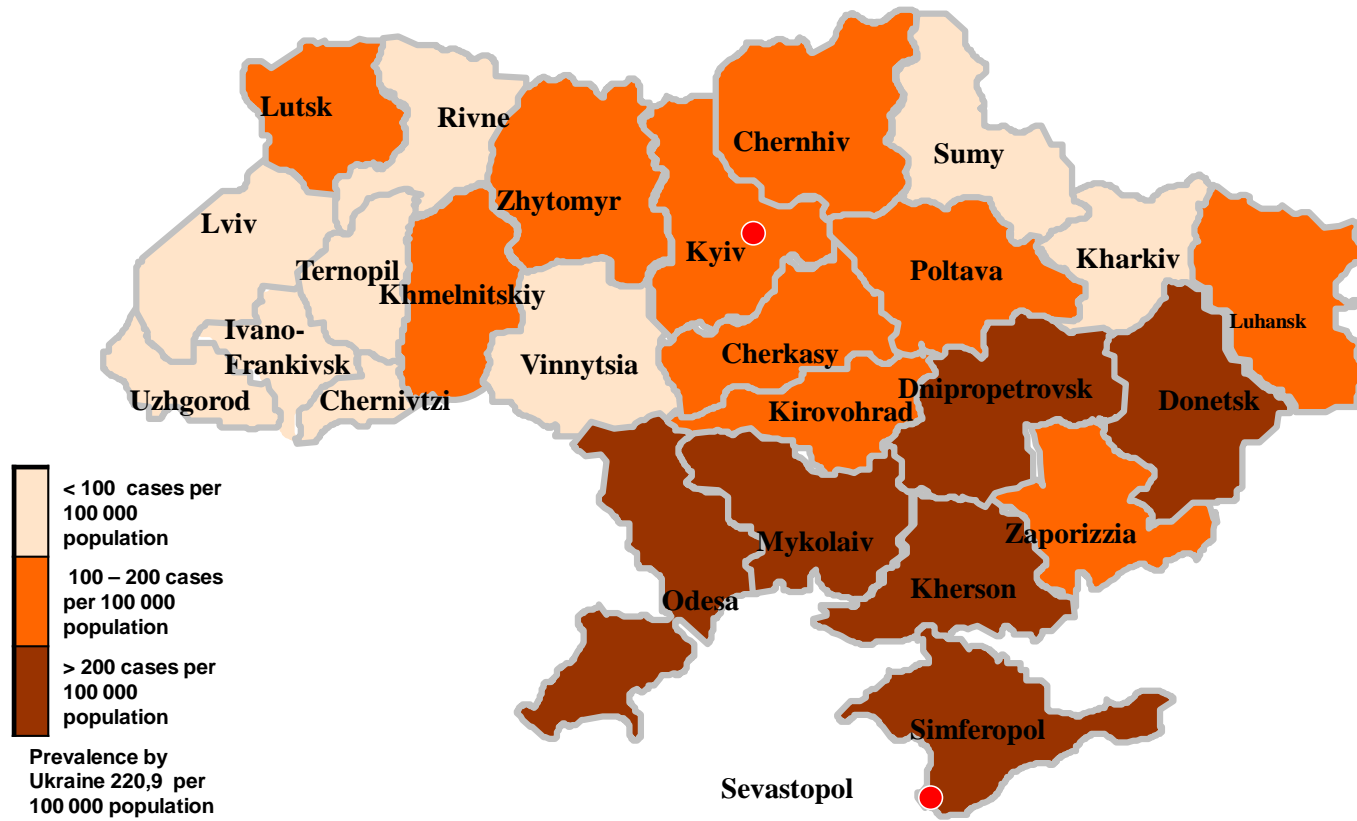


The growth in recent years in the number of HIV-infected people identified due to clinical indications should also be taken into account. According to serum epidemiological monitoring results, almost 22% of all positive cases in 2009 were identified among people examined due to clinical indications. Of 4437 AIDS cases recorded in 2009, 2182, or 49%, were already in advanced HIV phase (i.e. AIDS) when firstly taken under medical follow-up.

In 2009 over 77% of HIV-positive citizens of Ukraine were of reproductive and working age – 15-49 years.

In addition to that, the share of HIV cases in the 15–24 age group among all new recorded HIV cases has gone down over recent years: 16% in 2006, 15% in 2007, 13% in 2008, and 12% in 2009. This also indicates at a certain overall stabilization of the epidemiological situation with HIV-infection in whole owing to young people’s shift to less risky behaviors.

Fig. 3 HIV infection prevalence by regions of Ukraine by 01.01.2010



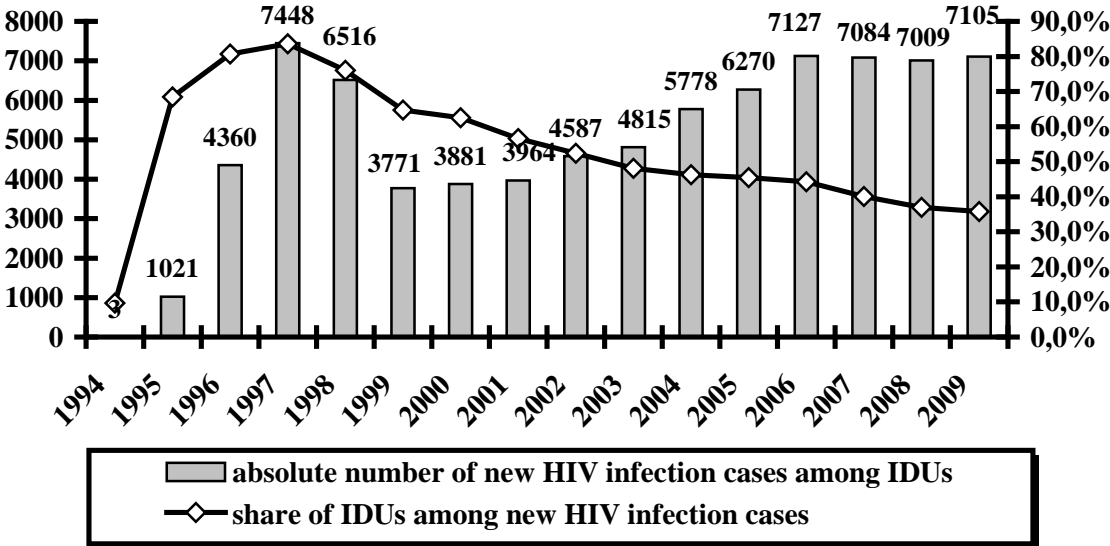
As before, there are considerable variations in HIV prevalence between regions of Ukraine. The highest HIV prevalence indicators, based on the data of regular medical registration, are registered in the southeast regions of the country: in Dnipropetrovsk, Donetsk, Mykolaiv, Odessa, Kherson regions and cities of Kyiv and Sevastopol, and the AR Crimea (512,7 – 223,7 per 100 000 population), where this indicator considerably exceeds the country average of 220,9 per 100 000 population by 01.01.2010.

The main route of HIV transmission from 1995 to 2007 inclusively was the parenteral route mostly by injection of narcotic drugs. In 2008 for the first time since 1995 a change occurred in the share of transmission routes: prevalence of sexual route over parenteral. In 2009 the share of people infected through the sexual route grew to 44%.

It is important to emphasize that between 1999 - 2006 the country experienced an increase in the absolute number of injecting drug users (IDU) among new HIV infection cases, with the annual reduction of their share in the total number of new HIV infection cases in Ukraine. In 2006-2009, almost the same number of HIV infected injecting drug users was registered in Ukraine while the percentage of IDUs continued to decrease (figure 4).

Another group having increased risk of HIV-infection are men having sex with men (MSM). Between 2005 - 2009 an increasing absolute number of HIV infection cases among representatives of this group was registered annually: 20, 35, 48, 65, 94, including AIDS cases. We can presume that there is a substantial under-registration of HIV-infection cases, related to sexual relationships among men.

**Figure. 4. Officially registered cases of HIV infection among IDUs by years**

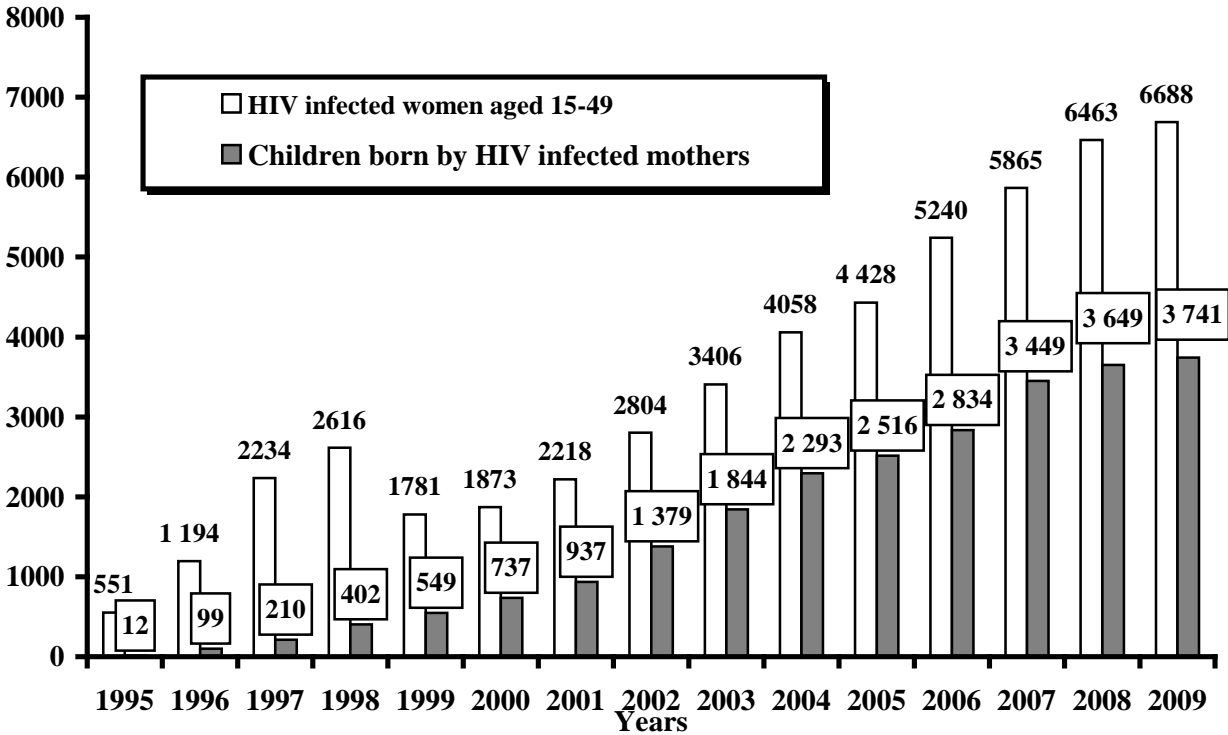


Ukraine does not register HIV-infection cases among commercial sex workers because this group can hardly be extracted from all sexual transmission cases. However, data of sentinel epidemiological point out at the broad and growing epidemic in this group.



A growing share of heterosexual HIV transmission route and the increasing number of HIV infected women of child-bearing age has promoted a gradual increase in number of infants born to HIV infected mothers. Although the infants initially test positive for HIV antibodies because of mother’s antibodies, most of them are negative. Newborn infants whose positive HIV-status is not confirmed at the age of 18 months (with the exception of the certain percentage of infants in whom the mother’s antibodies disappear later) have to be removed from the registration of HIV-infected persons. Despite the progress achieved in the mother-to-child transmission prevention in the country, the total number of children with the established HIV-infection status grows. By 01.01.2010 there were 2 418 children with the established HIV-infection diagnosis, including 575 children with AIDS and 6 222 children in the stage of HIV diagnosis confirmation.

**Figure 5. Total number of registered HIV infected women aged 15-49 and children born by them**



Since there is no evidence indicating that sexual transmission among the general population is the cause of most new HIV infection cases, Ukraine is still among countries where the epidemic is mainly concentrated in most-at-risk population groups (512,7 – 223,7 per 100 000 population).

**Territorial rating by statistical indicators**

The rating of Ukraine’s territories by the intensity of HIV/AIDS epidemic process is conducted according to the data of official reporting documents for 2009 and is based on levels’ rating (II) and average growth rates (T) of 7 statistical

indicators. For the first time, the complex assessment of epidemic situation includes such indicators as “*HIV-infection incidence among persons aged 15-24*” and “*AIDS mortality*”.

Territorial rating is stipulated by the chosen indicators and does not allow to estimate the epidemic situation to the full scale, but it allows to examine the specific features of HIV-infection prevalence by Ukraine’s territories.

The calculation of the final rating was conducted according to the methodology described in the methodical guidelines “Analysis of HIV-infection/AIDS situation by statistical indicators”, approved by the MOH of Ukraine of 03.04.2006.

The first rating points were assigned to the territories with lowest indicator values and their growth rates.

### *1. HIV-infection incidence ( $\Pi_1$ , $T_1$ ).*

In 2009, by the indicator of HIV-infection incidence ( $\Pi_1$ ) Dnipropetrovsk region ranks 27th among regions of Ukraine and this indicator has an increasing growth rate ( $T_1$ ) in 2007-2009 - 9, 16, 22 rating points respectively [Bulletin № 29, 31].

High levels of HIV-infection incidence are still preserved in Mykolaiv (26 rating points) and Donetsk regions (25 rating points). However, in Mykolaiv region this indicator’s growth rate was for the first time negative with 4 rating points. The positive tendency as of newly registered HIV-infection cases in Mykolaiv region is confirmed by the data of serum epidemiological monitoring. During 2007-2009 in the region against the growth in the number of tests performed by code 100 (from 64,7 thousand to 74,4 thousand), the decline in the indicator of HIV incidence could be observed (from 3 to 2,5%), moreover in 2009 according to the share of tests by codes 102, 104, 105 the region ranks second among all regions of Ukraine.

Regions with the first indicator rating points  $\Pi_1$  at the same time having the last indicator rating points  $T_1$  attract our attention, namely Lviv, Chernivzi, Sumy, Rivne regions, i.e. for today on these territories an active involvement of population into the epidemic process can be observed.

### *2. HIV-infection incidence among persons aged 15-24 ( $\Pi_2$ , $T_2$ ).*

According to UNAIDS and WHO guidelines HIV-infection incidence in young age groups reflects the rate of new HIV-infection cases because the threat of HIV-infection for this group appeared only recently.

By the rating of HIV-infection incidence among persons aged 15-24 ( $\Pi_2$ ) a more favorable epidemic situation can be observed in the western regions of Ukraine (but for Volyn region) and Kharkiv region. But by the growth rate of this indicator ( $T_2$ ) Zakarpattia, Chernivzi and Lviv regions rank 27<sup>th</sup>, 26<sup>th</sup> and 25<sup>th</sup>.

Negative growth in the number of newly registered HIV-infection cases can be observed in the regions with high level of HIV-infection incidence and in regions where the rating by indicators  $\Pi_2$  and  $T_2$  is considerably higher than the rating by indicators  $\Pi_1$  and  $T_1$  – Vinnytsa, Lugansk and Sumy regions.

