State Institution "Public Health Center of the Ministry of Health of Ukraine"



# **HIV INFECTION IN UKRAINE**



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## **List of Abbreviations**

AIII	AIDS Healthcare Foundation
AIDS	Acquired Immune Deficiency Syndrome
AIDS center	Centers to fight and prevent AIDS
	Antiretroviral therapy
	Anti territo neriton on Eastern Illeraine territory
	Anternotisto operation on Lastern Oktamic territory
Срн	Cantral district basedse Control and Frevention
	Charity exemption
	Charly of ganzation
	European Center for Disease Control and Prevention
ELISA	Enzyme-linked immunosorbent assay
EMICI	Elimination of mother-to-child transmission of HIV
EUCA	Eastern Europe and Central Asia
Fast track	UNAIDS Fast- track strategy to end the AIDS epidemic by 2030
FICI	Past-frack Cities initiative – initiative of accelerating action in large cities to stop AIDS epidemic within UNAIDS Fast-frack
<u> </u>	Strategy to end the AIDS epidemic by 2030
GF	
HBC	Hepatrits B virus
HCF	Healthcare facility
HCV	Hepatris C virus
	Human immunodeficiency virus
HIS	HIV testing services
IBBS	Integrated bio-behavioral survey
ICF	International Charitable Fund
	Gromashevskyi Institute of Epidemiology and Infectious Diseases of NAMS of Ukraine
IFA	Immunofluorescent assay
IWG	Interagency working group
KG	Key groups of HIV infecting
MDI	Multidisciplinary team
M&E	Monitoring and evaluation
MIS NIL	
MoH of Ukraine	Ministry of Health od Okrane
MCM	
NAMS of Ukroino	Meth who have sex with their National Academy of Madical Sciences of Likesing
NCSH	National Children's Spacialized Horstel "OKAINE
"OKHMADYT"	National Children's Specialized Hospital OKTIWIAD I I
"OKHMADYT" NGO	Non-vovernmental organization
"OKHMADYT" NGO OCF	Non-governmental organization Ontimized case finding
"OKHMADYT" NGO OCF OST	Non-governmental organization       Optimized case finding       Onicid substitution therapy
"OKHMADYT" NGO OCF OST PCR	Non-governmental organization       Optimized case finding       Opioid substitution therapy       Polymerase chain reaction
"OKHMADYT" NGO OCF OST PCR PEP	Non-governmental organization       Optimized case finding       Opioid substitution therapy       Polymerase chain reaction       Post Exposure Prophylaxis
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH PMTCT	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH PMTCT PrEP	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH PMTCT PrEP PWID	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs
"OKHMADYT"NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCT	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH PMTCT PrEP PWID RMTCT RT	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         Rate of mother-to-child transmission of HIV         Rate of mother-to-child transmission of HIV         Rapid test
"OKHMADYT"NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of Ukraine	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine
"OKHMADYT" NGO OCF OST PCR PEP PEPFAR PHC PLWH PMTCT PrEP PWID RMTCT RT SCES of Ukraine SEM	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine
"OKHMADYT"NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMT	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Seroepidemiological monitoring         Substitution maintenance therapy
NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTI	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Seroepidemiological monitoring         Substitution maintenance therapy         Sexually transmitted infection
NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISW	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Servepidemiological monitoring         Substitution maintenance therapy         Sex-worker
NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISWSyrEx	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Seroepidemiological monitoring         Substitution maintenance therapy         Sexually transmitted infection         Sex-worker         Electronic system the registers clients within projects for HIV prevention
NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISWSyrExTB	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Seroepidemiological monitoring         Substitution maintenance therapy         Sexually transmitted infection         Sex-worker         Electronic system the registers clients within projects for HIV prevention
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NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISWSyrExTBTGPTMA	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Seroepidemiological monitoring         Substitution maintenance therapy         Sex-worker         Electronic system the registers clients within projects for HIV prevention         Tuberculosis         Transgender people         Transgender people
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NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISWSyrExTBTGPTMAUNUNAIDSUNICEFUSAIDVH	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People how inject drugs         Rate of mother-to-child transmission of HIV         Ratified test         State Criminal-Executive Service of Ukraine         Sercepidemiological monitoring         Substitution maintenance therapy         Sex-worker         Electronic system the registers clients within projects for HIV prevention         Tuberculosis         Transgender people         Territorial Medical Association         The United Nations         Joint United Nations Program on HIV/AIDS         United Nations Children's Fund         U.S. Agency for International Development         Viral hepatitis
NGOOCFOSTPCRPEPPEPFARPHCPLWHPMTCTPrEPPWIDRMTCTRTSCES of UkraineSEMSMTSTISWSyrExTBTGPTMAUNUNAIDSUNICEFUSAIDVHVL	Non-governmental organization         Optimized case finding         Opioid substitution therapy         Polymerase chain reaction         Post Exposure Prophylaxis         The U.S. President's Emergency Plan for AIDS Relief         State Institution "Public Health Center of the Ministry of Health of Ukraine"         People living with HIV         Prevention of mother-to-child transmission of HIV         Pre-exposure Prophylaxis         People who inject drugs         Rate of mother-to-child transmission of HIV         Rapid test         State Criminal-Executive Service of Ukraine         Servepidemiological monitoring         Substitution maintenance therapy         Sexually transmitted infection         Sex-worker         Electronic system the registers clients within projects for HIV prevention         Tuberculosis         Transgender people         Territorial Medical Association         The United Nations Program on HIV/AIDS