### *3. AIDS incidence ( $\Pi_3$ , $T_3$ ).*

By the data of Reporting form #2 – HIV/AIDS, 62% of AIDS patients were injection drug users in general by Ukraine in 2009. Regions with high share of IDUs among new AIDS cases receive last rating points by the rating of AIDS incidence ( $\Pi_3$ ), namely Dnipropetrovsk region (27 rating points, 72 % of IDUs), Sevastopol city

(26 rating points, 80 % of IDUs), Donetsk region (25 rating points, 57 % of IDUs), Kyiv city (24 rating points, 80 % of IDUs), Kyiv region (23 rating points, 60 % of IDUs).

In 2009 in the AR Crimea, Lugansk, Mykolaiv and Odessa regions a decline in the indicator  $\Pi_3$  and its growth rate ( $T_3$ ) was observed if compared with the previous years. But if in the AR Crimea, Lugansk and Odessa regions rating points decline gradually, in Mykolaiv region a sudden improvement in the rating can be observed. Thus, in 2007, Mykolaiv region according to  $\Pi_3$  i  $T_3$  ranked 27<sup>th</sup> and 15<sup>th</sup>, in 2008 – 21<sup>st</sup> and 1<sup>st</sup> and in 2009 – 11<sup>th</sup> and 2<sup>nd</sup>. This rapid decrease in the level of AIDS incidence in the region (from 26,7 per 100 000 population in 2007 to 6,3 per 100 000 population in 2009) can be explained by the hypo-diagnosing of AIDS cases, rather than by the effective influence of ART. This is also the problem of other regions.

#### *4. AIDS mortality ( $\Pi_4$ , $T_4$ ).*

High levels of AIDS mortality can be observed in the regions with high AIDS incidence. By rating points of this indicator growth rate ( $T_4$ ) in Sumy region (27 points), Rivne region (25 points), Chernigiv region (24 points) and Lviv region (23 points) a rapid growth in the number of AIDS mortal cases can be observed.

The question of data credibility concerning the number of registered AIDS cases is topical for many regions of Ukraine. For example, in 2009 Odessa region is still the region with high level of AIDS prevalence (470,7 per 100 000 population), by indicator  $\Pi_3$  it ranks 12<sup>th</sup>, by indicator  $\Pi_4$  – 23<sup>rd</sup>. But, in Dnipropetrovsk, Donetsk regions and Kyiv the indicators  $\Pi_3$  and  $\Pi_4$  get the same high rating points – 27, 25 and 24 respectively.

By the data of structural analysis of reasons for removal from the medical follow-up for 2007-2009 (Reporting form #2 – HIV/AIDS) in Odessa region against the decrease in the share of deaths from other illnesses ( from 18 to 14%) a sudden growth in the share of AIDS mortal cases was registered – from 15 to 49%. It can be presumed that in the mortal cases “from other illnesses” there is a share of AIDS-indicator illnesses.

This state of statistical reporting documents is caused first of all by the acting normative documents, used by physicians-infectionists and epidemiologists for the definitions of ‘AIDS’ term which are not brought in line by contents with each other:

- In the clinical protocol on HIV infection ART among adults and adolescents, approved by the MOH order #658 of 04.10.06 the term “AIDS” corresponds only to the IV clinical stage of HIV infection by the WHO criteria;
- In the statistical epidemiological forms, approved by the joint MOH and State Statistical Committee order under №640/663 of 24.12.2004 the term “AIDS” is determined by the presence of AIDS-indicator states and illnesses by CDC criteria.

#### *5. Indicators by the data of sentinel epidemiological surveillance over HIV-infection*

Blood donor infection incidence ( $\Pi_5$ ) in 2009 as in the previous year remains the highest in Mykolaiv, Odessa, Kirovograd and Kyiv regions. The highest growth rates of this indicator ( $T_5$ ) can be observed in Ternopil, Lviv, Zaporizzhia, Rivne and Zakarpattia regions

Active spread of HIV-infection in the general population by the rating of HIV-infection incidence among pregnant women ( $\Pi_6$ ) can be observed in Kyiv, Dnipropetrovsk, Mykolaiv and Kirovograd regions, although high ratings of  $T_6$  indicator belong to Volyn, Kyiv and Lviv regions.

The most unfavorable epidemic situation by the level and growth rate of HIV infection incidence among IDUs ( $\Pi_7$  and  $T_7$ ) is registered in Kyiv city, Kyiv region, Ivano-Frankivsk region, Lviv region, Chernigiv region, Odessa and Kirovograd regions.

Thus, by the final rating of epidemiological and statistical indicators in 2009, the first three places among the regions of Ukraine can be given to Ternopil, Chernivtzi, and Zakarpattia regions.

The most unfavorable epidemic situation is registered in Odessa (24 rating points), Chernigiv (25 rating points) and Dnipropetrovsk (26 rating points) regions. The last rating place during 2007-2009 among all regions of Ukraine belongs to Kyiv region.

### **Medical support provision to HIV-infected persons and AIDS patients**

Antiretroviral therapy (ART) is an integral part of the program of complex medical support provision to HIV-infected persons along with the diagnostics, prevention and treatment of opportunistic infections (OI), co-infections – tuberculosis and virus hepatitis, palliative support, etc.

The primary task of ART is to preserve full value and quality of health and to prolong the life of HIV-infected person. Besides, effective ART has preventive meaning because in case of undiagnosable HIV viral load level in the patient's blood the risk of HIV infection transmission is considerably reduced.

From the economic viewpoint, the provision of appropriate access to ART leads to the reduction of load on the health care system through the economy in expenditures on IO treatment, hospitalization, care of seriously ill patients.

Begun only in 2001 in two cities Kyiv and Odessa, ART today is provided in 27 regions of the country and two national centers: AIDS clinic SI "Institute of Epidemiology and Infectious Diseases named after L.V. Gromashevsky" at AMS of Ukraine and Center "Clinic for curing children, patients with HIV-infection/AIDS" at the National child specialized hospital "OKHMADIT" of the MOH of Ukraine.

By 01.01.2010 there were 15 871 persons on ART in Ukraine, among them at the expense of the State budget costs - 14 468 persons (91,2%) and 1 403 (8,8%) – at the expense of the Round 6 costs of the Global Fund to Fight AIDS, TB and malaria (GF Rd 6) in the framework of the program implementation "Supporting HIV/AIDS prevention, treatment and care for most vulnerable populations in Ukraine" (mainly patients with double (HIV/TB) and triple HIV/TB/IDU pathology).

Materials, given in this bulletin are the result of data generalization and analysis from the reporting forms of the national monitoring system over HIV-

infected persons and AIDS patients treatment (System of treatment monitoring), approved by the MOH order #187 of 07.04.2008.

It is planned to collect information on the number of people receiving and waiting for ART (needing, but not receiving ART) with distribution by sex, age, treatment schemes, financing sources to estimate access to treatment in Ukraine. The ground for inclusion into the waiting list are the states identified by Clinical protocols (Clinical protocol ART for HIV-infection in adults and adolescents, approved by the MOH order #658 of 04.10.2006; Clinical protocol antiretroviral treatment and medical surveillance over HIV infected children, approved by the MOH order #182 of 13.04.2007).

This System of treatment monitoring permits to estimate access to treatment for various groups of patients:

- With active TB – persons with diagnosed lung or out of lung TB;
- Active injection drug users – persons who use drugs every day or used drugs in the last 30 days;
- With active virus hepatitis – persons with diagnosed active virus B and C hepatitis.

The total need in ART, by the data of form #56 is 23 297 persons by 01.01.2010. Among people needing ART but not receiving it there are 7 426 persons, including 221 children. *These indicators include only those patients, who are under active medical follow-up and registered in the System of treatment monitoring. Information on patients under the medical follow-up is collected with organizational and methodical support from Ukrainian Center for AIDS prevention.*

**Table 1. Total number of HIV-infected persons and AIDS patients receiving ART in Ukraine by regions and by financing sources**

№ п/ п	Region/Organization	Adults		Children	Total
		State budget	GF Round 6	State budget	
1	AR Crimea	1048	82	117	<b>1247</b>
2	Vinnitsa	228	55	19	<b>302</b>
3	Volyn	116	32	24	<b>172</b>
4	Dnipropetrovsk	1486	182	319	<b>1987</b>
5	Donetsk	2479	177	272	<b>2928</b>
6	Zhytomyr	102	9	24	<b>135</b>
7	Zakarpattia	11	0	4	<b>15</b>
8	Zaporizzhia	309	33	38	<b>380</b>
9	Ivano-Frankivsk	100	14	8	<b>122</b>
10	Kyiv region	250	45	51	<b>346</b>
11	Kirovograd	71	2	19	<b>92</b>
12	Lugansk	411	53	23	<b>487</b>
13	Lviv	109	10	22	<b>141</b>
14	Mykolaiv	983	115	112	<b>1210</b>
15	Odessa	1444	48	187	<b>1679</b>

16	Poltava	237	29	30	<b>296</b>
17	Rivne	55	17	5	<b>77</b>
18	Sumy	93	16	12	<b>121</b>
19	Ternopil	36	4	3	<b>43</b>
20	Kharkiv	258	25	33	<b>316</b>
21	Kherson	281	31	42	<b>354</b>
22	Khmelnitskiy	141	25	34	<b>200</b>
23	Cherkasy	116	28	46	<b>190</b>
24	Chernivtzi	48	5	42	<b>95</b>
25	Chernigiv	124	16	38	<b>178</b>
26	Kyiv city	1089	142	82	<b>1313</b>
27	Sevastopol city	258	50	23	<b>331</b>
28	Ohmatdyt clinic	12	11	85	<b>108</b>
29	Institute of epidemiology and infectious diseases at AMS of Ukraine	856	147	3	<b>1006</b>
	<b>Total</b>	<b>12751</b>	<b>1403</b>	<b>1717</b>	<b>15871</b>

**Table 2. Total number of HIV infected persons and AIDS patients receiving ART and needing ART in Ukraine**  
(by the data of form #56)

Category of persons	Number of persons	
	Receiving ART	Waiting for ART
<i>A</i>	<i>1</i>	<i>2</i>
<b>Total, among them:</b>	<b>15 871</b>	<b>7 426</b>
<i>men, among them</i>	<i>8 356</i>	<i>3 954</i>
children	821	104
<i>women, among them</i>	<i>7 515</i>	<i>3 472</i>
children	896	117
Among them:		
<b>With status active TB</b>	915	1 207
<b>With status active IDU</b>	1 194	902
<b>With status active VH</b>	968	746

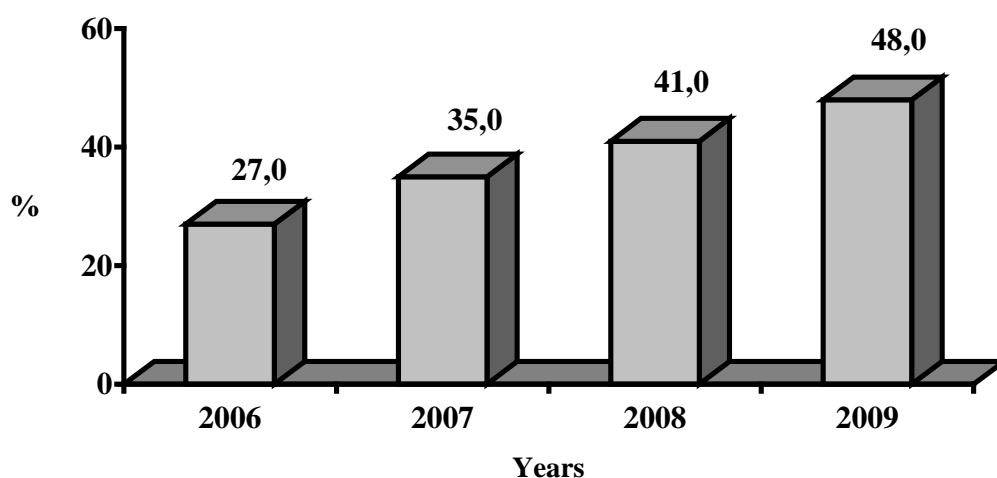
In the framework of the Country Progress Report on the follow-up to the Declaration of Commitment on HIV/AIDS preparation (UNGASS report), reporting period January 2008-December 2010, the data of the form #56 on the number of people on ART was used for the national indicator #4 calculation “Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy”. In 2009 it was 48%. The indicator was counted according to the “Guidelines on construction of core indicators”, UNAIDS, 2009 per number of adults and adolescents with advanced HIV infection in Ukraine, by the Spectrum program based on the data of state statistical reporting form #2 HIV/AIDS “Report on HIV infected persons and AIDS patients”, annual. The number of adults and adolescents with advanced HIV infection in Ukraine was counted in 2008 by a group of international and national experts in the framework of financial calculations for the State Program of HIV-prevention, treatment, care and support of HIV-positive and people with AIDS for 2009 – 2013.

**Table № 3. Calculated numbers of adults and adolescents with advanced HIV infection in Ukraine**  
(by „Spectrum” program based on form № 2-HIV/AIDS)

Years	2009	2010	2011	2012	2013
Number of persons	33 016	42 754	56 801	76 107	98 874

When comparing the indicator of ART coverage of persons with advanced HIV infection in Ukraine for 2008-2009 (41% and 48%) with the corresponding indicator for the previous years the slight progress in this indicator can be observed.

**Figure 6. History of ART coverage among adults and adolescents with advanced HIV infection in Ukraine**



ART coverage at the level of 80% will have substantial influence on the levels of AIDS incidence and indicators of mortality of AIDS related diseases and direct influence on the decrease in the level of HIV transmission.

The insufficient level of ART coverage of HIV infected persons, having need in ART for the recent years indicates at the necessity of urgent mobilization of efforts of state and private sectors concerning provision of universal access to diagnostics, treatment, care and support to HIV infected persons and AIDS patients.

According to the data of form #56 among persons on ART there are 14 154 adults (aged over 15) – 89,2% and 1717 children (aged 0-14 years inclusively) – 10,8%. The children receive ART only at the expense of the state budget.

The share of men needing ART makes 52,8% (12310 persons), women – 47,2% (10987 persons). Among persons receiving ART men make 52,7% (8356), women – 47,3% (7515) which indicates at the equal access of men and women to ART.

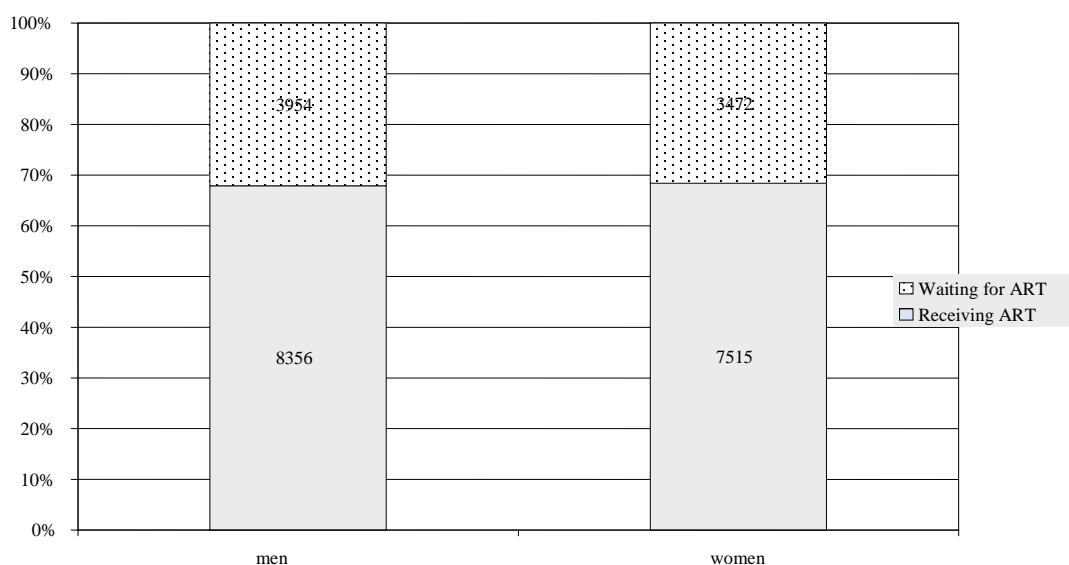
The share of persons waiting for and receiving ART among men and women is given in figure 7.

Despite the fact that the injection drug users are still the motive power of the epidemic, the share of IDUs among persons receiving ART makes only 7,5% (this indicator does not include patients receiving ART and SST simultaneously). The low share of IDUs in officially registered persons having need in ART – 9% indicates that the above mentioned category has the limited access not only to ART, but also to the medical aid as a whole.

The existing Treatment monitoring system allows to track ART schemes in people receiving it. The first row ART schemes are received by 14 491 persons (91,3%), the second row ART schemes – by 1361 persons (8,6%), salvation schemes – by 19 persons (0,1%).



**Figure 7. Proportion of persons receiving and waiting for ART among women and men**



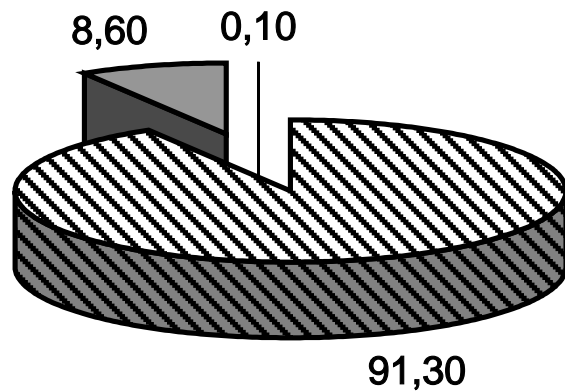
**Table 4. Number of HIV infected persons and AIDS patients in Ukraine, receiving first row, second row and salvation schemes of ART by financing sources**

*(by the data of reporting form № 56)*

Contingent	Number of persons receiving ART		Total
	State budget	GF Round 6	
<b>Total number of adults and children on ART, among them</b>	<b>14 468</b>	<b>1 403</b>	<b>15 871</b>
<b>Receive first row ART schemes, among them</b>	<b>13 183</b>	<b>1 308</b>	<b>14 491</b>
Adults	11 712	1 308	13 020
Children	1 471	0	1 471
<b>Receive second row ART schemes, among them</b>	<b>1 268</b>	<b>93</b>	<b>1 361</b>
Adults	1 030	93	1 123
children	238	0	238
<b>Receive salvation schemes, Among them</b>	<b>17</b>	<b>2</b>	<b>19</b>
Adults	9	2	11
Children	8	0	8

The structure of ART schemes, received by patients by 01.01.2010 is given in the figure 8.

**Figure 8. Structure of ART schemes, received by the patients by 01.01.2010**



1st row schemes
  2nd row schemes
  Salvation schemes

152 combinations of ART medications are used for the treatment, among them based on:

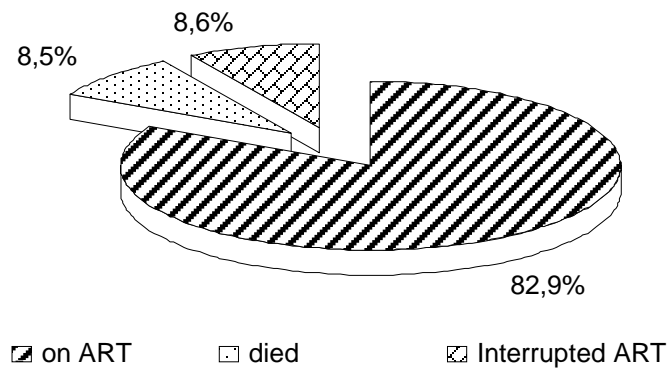
- NNRTI (Non-nucleoside reverse transcriptase inhibitors)
- +2NRTI (Nucleoside and nucleotide reverse transcriptase inhibitors) – 56 combinations;
- PIs (protease inhibitors) + 2NRTI - 74 combinations;
- Three NRTI - 14 combinations;
- Other combinations - 8.

The treatment results estimates are performed through cohort analysis in 6, 12, 24, 36 months and so on from the beginning of treatment (by the form #57).

Cohort is a group of HIV infected persons and AIDS patients who started ART during the same month (for example January 2006, June 2008 and so on). The regular medical observation allows to estimate the treatment effectiveness in cohort by determined time intervals.

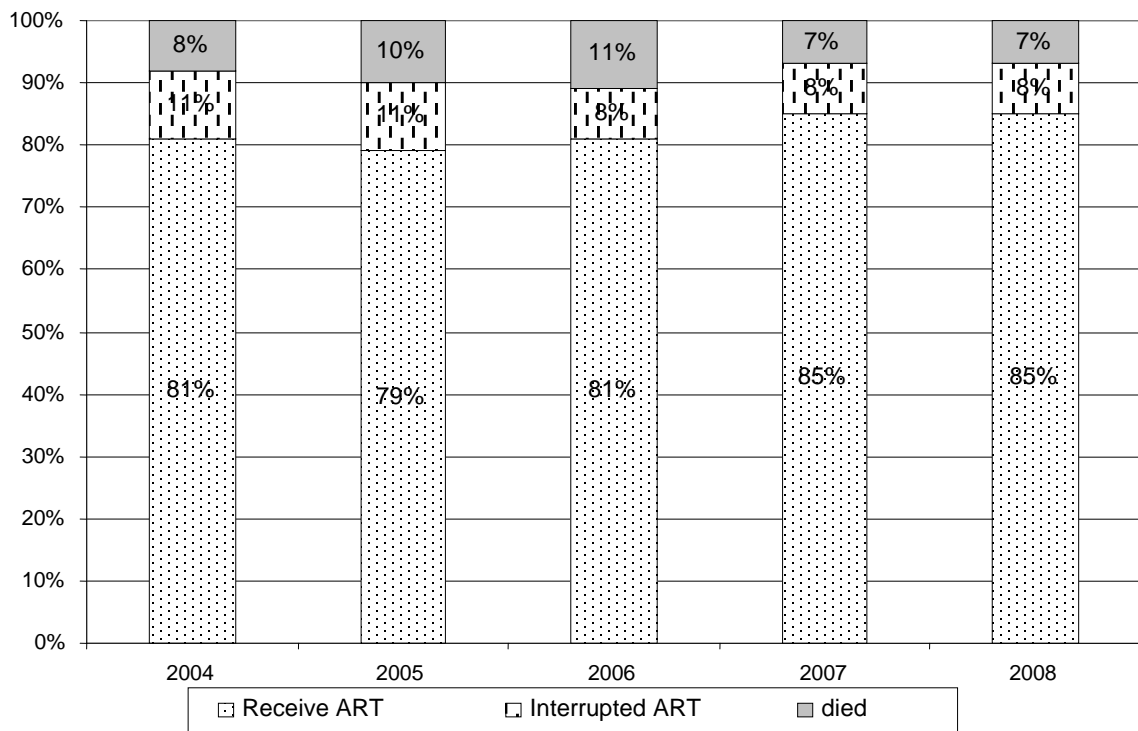
The generalized data of cohort analysis for the period August 2004 - December 2008 showed that in 12 months 82,9% of persons who started ART treatment in cohorts continued to receive it (minimal indicator of survival), 8,5% of persons died during the year after the treatment start 8,6% - interrupted ART mainly due to non-medical reasons. The highest indicator of survival in 12 months (number of people in cohort who survived) was 91,5%.

**Figure 9. Structure of cohort in 12 months after treatment start**  
*(general data on cohort with the treatment period of 12 months, period 08.2004 – 12.2008)*



The generalized data on cohorts by years is given in figure 4.

**Figure 10. Structure of yearly cohorts in 12 months after treatment start**



According to the generalized data of cohort analysis for the period August 2004 – December 2008, in 12 months 81% of persons out of the general number of patients continued to receive first row ART treatment scheme. At the same time, among persons who continued ART treatment in cohort in 12 months, the first row ART schemes were received by 97,8% of patients.

To estimate the ART influence on patients' health the monitoring of their functional status is done by the following criteria:

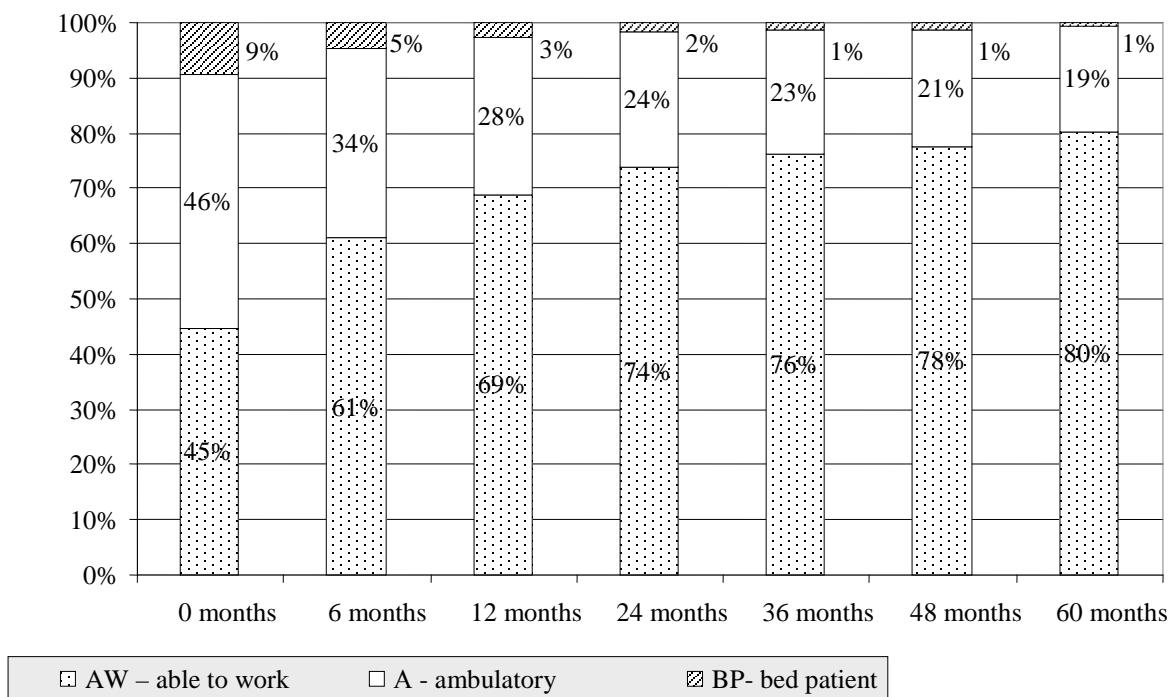
- "Able to work" have patients whose physical activity is not limited, the patients can do everyday activities in family and at work;

- “Ambulatory” have patients whose physical activity is limited, patients are not able to do their professional work, but are able to care for themselves. Can do everyday housework;
- “Bed-patient” have those who are not able to care for themselves, who need outside help;

In figure 11 you can find the results of cohort analysis by functional status change in patients under ART at the beginning of the treatment and in 6, 12, 24, 36, 48, 60 months. The clear tendency can be observed towards improvement of the physical state of the patients under ART directly tied to the duration of treatment. If at the beginning of ART only 45% of patients were given status “able to work”, then in 5 years this proportion has grown to 80%.

**Figure 11. Structure of cohort by the functional status among cohort members receiving ART**

*(aggregated data of all cohorts for the period 08.2004 – 06.2009 )*



An integral part of ART success is the provision of adherence to ART, that is keeping up with recommendations on the timely and correct dose of ART medications. ART adherence is:

“High” if the patient misses less than 3 doses of medications during the month;

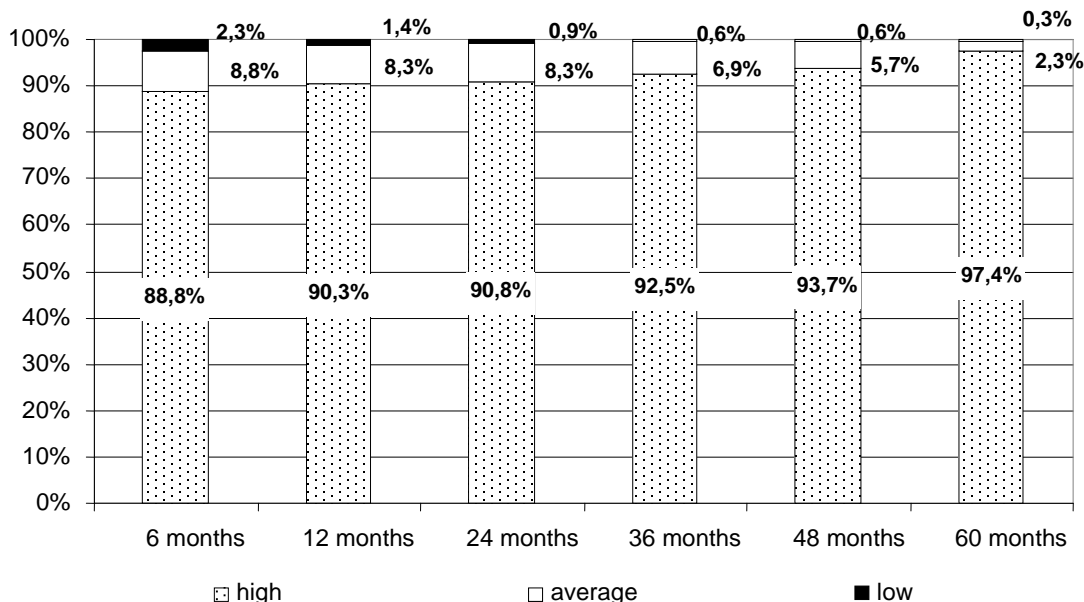
“Average” if the patient misses from 4 to 8 doses of medications during the month;

«Low», if the patient misses 9 and more doses of medication during the month.

Figure 12 gives the results of cohort analysis by the level of adherence to ART in patients of the cohort in 6, 12, 24, 36, 48, 60 months after treatment start. The given results confirm the theory that adherence to ART is formed in the first 6-12 months of treatment. In the cohort of patients receiving ART for 5 months, 97,4% demonstrate high adherence to ART. The cases of low or average adherence to ART demand thorough examination and measures for its improvement.