## Section I. Global 90-90-90 TARGETS

## **AT THE BEGINNING OF 2019**<sup>1</sup>:

- 37.9 million people were living with HIV worldwide
- 23.3 million people were living with HIV and receiving treatment
- 1.7 million people were infected with HIV in 2018
- 8.1 million people did not know they had been infected with HIV

In recent years, the number of new HIV cases and the number of AIDS-related deaths have decreased globally, while the number of people receiving treatment increased to 23.3 million in 2018. However, there are still challenges that hamper global success in the fight against HIV/AIDS. In particular, many people that have a high-risk exposure to HIV have limited access to prevention services, and people living with HIV (PLWH) are not sufficiently covered by treatment and care services. In total, 74.9 million people have been infected with HIV and 32 million people have died from AIDS-related diseases since the beginning of the epidemic.

Reduction of HIV-related stigma and discrimination, encouragement of PLWH's adherence to treatment, viral load monitoring (VL) and rapid response to ineffective antiretroviral therapy (ART) can help achieve the target level of viral suppression for 2020 in 90% of all people living with HIV and receiving ART.

According to UNAIDS, at the beginning of 2019:

- 79% of HIV-positive people were aware of their HIV status (75% at the beginning of 2018, 70% at the beginning of 2017);
- 78% of people who knew their HIV-positive status were receiving treatment (79% at the beginning of 2018, 77% at the beginning of 2018);
- 86% of people receiving treatment reached an undetectable VL below 1,000 RNA copies/ml (81% at the beginning of 2018, 80% at the beginning of 2017).

The UNAIDS 90-90-90 targets that were announced in 2014 have become a starting point in monitoring and assessment of global response to the epidemic. Successful achievement of targets implies that 81% of all PLWH are receiving ART and 73% of all PLWH have an undetectable VL (90-81-73 targets). According to 2018 results, the gap between the estimated number of PLWH (37.9 million people) and the expected "81%" target accounted for 62% and that of "73%" target - 53% (Figure 1).





#### There are three major challenges to viral suppression:

- at a testing level: PLWH have not been tested and do not know they are infected;
- at a treatment level: PLWH have been diagnosed but have not started treatment;
- at the level of achieving an undetectable VL: PLWH have started treatment but have not reached a VL below 1,000 RNA copies/ml.

<sup>&</sup>lt;sup>1</sup> According to the UNAIDS publications

Global attention has shifted from the number of people who have access to ART towards the importance of maintaining maximal VL suppression in PLWH. This emphasis is based on deeper understanding that treatment significantly reduces the risk of pathogen transmission to other people in addition to protecting PLWH from HIV-related illnesses.

## **1.1. CURRENT TRENDS<sup>2</sup>**

- In 2018, around 1.7 million people worldwide were diagnosed with HIV, that is 16% less than in 2010, largely due to steady progress in HIV/AIDS counteraction in most Eastern and Southern African countries.
- Progress in reaching the 90-90-90 targets varies greatly across regions and countries: while South Africa has achieved great success in reducing the number of new HIV cases by over 40% since 2010 and AIDS deaths by approximately 40%, there is still a concerning upward trend observed in the number of new HIV cases which has increased by 29% in Eastern Europe and Central Asia (EUCA), by 10% in the Middle East and North Africa, and by 7% in Latin America.
- In EUCA countries, 72% of PLWH were aware of their HIV status in 2018, but only 53% of those had access to treatment.
- AIDS-related mortality continues to decline due to the increased access to ART, a significant progress has been achieved in improving HIV and tuberculosis (TB) services. Since 2010, the number of AIDS-related mortality has decreased by 33% (770,000 cases in 2018) worldwide, however, it has increased by 5% in EUCA countries, and by 9% in the Middle East and North Africa.
- Tuberculosis remains the leading cause of death among people living with HIV and accounts for about one in three AIDS-related deaths. According to 2017 estimates, 10 million people globally developed TB, about 9% of those were HIV-positive. PLWH with no TB symptoms require TB preventive therapy to reduce the risk of developing TB and premature death due to TB/HIV co-infection by around 40%.
- During 2010-2018, new HIV cases among young women were reduced by 25%, although young women aged 15-24 have 60% higher chances of being infected with HIV compared to young men of the same age group.
- At present, about 82% of pregnant women living with HIV have access to antiretroviral drugs, exceeding the 2010 figure by 90%. Due to this, the global number of new HIV cases in children has reduced by 41% (by 85% in Botswana, 83% in Rwanda and 76% in Malawi).