**Figure 12. Structure of adherence among persons receiving ART above 6 months**

*(aggregated data of all cohorts for the period 08.2004 – 06.2009 )*



The given general indicators, namely survival, keeping at ART indicate at the positive tendencies in the system of aid provision to patients and at the same time underline the importance of access to ART provision for all who have need in it. Treatment of HIV infected persons having tuberculosis is extremely difficult. Patient with high risk of HIV infection progress and high level of mortality have to start ART before the end of antituberculosis treatment which will help to increase the treatment effectiveness and decrease mortality of tuberculosis. For today among HIV infected persons receiving ART only 6% have active tuberculosis.

In the framework of UNGASS report preparation the national indicator #6 “Percentage of patients that received treatment for TB during a year among the HIV-infected persons that received antiretroviral therapy as of the reporting year end, relative to an estimated HIV-positive incident TB cases” made 21% in 2008. The calculations were based on the previous estimates of WHO on the number of TB cases among people living with HIV/AIDS in Ukraine in 2008 (in absolute numbers – 3 593 persons). The number of persons who received TB treatment in 2008 among

those who received ART by the end of 2008 was 740 persons (by the data of form #025/o “Medical card of the ambulatory patient”).

In 2007-2008 several steps have been taken to early diagnose TB among HIV infected persons and provide appropriate treatment, among other with financial support from the “All-Ukrainian Network of People Living with HIV” within the program “Supporting HIV/AIDS prevention, treatment and care for most vulnerable populations in Ukraine” supported by the GF, Round 6.

It should be mentioned that by the acting “Clinical protocol on antiretroviral treatment for HIV-infection among adults and adolescents”, 2006, which determines unitary standardized approaches to aid provision to HIV infected persons in Ukraine, in case of co-infection HIV/TB ART is prescribed when the antituberculosis treatment course has finished. ART before the finish of antituberculosis treatment is only prescribed to patients with high risk of HIV infection progress and threat of mortal consequences.

Currently the “Clinical protocol on antiretroviral treatment for HIV infection among adults and adolescents” is being reviewed, where TB in HIV infected person will become the indication for ART subscription, which will considerably contribute to the increase in the simultaneous treatment for TB and HIV infection. This measure will contribute to the considerable decrease in mortality of HIV infected persons ill with TB.

In 2009 among HIV infected persons prevention and treatment of 31 302 cases of opportunistic infections or co-infections has been made by the medicines provided at the expense of the state budget, World Bank credit and GF Round 6 grant.

### **Access of most-at-risk populations to STI treatment in 2009 in Ukraine**

Diagnostics and treatment of sexually transmitted infections (STI) as an integral part of prevention services to risk groups representatives are often inaccessible for them because of the high cost of examination, prevention and treatment, threat of their social and HIV status revelation, low motivation in addressing to the medical facilities, insufficient coordination among various health care facilities and nongovernmental organizations.

STI infection increases vulnerability to HIV infection, because it leads to mucous membrane wounds. At the same time HIV infection leads to unfavorable course of STI.

In Ukraine with financial support from the ICF “International HIV/AIDS Alliance in Ukraine” work is being done to provide risk groups (injection drug users, commercial sex workers, men having sex with men) access to diagnostics and treatment of STI, also through provision of organizational-methodical grounds for cooperation between medical facilities and civil organizations (CO).

Medicines for STI treatment in risk groups, procured at the expense of the Global Fund to fight AIDS, tuberculosis and malaria, have been given to 86 treatment and prevention facilities. By 01.01.2010 13 346 risk groups representatives received STI treatment.

To provide access of risk groups representatives to STI diagnostics and treatment services it is necessary to set up tight cooperation between treatment and prevention facilities and civil organizations, working with above mentioned groups and bring into compliance diagnostics and treatment of STI in risk groups with the international standards, including the syndrome approach introduction.

**Table 5. Sexually transmitted infections treatment for the costs of Global Fund to fight AIDS, tuberculosis and malaria, by 01.01.2010**

№	Facility name	by 01.01.2010	
		Started cases	Finished cases
<b>Ukraine</b>		<b>13989</b>	<b>13346</b>
1	Crimean republican AIDS Control and Prevention Center	991	991
2	Children's territorial medical center, dermatovenerologic department, Evpatoria city	395	391
3	Vinnytsia regional dermatovenerologic dispensary	22	22
4	Vinnytsia regional AIDS Control and Prevention Center	134	134
5	Volyn regional AIDS Control and Prevention Center	91	89
6	Dnipropetrovsk regional dermatovenerologic dispensary	285	243
7	Novomoskovsk city hospital	142	142
8	Kryvyi Rig dermatovenerologic dispensary	196	164
9	Ordzhonikidze city hospital	72	72
10	Pavlograd city hospital #1 dermatovenerologic dispensary	335	243
11	Dniprodzherdzynsk city hospital №6	119	106
12	Pershetravnya city hospital	109	109
13	Nikopol city hospital №3	50	50
14	Dnipropetrovsk regional AIDS center	204	179
15	Kryvyi Rig city AIDS Center	254	231
16	Dnipropetrovsk city clinical hospital № 17	19	19
17	Zhovti Vody specialized medical sanitary unit №9	13	8

№	Name of establishment	By 01.01.2010	
		Started cases	Finished cases
18	Marganets central city hospital, polyclinic №1	9	9
19	Donetsk city dermatovenerologic dispensary № 1	530	523
20	Donetsk regional dermatovenerologic dispensary	44	44
21	Gorlivka city dermatovenerologic dispensary	93	90
22	Druzhkivka city dermatovenerologic dispensary	13	13
23	Dzerdzhynsk city dermatovenerologic dispensary	60	60
24	Mariupol city dermatovenerologic dispensary	30	29
25	Kostyantynivsk city dermatovenerologic dispensary	95	94
26	Yenakieve city dermatovenerologic dispensary	8	8
27	Debaltseve central city hospital	5	5
28	Dymytrivsk central city hospital	10	10
29	Krasnoarmiysk central district hospital	1	1
30	Sloviansk city dermatovenerologic dispensary	30	26
31	Krasniy Lyman central district hospital	99	98

32	Makiyivka city dermatovenerologic dispensary	16	16
33	Kramatorsk city dermatovenerologic dispensary	5	5
34	Shahtarska central city hospital of Donetsk region	151	152
35	Zhytomyr AIDS Control and Prevention Center	75	72
36	Zhytomyr regional dermatovenerologic dispensary	76	68
37	Zakarpattia regional dermatovenerologic dispensary	267	260
38	Zakarpattia AIDS Control and Prevention Center	151	151
39	Zaporizzhia dermatovenerologic dispensary	95	95
40	Zaporizzhia AIDS Control and Prevention Center	138	135
41	Ivano-Frankivsk regional clinical dermatovenerologic dispensary	134	127
42	Bila Tserkva territorial medical center №1	137	123
43	Fastiv central district hospital	15	15
44	Lugansk regional dermatovenerologic dispensary	151	145
45	Lugansk AIDS Control and Prevention Center	138	105
46	Kirovograd regional dermatovenerologic dispensary	51	48
47	Lviv regional AIDS Control and Prevention Center	233	230
48	Mykolaiv regional dermatovenerologic dispensary	973	938
49	Mykolaiv regional AIDS Control and Prevention Center	156	153
50	Odessa city AIDS Control and Prevention Center	132	130
51	Odessa regional dermatovenerologic dispensary	222	219
52	Yuzhnyi city polyclinic in Odessa region	168	157
53	Bilyayivsk central district hospital	193	192
54	Odessa city dermatovenerologic dispensary	291	285
55	Illichivsk pool-hospital on a water carriage	41	39
56	Bilgorod-Dnistrovske regional dermatovenerologic dispensary №2, in Odessa region	128	68
57	Odessa regional AIDS Control and Prevention Center	155	41
58	Kodymsk central district hospital	19	17

№	<i>Establishment name</i>	<i>By 01.01.2010</i>	
		<i>Started cases</i>	<i>Finished cases</i>
59	Kominternivsk district central district hospital, Odessa region	8	8
60	Izmail city dermatovenerologic dispensary	0	0
61	Izmail city hospital № 2	6	5
62	Poltava regional AIDS Control and Prevention Center	140	138
63	Rivne regional dermatovenerologic dispensary	138	135
64	Rivne regional AIDS Control and Prevention Center	39	39
65	Sumy regional dermatovenerologic dispensary	31	30
66	Sumy regional AIDS Control and Prevention Center	58	57
67	Ternopil regional AIDS Control and Prevention Center	39	37
68	Kharkiv regional dermatovenerologic dispensary	184	180
69	Kharkiv regional AIDS Control and Prevention Center	224	211
70	Kherson regional dermatovenerologic dispensary	49	46
71	Kherson city dermatovenerologic dispensary	721	720
72	Kahovsk central district hospital	181	180
73	Khmelnitsk regional dermatovenerologic dispensary	756	751
74	Khmelnitsk polyclinic № 4	67	67
75	Cherkasy regional dermatovenerologic dispensary	75	74
76	Uman city hospital	10	10
77	Smilansk city hospital № 2	12	12



78	Chernivtzi regional dermatovenerologic dispensary	476	475
79	Chernigiv regional AIDS Control and Prevention Center	91	83
80	Chernigiv regional dermatovenerologic dispensary	38	38
81	Dermatovenerologic dispensary № 2, Kyiv city	230	225
82	Dermatovenerologic dispensary № 3, Kyiv city	24	19
83	Interdisctrict clinical dermatovenerologic dispensary № 4 Kyiv city	341	341
84	Interdisctrict clinical dermatovenerologic dispensary № 5 Kyiv city	406	404
85	Kyiv city AIDS Control and Prevention Center	310	306
86	Dermatovenerologic dispensary, Sevastopol city	566	566

**List of national indicators for monitoring and evaluation  
of efficiency of the measures securing the HIV/AIDS epidemic control**

№ Of indicator	National indicators	Indicator value
<b>National commitment and action</b>		
<b>1</b>	Domestic and international AIDS spending by categories and financing sources	2007: Total USD 79.4 m (UAH 400.7 m), incl. USD 6.7 m (UAH 84.2 m) from the State Budget). 2008: Total USD 102.4 m (UAH 539.8 m), incl. USD 30.7 m (UAH 162 m) from the State Budget
<b>2</b>	National Composite Policy Index	2009: See Annex 2 to the Country Report
<b>National Programmes (blood safety, antiretroviral therapy coverage, prevention of mother-to-child transmission, co-management of TB and HIV treatment, HIV testing, prevention programmes, services for orphans and vulnerable children, and education)</b>		
<b>3</b>	Percentage of donated blood units screened for HIV in a quality-assured manner	2009: 0%
<b>4</b>	Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy	2008: 41% Children: 90%  2009: 48% Children: 100%
<b>5</b>	Percentage of HIV-infected pregnant women who received antiretrovirals to reduce the risk of mother-to-child transmission	2008: 95.5% 2009: 94.9%
<b>6</b>	Percentage of patients that received treatment for TB during a year among the HIV-infected persons that received antiretroviral therapy as of the reporting year end, relative to an estimated HIV-positive incident TB cases	2008: 21%
<b>7</b>	Percentage of women and men aged 15-49 who received an HIV test in the last 12 months and who know their results	2009: 13%
<b>8</b>	Percentage of most-at-risk populations who received an HIV test in the last 12 months and who know their results: - injecting drug users - commercial sex workers - men who have sex with men - prisoners	2009:  IDUs – 28% CSWs – 59% MSM – 43% Prisoners – 12%

<b>9</b>	Percentage of most-at-risk populations reached with HIV prevention programmes: - injecting drug users - commercial sex workers - men who have sex with men - prisoners	2009:  IDUs – 32 % CSWs – 59% MSM – 63% Prisoners – 15%
<b>10</b>	Percentage of orphaned and vulnerable children aged 0-17 whose households received free basic external support in caring for the child	Does not correspond to the epidemic recorded in Ukraine
<b>11</b>	Percentage of comprehensive educational institutions in Ukraine that have trained teachers and that provided life skills-based education concerning the formation of healthy lifestyle and HIV prevention in the last academic year	2009: 58.7%
<b>Knowledge and behavior</b>		
<b>12</b>	Current school attendance among orphans and non-orphans aged 10–14	Does not correspond to the epidemic recorded in Ukraine
<b>13</b>	Percentage of young people aged 15–24 who both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission	2009: 40%
<b>14</b>	Percentage of most-at-risk populations who both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission: - injecting drug users - commercial sex workers - men who have sex with men - prisoners	2009:  IDUs – 55% CSWs – 51% MSM – 71% Prisoners – 41%
<b>15</b>	Percentage of young women and men aged 15-24 who have had sexual intercourse before the age of 15	2009: 2.4%
<b>16</b>	Percentage of women and men aged 15-49 who have had sexual intercourse with more than one partner in the last 12 months	2009: 15%
<b>17</b>	Percentage of women and men aged 15-49 who had more than one partner in the past 12 months who used a condom during their last sexual intercourse	2009: 61%
<b>18</b>	Percentage of respondents who provided commercial sex services in the last 12 months and reported using condoms during sexual intercourse with their last client	2009: 88%
<b>19</b>	Percentage of men reporting the use of a condom the last time they had anal sex with a male partner	2009: 64%
<b>20</b>	Percentage of injecting drug users reporting the use of a condom the last time they had sexual intercourse	2009: 48%
<b>21</b>	Percentage of injecting drug users reporting the use of sterile injecting equipment the last time they injected	2009: 87%
<b>Impact</b>		
<b>22</b>	Percentage of young women and men aged 15-24 who are HIV infected	Does not correspond to the epidemic recorded in Ukraine

<b>23</b>	Percentage of most-at-risk populations who are HIV-infected: - injecting drug users - commercial sex workers - men who have sex with men - prisoners	2009:  IDUs – 23.8 % CSWs – 13.4 % MSM – 8,6 % Prisoners – 15,0%
<b>24</b>	Percentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy	2009: 85%
<b>25</b>	Percentage of infants born to HIV-infected mothers who are infected	2007: 6.2%

**Table 6. History of Registration of New HIV Infections, AIDS Cases and Deaths of AIDS  
for the period of 1987 - 2009 in Ukraine**

HIV infected people	Years													<b>1987 - 2009</b>
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Number of people with the firstly established HIV infection diagnosis, total	8 934	8 590	5 830	6 216	7 009	8 761	10 013	12 494	13 786	16 094	17 687	18 973	19 859	<b>161 506</b>
including:														
- citizens of Ukraine	8 913	8 575	5 827	6 212	7 000	8 756	10 009	12 491	13 770	16 078	17 669	18 963	19 840	<b>161 119</b>
- foreign citizens	21	15	3	4	9	5	4	3	16	16	18	10	19	<b>387</b>
Number of people with the firstly established AIDS diagnosis, total:	193	399	586	648	868	1 356	1 916	2 745	4 220	4 729	4 575	4 386	4 446	<b>31 288</b>
including:														
- citizens of Ukraine	189	398	586	647	867	1 353	1 915	2 743	4 217	4 723	4 573	4 380	4 437	<b>31 241</b>
- foreign citizens	4	1	0	1	1	3	1	2	3	6	2	6	9	<b>47</b>
Number of people, who died of AIDS, total	85	150	253	415	474	837	1 285	1 775	2 188	2 425	2 508	2 714	2 594	<b>17 819</b>
including:														
- citizens of Ukraine	82	148	253	414	473	834	1 285	1 775	2 188	2 420	2 507	2 710	2 591	<b>17 791</b>
- foreign citizens	3	2	0	1	1	3	0	0	0	5	1	4	3	<b>28</b>

**Table 7. HIV Infection Incidence in Ukraine in 2006-2009**

Regions	2007			2008			2009		
	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %
<b>Ukraine</b>	<b>17 669</b>	<b>38,0</b>	<b>+ 10,5</b>	<b>18 963</b>	<b>40,9</b>	<b>+ 7,6</b>	<b>19 840</b>	<b>43,2</b>	<b>+ 5,7</b>
AR Crimea	959	48,6	+ 19,7	1 004	51,1	+ 5,1	1 111	56,8	+ 11,1
Vinnitsa	336	20,0	+ 4,6	311	18,6	- 7,0	321	19,5	+ 4,7
Volyn	209	20,1	+ 21,8	244	23,6	+ 17,4	262	25,3	+ 7,4
Dnipropetrovsk	2 668	78,2	+ 9,0	3 084	90,5	+ 15,7	3 626	107,8	+ 19,1
Donetsk	3 773	82,7	+ 5,5	3 992	87,8	+ 6,2	4 061	90,8	+ 3,4
Zhitomyr	266	20,3	+ 8,6	340	25,9	+ 27,6	344	26,6	+ 2,8
Zakarpattia	43	3,5	+ 94,4	42	3,4	- 2,9	50	4,0	+ 19,0
Zaporizhja	454	24,7	+ 5,6	526	28,6	+ 15,8	500	27,5	- 3,7
Ivano-Frankivsk	97	7,0	+ 37,3	166	12,0	+ 71,4	117	8,5	- 29,4
Kyiv	633	36,3	+ 28,3	700	40,3	+ 11,0	730	42,5	+ 5,4
Kyrovograd	269	25,7	+ 19,5	239	23,0	- 10,5	254	25,0	+ 8,7
Luhansk	546	23,0	+ 16,8	678	28,7	+ 24,8	610	26,3	- 8,3
Lviv	255	9,9	+ 5,3	315	12,4	+ 25,3	462	18,2	+ 47,4
Mykolayiv	1 167	96,6	+ 12,0	1 189	98,5	+ 2,0	1 130	94,8	- 3,8
Odessa	1 704	71,2	+ 16,2	1 555	65,2	- 8,4	1 568	65,9	+ 1,0
Poltava	386	25,2	+ 33,3	378	24,8	- 1,6	407	27,2	+ 9,6
Rivne	158	13,7	+ 50,5	216	18,7	+ 36,5	240	20,9	+ 11,3
Sumy	179	14,9	+ 25,2	184	15,3	+ 2,7	214	18,2	+ 18,8
Ternopil	123	11,2	+ 7,7	129	11,7	+ 4,5	104	9,6	- 18,6
Kharkiv	453	16,2	+ 4,5	517	18,5	+ 14,2	555	20,1	+ 8,4
Kherson	550	49,4	+ 12,0	589	53,0	+ 7,3	591	54,0	+ 1,8
Khmelnitsky	238	17,5	- 19,0	201	14,9	- 14,9	263	19,7	+ 32,6
Cherkassy	375	28,4	+ 14,5	357	27,1	- 4,6	389	30,0	+ 10,8
Chernivtsi	67	7,4	+ 48,0	90	10,0	+ 35,1	99	11,0	+ 10,1
Chernihiv	349	30,5	+ 19,6	437	38,5	+ 26,2	483	43,6	+ 13,3
Kyiv city	1 183	43,4	+ 2,4	1 258	46,8	+ 7,8	1 094	40,0	- 14,5
Sevastopol city	229	60,4	- 14,9	222	58,8	- 2,6	255	67,4	+ 14,6

**Table 8. AIDS Incidence in Ukraine in 2006 - 2009**

Regions	2007			2008			2009		
	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %
<b>Ukraine</b>	<b>4 573</b>	<b>9,8</b>	<b>- 3,0</b>	<b>4 380</b>	<b>9,5</b>	<b>- 3,1</b>	<b>4 437</b>	<b>9,7</b>	<b>+ 1,8</b>
AR Crimea	227	11,5	+ 18,6	233	11,9	+ 3,5	180	9,2	- 22,4
Vinnitsa	114	6,8	+ 11,5	117	7,0	+ 2,9	152	9,2	+ 31,8
Volyn	80	7,7	+ 51,0	77	7,4	- 3,9	80	7,7	+ 4,0
Dnipropetrovsk	715	21,0	- 31,4	782	23,0	+ 9,5	928	27,6	+ 20,3
Donetsk	1 209	26,5	- 8,6	940	20,7	- 21,8	814	18,2	- 12,0
Zhitomyr	84	6,4	+ 14,3	106	8,1	+ 26,6	111	8,6	+ 6,4
Zakarpattia	3	0,2	- 60,0	5	0,4	+ 100,0	5	0,4	- 0,1
Zaporizhja	122	6,6	+ 34,7	133	7,2	+ 9,1	144	7,9	+ 9,6
Ivano-Frankivsk	17	1,2	- 29,4	29	2,1	+ 75,0	41	3,0	+ 41,7
Kyiv	217	12,4	+ 55,0	155	8,9	- 28,2	192	11,2	+ 25,2
Kyrovograd	48	4,6	- 2,1	59	5,7	+ 23,9	54	5,3	- 6,4
Luhansk	156	6,6	+ 73,7	200	8,5	+ 28,8	176	7,6	- 10,3
Lviv	75	2,9	- 27,5	114	4,5	+ 55,2	118	4,7	+ 4,0
Mykolayiv	322	26,7	+ 51,7	109	9,0	- 66,3	75	6,3	- 30,3
Odessa	186	7,8	- 25,7	179	7,5	- 3,8	165	6,9	- 7,7
Poltava	110	7,2	- 10,0	101	6,6	- 8,3	136	9,1	+ 37,0
Rivne	32	2,8	+ 86,7	25	2,2	- 21,4	16	1,4	- 35,9
Sumy	14	1,2	- 72,1	52	4,3	+ 258,3	65	5,5	+ 27,7
Ternopil	46	4,2	- 2,3	32	2,9	- 40,0	21	1,9	- 33,7
Kharkiv	73	2,6	+ 18,2	94	3,4	+ 30,8	102	3,7	+ 9,6
Kherson	63	5,7	- 26,0	79	7,1	+ 24,6	91	8,3	+ 16,8
Khmelnitsky	58	4,3	- 14,0	69	5,1	+ 18,6	72	5,4	+ 5,7
Cherkassy	161	12,2	+ 18,4	176	13,4	+ 9,8	129	9,9	- 25,5
Chernivtsi	40	4,4	0	36	4,0	- 9,1	10	1,1	- 72,2
Chernihiv	57	5,0	+ 16,3	70	6,2	+ 24,0	99	8,9	+ 45,0
Kyiv city	266	9,8	+ 75,0	345	12,8	+ 30,6	376	13,8	+ 7,2
Sevastopol city	78	20,6	- 28,2	63	16,7	- 18,9	85	22,5	+ 34,6

**Table 9. Mortality of AIDS in Ukraine in 2006-2009**

Regions	2007			2008			2009		
	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %	Abs. number	Per 100,000	Growth rate, %
<b>Ukraine</b>	<b>2 507</b>	<b>5,4</b>	<b>+ 3,8</b>	<b>2 710</b>	<b>5,8</b>	<b>+ 7,4</b>	<b>2 591</b>	<b>5,6</b>	<b>- 2,6</b>
AR Crimea	165	8,3	0	151	7,7	- 7,2	105	5,4	- 30,2
Vinnitsa	40	2,4	+ 14,3	58	3,5	+ 45,8	58	3,5	+ 1,4
Volyn	38	3,7	+ 2,8	53	5,1	+ 37,8	38	3,7	- 28,3
Dnipropetrovsk	426	12,4	- 22,5	529	15,5	+ 25,0	525	15,6	+ 0,6
Donetsk	741	16,1	+ 12,6	817	18,0	+ 11,8	629	14,1	- 21,7
Zhitomyr	41	3,1	+ 6,9	53	4,0	+ 29,0	66	5,1	+ 26,5
Zakarpattia	4	0,3	- 62,5	3	0,2	- 33,3	1	0,1	- 66,7
Zaporizhja	75	4,0	+ 17,6	104	5,7	+ 42,5	93	5,1	- 9,4
Ivano-Frankivsk	8	0,6	+ 50,0	14	1,0	+ 66,7	4	0,3	- 71,4
Kyiv	74	4,2	+ 16,7	66	3,8	- 9,5	96	5,6	+ 47,1
Kyrovograd	23	2,2	+ 83,3	15	1,4	- 36,4	16	1,6	+ 9,1
Luhansk	105	4,4	+ 51,7	138	5,8	+ 31,8	117	5,0	- 13,5
Lviv	22	0,9	- 35,7	27	1,1	+ 22,2	44	1,7	+ 63,8
Mykolayiv	163	13,4	+ 52,3	60	5,0	- 62,7	49	4,1	- 17,3
Odessa	110	4,6	- 23,3	95	4,0	- 13,0	136	5,7	+ 43,4
Poltava	67	4,3	+ 7,5	75	4,9	+ 14,0	76	5,1	+ 3,1
Rivne	7	0,6	+ 50,0	5	0,4	- 33,3	10	0,9	+ 100,3
Sumy	12	1,0	+ 25,0	12	1,0	0	22	1,9	+ 87,3
Ternopil	3	0,3	0	3	0,3	0	2	0,2	- 32,7
Kharkiv	57	2,0	- 4,8	70	2,5	+ 25,0	71	2,6	+ 2,4
Kherson	32	2,9	- 31,0	34	3,1	+ 6,9	38	3,5	+ 13,4
Khmelnitsky	30	2,2	- 15,4	48	3,5	+ 59,1	54	4,0	+ 14,0
Cherkassy	88	6,6	+ 20,0	77	5,8	- 12,1	63	4,9	- 16,8
Chernivtsi	21	2,3	+ 64,3	6	0,7	- 69,6	6	0,7	+ 0,1
Chernihiv	22	1,9	+ 90,0	29	2,6	+ 36,8	36	3,3	+ 27,2
Kyiv city	87	3,2	+ 33,3	119	4,4	+ 37,5	181	6,6	+ 49,6
Sevastopol city	46	12,1	+ 7,1	49	13,0	+ 7,4	55	14,5	+ 12,0



**Table 10. HIV and AIDS Prevalence  
Among Citizens of Ukraine by 01.01.2009  
(by the data of regular medical registration, per 100,000 population)**

Regions	HIV infected	HIV infection prevalence	AIDS patients	AIDS prevalence
<b>Ukraine</b>	<b>101 182</b>	<b>220,9</b>	<b>11 827</b>	<b>25,8</b>
AR Crimea	5 875	300,2	685	35,0
Vinnitsa	1 435	87,3	314	19,1
Volyn	1 178	113,9	147	14,2
Dnipropetrovsk	17 196	512,7	1 983	59,1
Donetsk	22 126	496,4	2 871	64,4
Zhitomyr	1 480	114,9	218	16,9
Zakarpattia	185	14,9	16	1,3
Zaporizhja	2 586	142,7	188	10,4
Ivano-Frankivsk	420	30,5	62	4,5
Kyiv	2 955	172,1	492	28,7
Kyrovograd	1 181	116,7	132	13,0
Luhansk	3 226	139,7	195	8,4
Lviv	1 505	59,4	339	13,4
Mykolayiv	5 753	483,6	444	37,3
Odessa	11 204	470,7	1 164	48,9
Poltava	1 932	129,4	202	13,5
Rivne	855	74,3	74	6,4
Sumy	813	69,4	134	11,4
Ternopil	474	43,6	35	3,2
Kharkiv	1 955	71,0	83	3,0
Kherson	2 444	223,7	204	18,7
Khmelnitsky	1 662	124,8	137	10,3
Cherkassy	2 058	159,2	275	21,3
Chernivtsi	514	57,0	105	11,6
Chernihiv	1 942	176,1	198	18,0
Kyiv city	6 847	249,8	915	33,4
Sevastopol city	1 381	365,0	215	56,8

**Table 11. HIV transmission routes among the citizens of Ukraine for the period 1987 - 2009.**

HIV transmission routes	Роки												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	<b>1987 -2009</b>
HIV infected people, total number	8 575	5 827	6 212	7 000	8 756	10 009	12 491	13 770	16 078	17 669	18 963	19 840	<b>161 119</b>
including those infected through sexual route	1 386	1 324	1 431	1 888	2 501	3 046	4 050	4 606	5 681	6 784	7 945	8 635	<b>51 453</b>
<i>of them through homosexual contacts</i>	1	1	4	3	2	3	9	20	35	48	65	94	<b>319</b>
<i>through heterosexual contacts</i>	1 385	1 323	1 427	1 885	2 499	3 043	4 041	4 586	5 646	6 736	7 880	8 541	<b>51 134</b>
parenteral route	6 517	3 774	3 881	3 967	4 589	4 819	5 779	6 282	7 134	7 088	7 015	7 113	<b>80 746</b>
<i>of them due to : injecting drug use</i>	6 516	3 771	3 881	3 964	4 587	4 815	5 778	6 270	7 127	7 084	7 009	7 105	<b>80 685</b>
<i>transfusion of blood products or components</i>	1	0	0	3	2	3	1	4	2	1	1	0	<b>22</b>
<i>transplantation of donor organs, cells, tissues, biological fluids</i>	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<i>other medical manipulations</i>	0	3	0	0	0	0	0	3	0	0	0	0	<b>11</b>
<i>occupational infection</i>	0	0	0	0	0	0	1	1	0	0	0	0	<b>3</b>
<i>other non-medical interventions</i>								4	5	3	5	8	<b>25</b>
from HIV infected mother to child	378	527	727	914	1 371	1 830	2 273	2 498	2 822	3 430	3 635	3 741	<b>24 452</b>
unidentified transmission route	294	202	173	231	295	314	389	384	441	367	368	351	<b>4 468</b>

**Table 12. Officially registered HIV infected  
injecting drug users (IDU)  
and their percentage of the total number  
of HIV infected Ukrainians**

Regions	1997		2006		2007		2008		2009	
	IDU	%	IDU	%	IDU	%	IDU	%	IDU	%
<b>Ukraine</b>	<b>7 448</b>	<b>83,6</b>	<b>7 127</b>	<b>44,3</b>	<b>7 084</b>	<b>40,1</b>	<b>7 009</b>	<b>37,0</b>	<b>7 105</b>	<b>35,8</b>
AR Crimea	376	71,9	290	36,1	340	35,5	354	35,3	346	31,1
Vinnitsa	37	72,5	168	51,9	146	43,5	98	31,5	102	31,8
Volyn	90	94,7	77	45,0	62	29,7	71	29,1	57	21,8
Dnipropetrovsk	2 042	93,1	1 188	48,2	1 206	45,2	1 316	42,7	1 547	42,7
Donetsk	1 710	81,8	1 506	41,7	1 449	38,4	1 295	32,4	1 302	32,1
Zhitomyr	50	89,3	109	44,1	109	41,0	134	39,4	143	41,6
Zakarpattia	21	75,0	3	13,6	2	4,7	3	7,1	1	2,0
Zaporizhja	264	89,2	210	48,4	188	41,4	188	35,7	165	33,0
Ivano-Frankivsk	18	90,0	25	35,2	37	38,1	51	30,7	46	39,3
Kyiv	71	89,9	212	42,7	232	36,7	236	33,7	231	31,6
Kyrovograd	16	76,2	84	36,8	64	23,8	53	22,2	43	16,9
Luhansk	147	86,0	205	43,3	204	37,4	295	43,5	206	33,8
Lviv	51	82,3	144	59,5	124	48,6	155	49,2	254	55,0
Mykolayiv	268	85,6	438	41,8	471	40,4	454	38,2	385	34,1
Odessa	769	67,3	546	37,1	478	28,1	431	27,7	475	30,3
Poltava	213	93,0	137	46,8	181	46,9	152	40,2	160	39,3
Rivne	13	68,4	67	63,8	60	38,0	102	47,2	89	37,1
Sumy	19	82,6	68	46,9	82	45,8	55	29,9	66	30,8
Ternopil	30	85,7	89	77,4	61	49,6	68	52,7	43	41,3
Kharkiv	205	74,0	245	55,9	210	46,4	218	42,2	240	43,2
Kherson	64	71,9	231	46,7	273	49,6	233	39,6	196	33,2
Khmelnitsky	40	81,6	149	50,5	109	45,8	77	38,3	115	43,7
Cherkassy	188	82,5	114	34,4	169	45,1	134	37,5	131	33,7
Chernivtsi	80	94,1	13	28,9	18	26,9	19	21,1	17	17,2
Chernihiv	102	94,4	107	36,1	118	33,8	123	28,1	147	30,4
Kyiv city	458	90,7	574	50,1	591	50,0	597	47,5	498	45,5
Sevastopol city	106	85,5	128	47,6	100	43,7	97	43,7	100	39,2

**Table 13. History of registration of AIDS cases, and deaths of AIDS-related diseases among children under 14 years of age in 1987 - 2009 in Ukraine**

Years	Children with the newly established AIDS diagnosis			Children, who died of AIDS		
	Absolute number	Per 100,000 of children population	Absolute number	Per 100,000 of children population	Absolute number	Per 100,000 of children population
1987 - 1994	6			4		
1995	1	0,01		1	0,01	
1996	10	0,10	+ 900,0	6	0,06	+ 500,0
1997	4	0,04	- 60,0	4	0,04	- 33,3
1998	14	0,15	+ 275,0	9	0,10	+150,0
1999	15	0,17	+ 13,3	12	0,13	+ 30,0
2000	13	0,15	- 11,8	9	0,10	- 23,1
2001	30	0,37	+ 146,7	11	0,14	+ 40,0
2002	47	0,61	+ 64,9	23	0,30	+ 114,3
2003	68	0,92	+ 50,8	38	0,51	+ 70,0
2004	96	1,35	+ 47,2	33	0,46	- 9,8
2005	143	2,01	+ 48,4	36	0,51	+ 10,9
2006	123	1,79	- 11,0	32	0,47	- 7,8
2007	115	1,74	- 2,8	23	0,35	- 25,5
2008	74	1,13	- 35,1	14	0,21	- 40,0
2009	86	1,30	15,00	13	0,20	-4,80
1987 - 2009	845			268		

**Table 14. Officially Registered HIV Infected Children Born to HIV Infected Mothers in Ukraine**

Regions	New cases in 2009, abs. number			Were under the medical follow-up by 01.01.2010, abs. number		
	Children, born to HIV infected mothers	Patients with AIDS	Removed from the registration due to disappearance of antibodies to HIV in the child's blood	HIV infected		Patients with AIDS
				HIV diagnosis is confirmed	HIV diagnosis is to be confirmed	
<b>Ukraine</b>	<b>3 741</b>	<b>86</b>	<b>2 866</b>	<b>2 418</b>	<b>6 222</b>	<b>575</b>
AR Crimea	202	1	167	135	306	42
Vinnitsa	60	2	53	20	109	19
Volyn	58	1	43	30	84	7
Dnipropetrovsk	628	15	450	454	935	119
Donetsk	723	8	519	426	1 170	66
Zhitomyr	58	3	47	27	118	10
Zakarpattia	19	2	8	6	28	6
Zaporizhja	71	2	67	49	105	11
Ivano-Frankivsk	19	4	21	14	32	8
Kyiv	174	2	121	83	284	27
Kyrovograd	93	2	57	49	148	5
Luhansk	104	0	76	56	175	3
Lviv	58	1	47	17	129	5
Mykolayiv	238	5	157	150	404	13
Odessa	271	15	310	335	781	58
Poltava	74	2	53	51	129	8
Rivne	52	2	31	7	67	5
Sumy	38	3	23	14	56	9
Ternopil	22	1	12	3	29	3
Kharkiv	93	2	67	39	150	7
Kherson	110	1	71	51	177	17
Khmelnitsky	34	3	36	33	62	33
Cherkassy	89	5	57	122	60	15
Chernivtsi	27	2	13	49	40	22
Chernihiv	112	1	94	52	156	19
Kyiv city	271	1	228	121	422	28
Sevastopol city	43	0	38	25	66	10

**Table 15. HIV-related Conditions and Diseases among HIV Infected Citizens of Ukraine**

Name of indicator	Code by the ICD - 10	Taken under follow-up during 2008 with the newly established diagnosis	
		HIV infection (regardless of the Taken under follow-up	ICD - 10
HIV-related conditions and diseases	B20 – B 24, Z21	19 840	4 437
including:			
Acute HIV infection syndrome	B23.0	14	
Asymptomatic HIV infection	Z21	10 561	
Persisting generalized lymphadenopathy (PGL)	B23.1	2 417	
Disseminated HIV infection	B20-B23	4 271	
AIDS-indicator diseases (AIDS)	B20.0-20.9, B21.0-21.2, B21.8-21.9, B22.0-22.2, B23.2	2 182	4 437
HIV that causes other confirmed conditions	B 23.8	355	
HIV related disease, unidentified	B 24	40	

**Table 16. AIDS-indicator Diseases (AIDS)**

Name of indicator	Taken under follow-up during 2008 with the newly established diagnosis		Remains under follow-up by 01.01.2009 with HIV infection diagnosis (regardless of the disease stage)
	HIV infection (regardless of the infection stage)	AIDS	
<b>AIDS indicator diseases (AIDS)</b>	<b>2 182</b>	<b>4 437</b>	<b>11 827</b>
including:			
Pulmonary tuberculosis	1 028	1 905	4 959
Extrapulmonary tuberculosis	353	829	1 946
Infections caused by <i>M.kansasii</i> , disseminated or extrapulmonary	0	0	0
Other diseases caused by mycobacteria, except <i>M. tuberculosis</i> , disseminated or extrapulmonary	0	2	12
Bacterial infections, multiple or recurrent	236	423	947
Salmonellosis septicemia, recurrent, except the one caused by <i>S.typhi murium</i>	3	6	8
CMV-infection in the patients with the lesions of internal organs, except liver, spleen or lymph nodes	10	21	76
CMV-рeнiт з втратою зору	1	8	20
Herpetic infection with chronic ulcers, which are not cured during 1 month, or with the lesions of bronchi, lungs or esophagus	16	42	147
Progressing multiple leukoencephalopathy	11	29	43
Candidiasis of trachea, bronchi or lungs	61	152	416
Candidiasis of esophagus	61	135	604
Cryptococcosis, extrapulmonary	8	15	20
Histoplasmosis, disseminated or extrapulmonary	0	0	0
Coccidioidomycosis, disseminated or extrapulmonary	1	1	1
Pneumocystis pneumonia	51	103	162
Cryptosporidiosis with diarrhea that lasts over 1 month	1	2	5
Brain toxoplasmosis	39	80	117
Isosporosis with diarrhea that lasts over 1 month	0	0	0
Opportunistic infections of unclear etiology	35	64	117
Recurrent pneumonias	55	98	306
Kaposi sarcoma	15	32	76
Burkitt lymphoma	4	4	8
Immunoblast lymphoma	7	27	19
Brain lymphoma (primary)	8	13	19
Cervical invasive cancer	3	25	77
Lymphoma of unclear etiology	10	15	19
HIV-related encephalopathy	42	103	306
Lymphoid interstitial pneumonia	6	7	8
HIV-related wasting syndrome (slim-disease, weight loss)	64	177	354
CD4 < 200/mcl without the presence of AIDS-indicator diseases (in adults)	50	101	864
CD4 < 20 % without the presence of AIDS-indicator diseases (in children < 18 months)	1	11	117
CD4 < 15 % without the presence of AIDS-indicator diseases (in children > 18 months)	2	7	54

**Table 17. Dynamics of Official Registration and Removal from Medical Follow-up of HIV Infected Ukrainian Citizens in 1987 - 2009**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>1987 - 2009</b>
Total taken under medical follow-up in reporting year	6 370	7 221	9 026	10 453	12 979	14 321	16 471	18 139	19 405	20 708	<b>166 618</b>
<i>Including people with the newly established HIV infection diagnosis</i>	6 212	7 000	8 756	10 009	12 491	13 700	16 078	17 669	18 963	19 840	<b>161 119</b>
Removed from the medical follow-up in reporting year	2 542	2 596	3 102	4 353	5 519	6 208	7 401	8 356	9 429	11 243	<b>65 419</b>
Remain under follow-up by the end of reporting year	30 666	35 291	41 215	47 315	54 775	62 888	71 958	81 741	91 717	101 182	

**Table 18. Reasons for the Removal from the Medical Follow-up of Officially Registered HIV Infected Ukrainian Citizens in 1987 - 2009**

<b>Reasons for removal from the medical follow-up</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>1987 - 2009</b>
Death of AIDS	414	473	834	1 285	1 775	2 188	2 420	2 507	2 710	2 591	<b>17 791</b>
Death of other disease	1 088	1 045	1 078	1 310	1 465	1 396	1 542	1 972	2 390	3 273	<b>18 491</b>
Disappearance of antibodies to HIV in the child's blood	285	344	391	700	949	1 481	1 953	2 218	2 525	2 866	<b>13 834</b>
Change of place of residence	158	221	270	444	488	681	763	865	1 161	1 793	<b>7 534</b>
Other reasons	597	513	529	614	842	462	723	794	643	720	<b>7 769</b>
<b>TOTAL</b>	<b>2 542</b>	<b>2 596</b>	<b>3 102</b>	<b>4 353</b>	<b>5 519</b>	<b>6 208</b>	<b>7 401</b>	<b>8 356</b>	<b>9 429</b>	<b>11 243</b>	<b>65 419</b>



**Table 19. Results of Sero-epidemiological Monitoring of HIV Infected People in Ukraine in 2006 - 2009.**

Codes	HIV tested groups	2007			2008 p.			2009 p.		
		tested	positive	%	tested	positive	%	tested	positive	%
100	Citizens of Ukraine – total, including by individual codes	2 866 728	32 831	1,15	3 213 126	37 273	1,16	3 349 515	37 064	1,11
101	People, who had heterosexual relations with HIV infected people	7 061	1 321	18,71	8 210	1 646	20,05	7 759	1 576	20,31
102	Injecting drug users	33 341	5 111	15,33	35 748	4 952	13,85	34 749	4 635	13,34
104	People with identified sexually transmitted infections	52 809	791	1,50	55 063	957	1,74	54 559	825	1,51
105	People. who have numerous unprotected sexual contacts	19 489	412	2,11	30 126	686	2,28	39 277	770	1,96
106	Army recruits	14 858	11	0,07	16 961	19	0,11	74 102	75	0,10
108	Blood donors	883 215	1 138	0,13	880 307	1 140	0,13	953 785	1 339	0,14
109	Pregnant women	1 063 799	3 633	0,34	1 175 632	3 973	0,34	1 092 381	3 648	0,33
112	Prisoners	21 068	2 700	12,82	20 502	2 975	14,51	24 099	2 902	12,04
113	People, who were examined by clinical indications	199 621	6 877	3,45	231 270	7 660	3,31	246 757	8 050	3,26
114	People, who were examined anonymously	52 884	2 391	4,52	52 377	2 320	4,43	48 646	2 324	4,78
200	Foreign citizens	6 811	25	0,37	6 986	25	0,36	8 820	36	0,41

**Table 20. Comparison of Testing at the Expense of the Local Budgets in the Regions of Ukraine**

Regions	Total number of tests	Number of tests funded from the local budgets (2008)			Total Regions	Number of tests funded from the Local budgets (2009 )		
		Absolute number	% of the total number	rating		number of tests	Absolute number	% of the total number
<b>Ukraine</b>	3 213 126	1 157 187	36,0		3 358 335	1 312 169	39,1	
AR Crimea	171 011	43 988	25,7	22	186 055	56 615	30,4	20
Vinnitsa	93 925	17 069	18,2	27	95 599	21 081	22,1	26
Volyn	100 127	36 510	36,5	12	107 604	44 796	41,6	9
Dnipropetrovsk	314 650	109 333	34,7	15	369 519	161 874	43,8	6
Donetsk	309 451	123 819	40,0	10	313 289	135 201	43,2	8
Zhitomyr	86 313	36 978	42,8	6	87 247	35 143	40,3	12
Zakarpattia	100 224	46 076	46,0	4	104 810	50 454	48,1	4
Zaporizhja	129 399	40 008	30,9	18	142 728	52 527	36,8	17
Ivano-Frankivsk	88 532	39 867	45,0	5	72 262	26 771	37,0	15
Kyiv	107 635	31 867	29,6	20	109 892	27 899	25,4	22
Kyrovograd	73 570	29 501	40,1	9	45 829	11 168	24,4	23
Luhansk	184 864	63 465	34,3	16	198 737	73 415	36,9	16
Lviv	100 353	19 320	19,3	26	110 096	25 737	23,4	25
Mykolayiv	72 537	22 393	30,9	19	74 400	23 831	32,0	19
Odessa	153 184	59 669	39,0	11	149 265	58 282	39,0	13
Poltava	76 323	16 407	21,5	24	76 661	16 217	21,2	27
Rivne	107 660	53 435	49,6	2	94 799	38 659	40,8	11
Sumy	64 476	27 301	42,3	7	81 029	42 266	52,2	3
Ternopil	57 714	15 066	26,1	21	62 769	18 405	29,3	21
Kharkiv	154 036	54 394	35,3	14	177 652	77 396	43,6	7
Kherson	82 205	38 249	46,5	3	92 330	49 547	53,7	2
Khmelnitsky	93 038	18 983	20,4	25	93 673	22 257	23,8	24
Cherkassy	84 425	34 377	40,7	8	88 388	40 285	45,6	5
Chernivtsi	52 255	11 487	22,0	23	67 155	27 432	40,8	10
Chernihiv	130 312	87 602	67,2	1	130 132	88 726	68,2	1
Kyiv city	192 787	69 392	36,0	13	194 273	74 787	38,5	14
Sevastopol city	32 120	10 631	33,1	17	32 142	11 398	35,5	18

**Table 21. Comparing of Testing for Antibodies to HIV in Vulnerable Groups (codes 102, 104 and 105) by Regions of Ukraine**

Regions	Number of tests at the expense of the local budget	2008			Number of tests at the expense of the local budgets	2009		
		Tested representatives of vulnerable groups (abs)	% of the total number of tests funded from the local budgets	rating		Tested representatives of vulnerable groups	% of the total number of tests funded from the local budgets	rating
<b>Ukraine</b>	1 312 169	120 973	9,2		1 312 169	128 585	9,8	
AR Crimea	56 615	5 569	9,8	11	56 615	7 586	13,4	4
Vinnitsa	21 081	2 171	10,3	7	21 081	2 011	9,5	12
Volyn	44 796	2 768	6,2	24	44 796	3 114	7,0	22
Dnipropetrovsk	161 874	10 092	6,2	23	161 874	14 125	8,7	15
Donetsk	135 201	10 521	7,8	19	135 201	9 713	7,2	19
Zhitomyr	35 143	3 446	9,8	12	35 143	4 009	11,4	7
Zakarpattia	50 454	1 353	2,7	27	50 454	1 701	3,4	26
Zaporizhja	52 527	4 057	7,7	20	52 527	3 418	6,5	24
Ivano-Frankivsk	26 771	1 352	5,1	26	26 771	833	3,1	27
Kyiv	27 899	2 344	8,4	16	27 899	1 958	7,0	21
Kyrovograd	11 168	5 271	47,2	1	11 168	1 040	9,3	13
Luhansk	73 415	8 090	11,0	5	73 415	8 214	11,2	8
Lviv	25 737	1 898	7,4	21	25 737	2 294	8,9	14
Mykolayiv	23 831	4 840	20,3	2	23 831	5 231	22,0	1
Odessa	58 282	5 860	10,1	10	58 282	4 625	7,9	16
Poltava	16 217	1 057	6,5	22	16 217	1 184	7,3	17
Rivne	38 659	2 358	6,1	25	38 659	2 508	6,5	25
Sumy	42 266	4 444	10,5	6	42 266	4 579	10,8	10
Ternopil	18 405	1 489	8,1	17	18 405	1 308	7,1	20
Kharkiv	77 396	6 568	8,5	15	77 396	8 646	11,2	9
Kherson	49 547	4 776	9,6	13	49 547	5 157	10,4	11
Khmelnitsky	22 257	4 343	19,5	3	22 257	3 448	15,5	3
Cherkassy	40 285	7 049	17,5	4	40 285	8 092	20,1	2
Chernivtsi	27 432	2 825	10,3	8	27 432	1 983	7,2	18
Chernihiv	88 726	7 919	8,9	14	88 726	11 750	13,2	5
Kyiv city	74 787	7 620	10,2	9	74 787	9 316	12,5	6
Sevastopol city	11 398	893	7,8	18	11 398	742	6,5	23

**Table 22. Results of Sero-epidemiological Monitoring of HIV Infection Spread by the Codes 102, 104 and 105 in 2009**

Regions	Injecting drug users - code 102			People with identified sexually transmitted infections - code 104			People, who have multiple unprotected sexual contacts - code 105		
	tested	positive	%	tested	positive	%	tested	positive	%
<b>Ukraine</b>	<b>34 749</b>	<b>4 635</b>	<b>13,34</b>	<b>54 559</b>	<b>825</b>	<b>1,51</b>	<b>39 277</b>	<b>770</b>	<b>1,96</b>
AR Crimea	3 038	127	4,18	2 194	42	1,91	2 354	18	0,76
Vinnitsa	805	54	6,71	696	3	0,43	510	2	0,39
Volyn	325	49	15,08	2 587	16	0,62	202	4	1,98
Dnipropetrovsk	5 846	985	16,85	5 516	174	3,15	2 763	82	2,97
Donetsk	2 768	322	11,63	6 118	83	1,36	827	16	1,93
Zhitomyr	1 156	122	10,55	1 653	25	1,51	1 200	14	1,17
Zakarpattia	98	5	5,10	1 252	4	0,32	351	2	0,57
Zaporizhja	1 569	50	3,19	1 574	13	0,83	275	4	1,45
Ivano-Frankivsk	103	33	32,04	532	3	0,56	198	0	0,00
Kyiv	988	350	35,43	887	54	6,09	83	6	7,23
Kyrovograd	446	98	21,97	33	16	48,48	561	13	2,32
Luhansk	2 485	107	4,31	2 989	21	0,70	2 740	25	0,91
Lviv	469	131	27,93	1 453	22	1,51	372	6	1,61
Mykolayiv	2 214	311	14,05	2 250	54	2,40	767	32	4,17
Odessa	856	207	24,18	2 878	116	4,03	891	30	3,37
Poltava	582	83	14,26	471	12	2,55	131	4	3,05
Rivne	481	80	16,63	1 044	23	2,20	983	5	0,51
Sumy	947	27	2,85	2 059	4	0,19	1 573	4	0,25
Ternopil	739	20	2,71	518	0	0,00	51	3	5,88
Kharkiv	1 312	44	3,35	6 483	24	0,37	851	2	0,24
Kherson	1 028	48	4,67	3 960	30	0,76	169	1	0,59
Khmelnitsky	671	83	12,37	2 665	22	0,83	112	1	0,89
Cherkassy	860	95	11,05	1 748	21	1,20	5 484	54	0,98
Chernivtsi	823	15	1,82	1 136	2	0,18	24	0	0,00
Chernihiv	942	235	24,95	1 249	19	1,52	9 559	152	1,59
Kyiv city	2 767	902	32,60	304	16	5,26	6 245	290	4,64
Sevastopol city	431	52	12,06	310	6	1,94	1	0	0,00

**Table 23. Results of Sero-epidemiological Monitoring of HIV Infection Spread among Blood Donors in 2009**

Regions	Donors, total			First time (one time) donors		
	code 108			code 108.1		
	tested	positive		tested	positive	
<b>Ukraine</b>	<b>953 785</b>	<b>1 339</b>	<b>0,14</b>	<b>616 124</b>	<b>1 218</b>	<b>0,20</b>
AR Crimea	70 056	95	0,14	62 800	86	0,14
Vinnitsa	38 095	35	0,09	28 412	31	0,11
Volyn	31 817	32	0,10	30 304	32	0,11
Dnipropetrovsk	122 610	258	0,21	59 248	249	0,42
Donetsk	89 379	167	0,19	35 145	123	0,35
Zhitomyr	21 020	35	0,17	14 987	35	0,23
Zakarpattia	18 666	5	0,03	16 869	5	0,03
Zaporizhja	51 156	47	0,09	36 211	45	0,12
Ivano-Frankivsk	16 357	13	0,08	15 890	11	0,07
Kyiv	33 916	81	0,24	20 689	81	0,39
Kyrovograd	13 163	36	0,27	10 540	36	0,34
Luhansk	79 823	41	0,05	69 096	41	0,06
Lviv	25 662	36	0,14	24 935	36	0,14
Mykolayiv	23 638	92	0,39	10 044	80	0,80
Odessa	30 382	99	0,33	17 165	91	0,53
Poltava	25 973	38	0,15	14 954	35	0,23
Rivne	19 840	18	0,09	17 983	18	0,10
Sumy	16 231	6	0,04	2 878	4	0,14
Ternopil	19 215	11	0,06	7 988	11	0,14
Kharkiv	40 606	19	0,05	37 091	19	0,05
Kherson	15 069	10	0,07	6 597	10	0,15
Khmelnitsky	39 409	28	0,07	11 786	13	0,11
Cherkassy	21 145	22	0,10	14 588	21	0,14
Chernivtsi	16 419	8	0,05	3 370	1	0,03
Chernihiv	20 819	35	0,17	11 149	35	0,31
Kyiv city	43 753	62	0,14	33 158	61	0,18
Sevastopol city	9 566	10	0,10	2 247	8	0,36

**Table 24. Results of Sero-epidemiological Monitoring of HIV Infection Spread among Pregnant Women in 2009.**

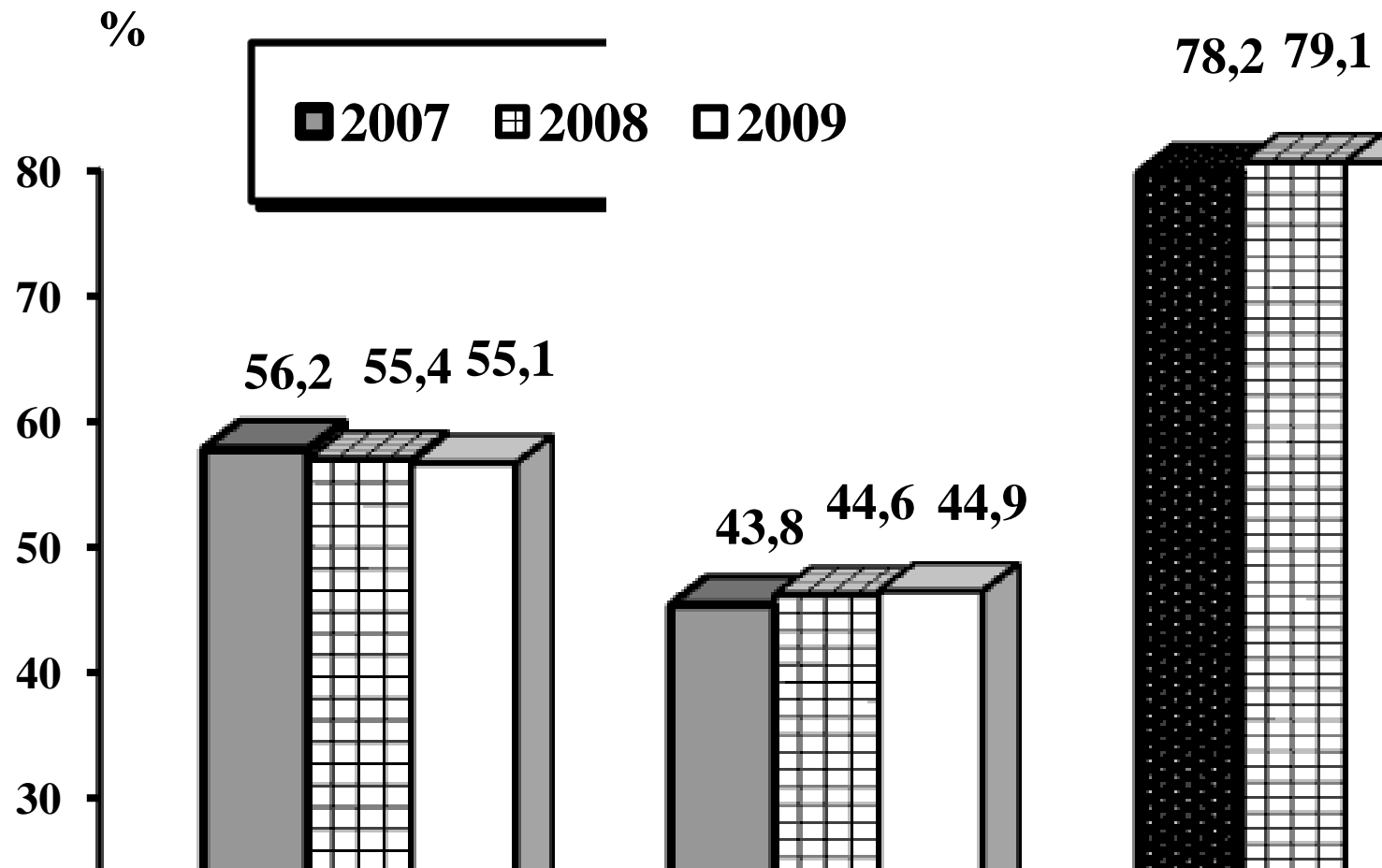
Regions	Pregnant women (total)			Pregnant women (primary test)		
	Code 109			code 109.1		
	tested	positive	%	tested	positive	%
<b>Ukraine</b>	<b>1 092 381</b>	<b>3 648</b>	<b>0,33</b>	<b>585 941</b>	<b>3 234</b>	<b>0,55</b>
AR Crimea	59 384	160	0,27	31 291	144	0,46
Vinnitsa	36 423	51	0,14	18 673	42	0,22
Volyn	30 991	39	0,13	16 873	38	0,23
Dnipropetrovsk	85 035	635	0,75	47 780	533	1,12
Donetsk	88 709	500	0,56	47 430	444	0,94
Zhitomyr	31 084	51	0,16	16 943	48	0,28
Zakarpattia	35 690	18	0,05	21 397	9	0,04
Zaporizhja	39 045	65	0,17	21 175	63	0,30
Ivano-Frankivsk	29 134	21	0,07	15 378	15	0,10
Kyiv	48 077	438	0,91	27 573	438	1,59
Kyrovograd	21 498	157	0,73	12 190	125	1,03
Luhansk	45 499	83	0,18	23 890	82	0,34
Lviv	58 697	87	0,15	31 401	78	0,25
Mykolayiv	26 931	196	0,73	14 218	182	1,28
Odessa	60 601	314	0,52	32 624	302	0,93
Poltava	34 471	92	0,27	16 959	64	0,38
Rivne	36 300	36	0,10	19 306	27	0,14
Sumy	22 532	25	0,11	11 391	25	0,22
Ternopil	25 149	10	0,04	13 388	10	0,07
Kharkiv	59 650	78	0,13	31 162	76	0,24
Kherson	27 714	72	0,26	14 932	69	0,46
Khmel'nitsky	32 007	40	0,12	17 012	35	0,21
Cherkassy	26 958	70	0,26	15 399	69	0,45
Chernivtsi	23 304	11	0,05	12 414	11	0,09
Chernihiv	20 587	80	0,39	11 329	73	0,64
Kyiv city	75 733	294	0,39	38 815	208	0,54
Sevastopol city	11 178	25	0,22	4 998	24	0,48

**Table 25. Territorial Rating ( r ) by the 2009 Indicators: HIV Infection Morbidity (Π1), HIV infection among persons aged 15-24 (Π2), AIDS incidence (Π3), AIDS mortality (Π4), Infection among Blood Donors (Π5), Pregnant Women (Π6), Injecting Drug Users (Π7) and Growth Rate of these Indicators (T1 - T5) Respectively**

Regions	Final rating in 2007	Final rating in 2008	rΠ <sub>1</sub>	rT <sub>1</sub>	rΠ <sub>2</sub>	rT <sub>2</sub>	rΠ <sub>3</sub>	rT <sub>3</sub>	rΠ <sub>4</sub>	rT <sub>4</sub>	rΠ <sub>5</sub>	rT <sub>5</sub>	rΠ <sub>6</sub>	rT <sub>6</sub>	rΠ <sub>7</sub>	rT <sub>7</sub>	Final rating in 2009
AR Crimea	16	16	22	17	19	24	20	8	21	5	16	6	19	15	6	1	12
Vinnitsa	13	5	7	5	14	10	21	23	12	19	12	20	10	19	10	3	10
Volyn	17	17	12	20	12	16	14	15	13	8	13	9	8	27	18	21	15
Dnipropetrovsk	24	26	27	22	26	22	27	12	27	12	23	12	26	17	20	12	26
Donetsk	21	21	25	10	27	14	25	5	25	7	22	15	23	11	13	14	21
Zhitomyr	10	18	14	19	15	4	17	21	19	22	20	22	12	13	11	16	20
Zakarpattia	3	2	1	14	3	27	1	9	1	10	1	23	2	12	9	7	3
Zaporizhja	6	10	16	24	13	13	15	20	20	17	10	25	13	23	4	9	19
Ivano-Frankivsk	7	23	2	6	1	1	5	27	3	1	9	8	4	8	25	20	4
Kyiv	27	27	19	18	21	15	23	14	22	20	24	14	27	26	27	18	27
Kyrovograd	22	12	11	8	16	7	8	11	6	9	25	11	24	18	21	27	14
Luhansk	5	14	13	13	18	23	13	16	17	14	5	19	14	14	7	25	16
Lviv	8	6	6	27	8	25	7	18	7	23	17	26	11	25	24	22	23
Mykolayiv	26	22	26	4	24	11	11	2	15	2	27	16	25	16	16	6	13
Odessa	23	19	23	3	25	17	12	6	23	16	26	18	22	10	22	26	24
Poltava	15	11	15	15	9	5	19	19	18	13	19	21	18	24	17	24	22
Rivne	14	20	10	26	7	9	3	4	5	25	11	24	5	6	19	23	7
Sumy	11	4	5	21	11	21	10	25	8	27	2	17	6	20	3	4	8
Ternopil	12	3	3	1	2	6	4	3	2	4	6	27	1	2	2	2	1
Kharkiv	1	7	9	16	6	19	6	22	9	15	4	4	9	22	5	8	6
Kherson	9	13	21	12	22	18	16	17	11	11	8	1	17	7	8	13	9
Khmelnitsky	4	9	8	11	4	3	9	13	14	21	7	2	7	9	15	17	5
Cherkassy	18	15	17	14	17	12	22	7	16	6	14	3	16	21	12	10	11
Chernivtsi	2	1	4	25	5	26	2	1	4	3	3	7	3	3	1	5	2
Chernihiv	20	24	20	23	20	20	18	26	10	24	21	10	21	4	23	19	25
Kyiv city	25	25	18	2	10	2	24	24	24	26	18	5	20	1	26	15	17
Sevastopol city	19	8	24	7	23	8	26	10	26	18	15	13	15	5	14	11	18

First rating points are assigned to the territories with lowest indicator value

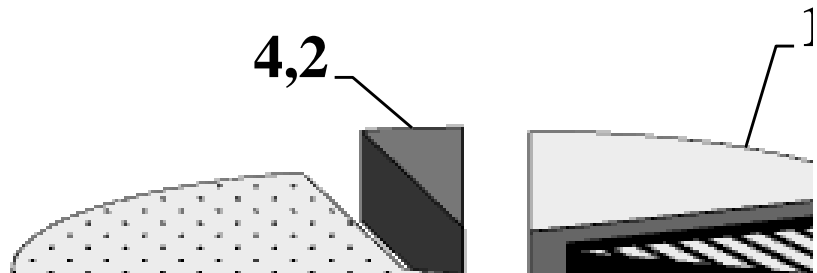
**Figure 13. Distribution of officially registered HIV infected citizens by place of residence, %**



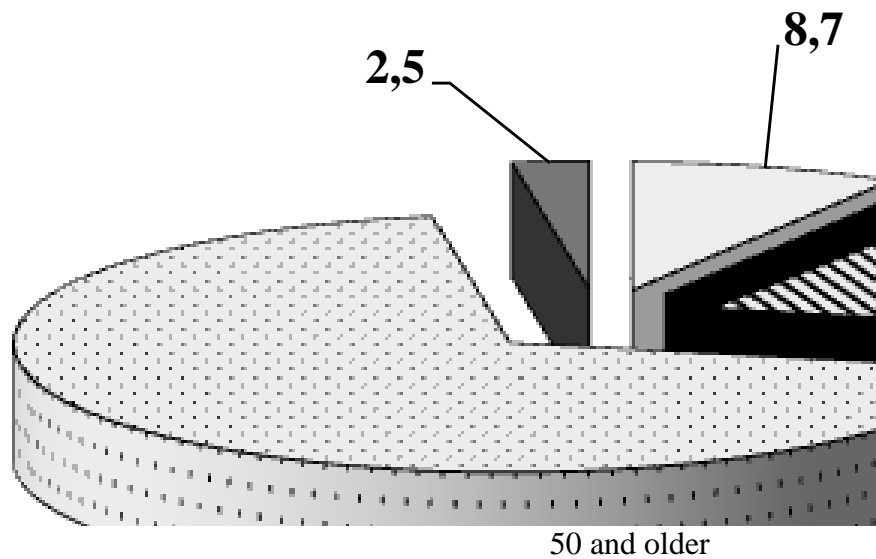


**Figure 14. Distribution of officially registered HIV cases among citizens of Ukraine by age groups, %**

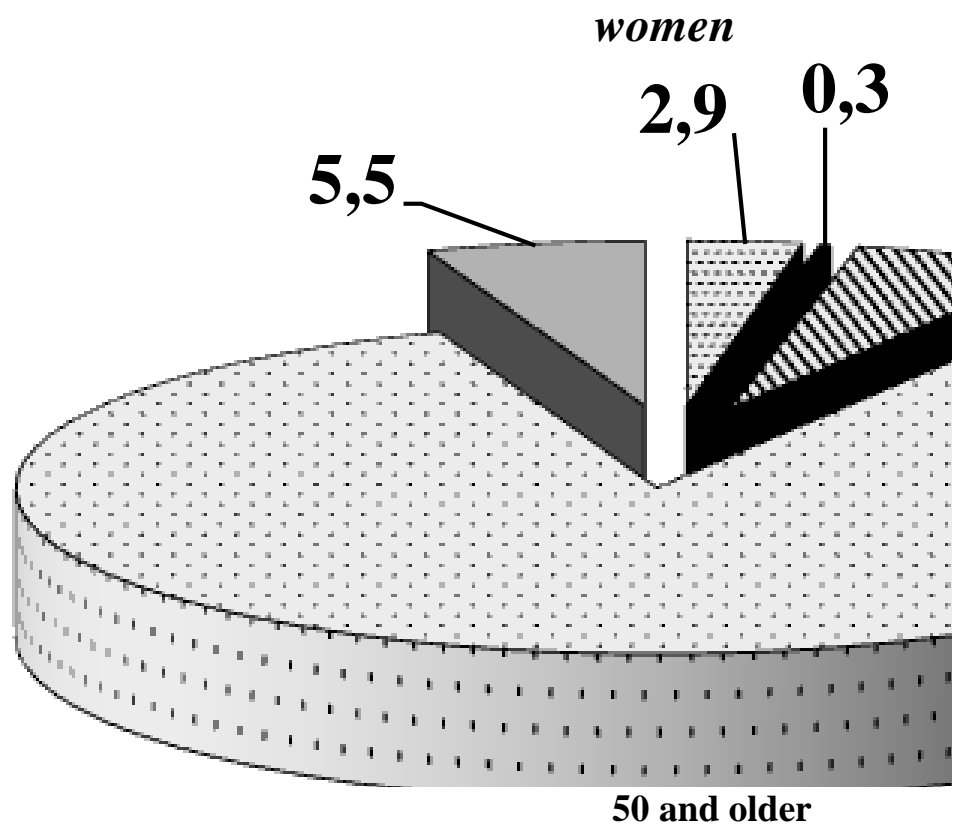
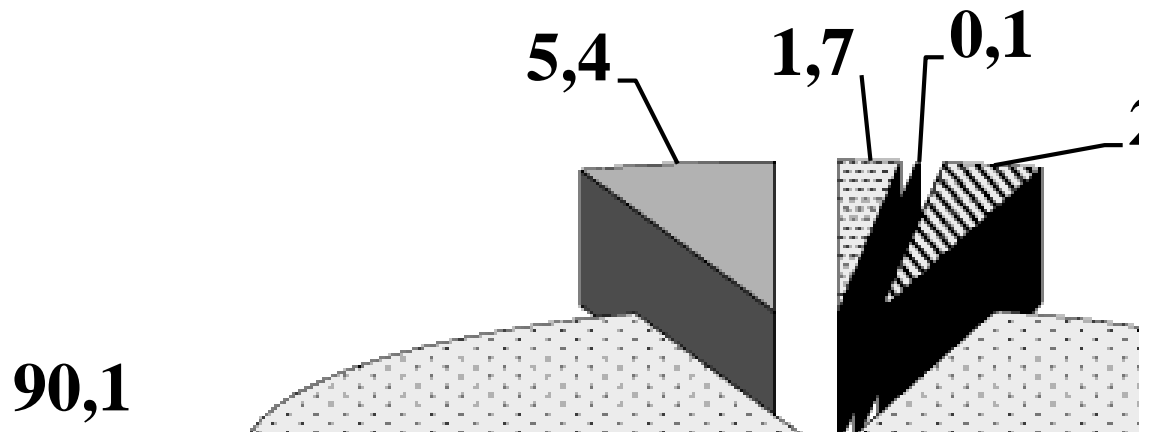
*New HIV infection cases*



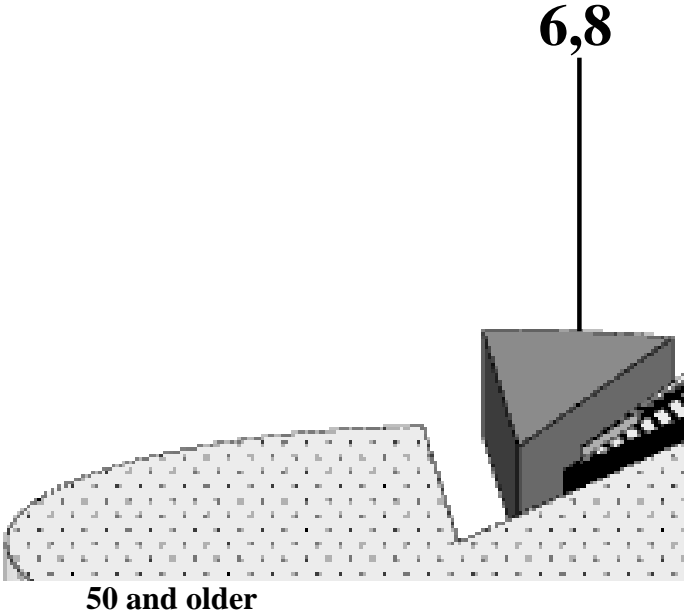
*Remained under medical follow up by age group*



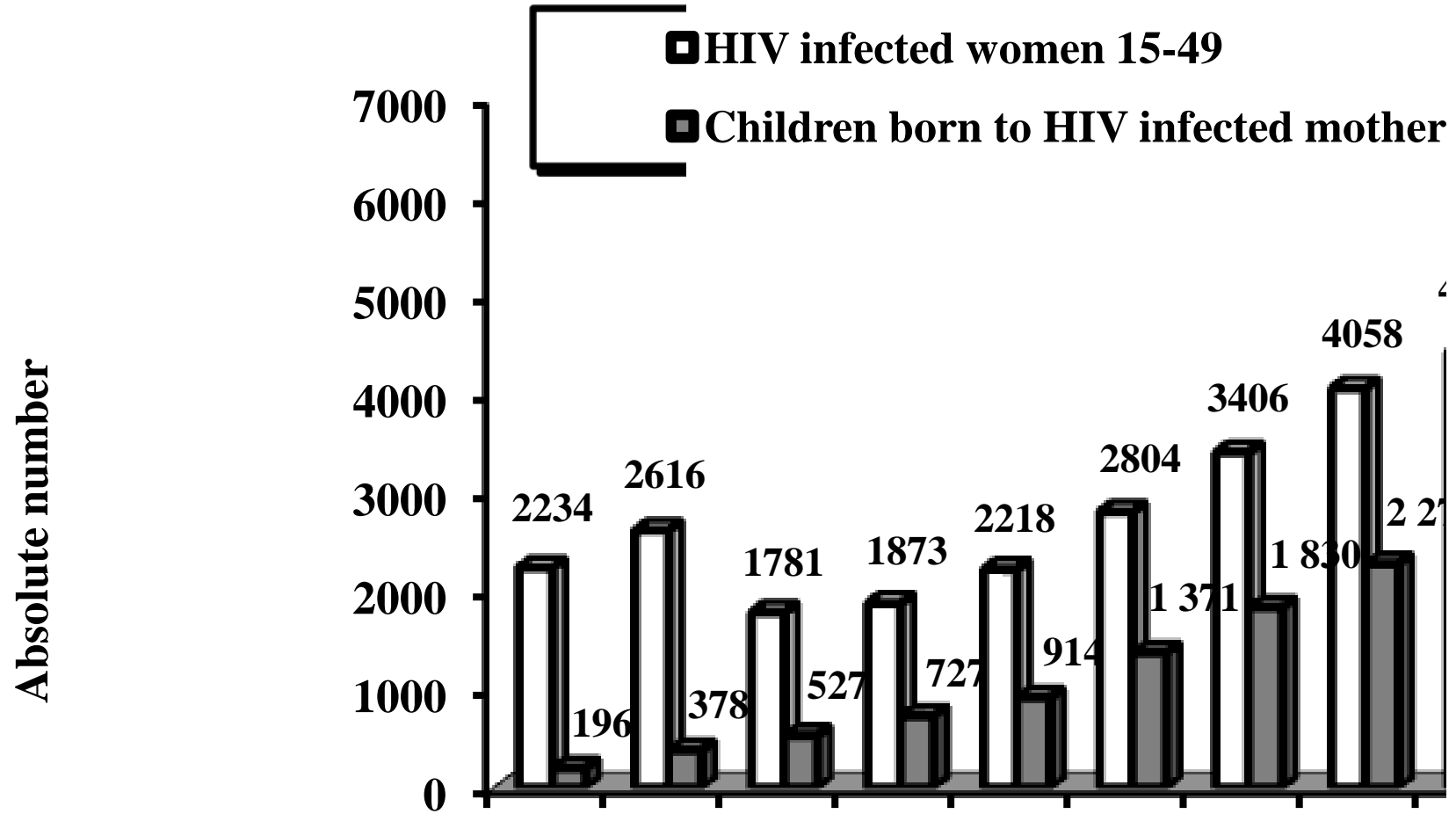
**Figure 15. Distribution of officially registered AIDS patients in Ukraine  
(new AIDS cases in 2009), %  
*Men***



**Figure 16. Distribution of citizens of Ukraine who**



**Table 17. Dynamics in the number of HIV infected women children born to HIV infected mothers in Ukra**



■

**Figure 18. Reasons for removal from officially regis  
%**