According to the recent UNAIDS report, key groups who have high risk of being infected with HIV (KG) and their sexual partners account for over a half (54%) of new HIV cases worldwide, and less than 50% of people in KG populations are receiving combined HIV prevention services. Based on this fact, KGs are still marginalized and play their role in spreading HIV.

The full range of HIV prevention options that could give maximal effect is not being used. For example, around 300,000 men used pre-exposure prophylaxis (PrEP) in 2018 worldwide, however 1/3 of them (130,000) received PrEP in one country, namely, the USA.

UNAIDS considers men who have sex with men (MSM), sex workers (SW), transgender persons (TGP), people who inject drugs (PWID), imprisoned and detainees being five major KGs, that are particularly vulnerable to HIV and usually have no adequate access to services<sup>3</sup>.

## KGs and their sexual partners account for<sup>4</sup>:

- 54% of new HIV cases worldwide;
- over 95% of new HIV cases in the EUCA region;
- 25% of new HIV cases in Eastern and Southern African countries.

 $<sup>^{2}\ {\</sup>tt https://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2019/july/20190716\_PR\_UNAIDS\_global\_report\_2019$ 

<sup>&</sup>lt;sup>3</sup> https://www.unaids.org/ru/topic/key-populations

<sup>&</sup>lt;sup>4</sup> http://www.unaids.org/ru/resources/fact-sheet

According to the updated UNAIDS data, MSM and PWID groups are at 22 times higher risk of HIV exposure compared to general population, while SW are at 21times higher risk. Transgender people are under 12 times higher risk of exposure compared to people aged 15-49<sup>5</sup>.

One of the UNAIDS' main recommendations for countries is to aim for the full implementation of service packages which would include HIV harm reduction, prevention and treatment, syringe/needle provision/exchange programs, substitution maintenance therapy (SMT), overdose control using naloxone, and provision of safe facilities for drug use.

According to the results of model-based analysis, UNAIDS estimates show that the number of new cases (among people of all age groups) decreased from a peak value of 3.4 million [2.6-4.4 million] in 1996 to 1.7 million [1.4-2.3 million] in 2018. However, the progress is much slower than that necessary to reach the 2020 target to reduce the number of new cases of HIV infection to 500,000 per year (Figure 2).





In order to meet the planned 2020 targets following the commitments undertaken by the 2016 United Nations General Assembly Political Declaration on Ending AIDS, it is necessary to:

- a) enhance primary prevention of HIV infection;
- b) diversify HIV testing and differentiate health care practices in order to reach the 90-90-90 targets;
- c) create favorable regulatory framework to reach key and vulnerable groups that are at risk of HIV exposure;
- d) mobilize and effectively allocate additional resources;
- e) support communities so that they can play their critical role;
- f) integrate HIV prevention and treatment measures into general healthcare systems<sup>6</sup>.

<sup>&</sup>lt;sup>5</sup> https://www.unaids.org/ru/resources/presscentre/featurestories/2019/april/20190401\_KPs\_graph

<sup>&</sup>lt;sup>6</sup> View more detailed information at https://www.unaids.org/ru/resources/documents/2019/A\_73\_824

Degions	PLWH, New by the end HIV cases in 2018			New deaths due to HIV	The number	
Regions	of 2018 total		Children aged 0-14	in 2018	ART in 2018	
East and South Africa	20.6 mln	800 000	84 000	310 000	13.8 mln	
West and Central Africa	5.0 mln	280 000	58 000	160 000	2.6 mln	
Asia-Pacific	5.9 mln	310 000	12 000	200 000	3.2 mln	
Latin America	1.9 mln	100 000	3 100	35 000	1.2 mln	
The Caribbean	340 000	16 000	1100	6 700	187 000	
Eastern Europe and Central Asia	1.7 mln	150 000	<1 000	38 000	648 000	
Middle East and North Africa	240 000	20 000	1,500	8 400	78,800	
Western and Central Europe, North America	2.2 mln	68 000	<1,000	13 000	1.7 mln	
Worldwide, total	37.9 mln	1.7 mln	160 000	770 000	23.3 mln	

## Table 1. Regional data on AIDS/HIV according to the UNAIDS estimates

## **1.2. REVIEW OF HIV/AIDS EPIDEMICAL SITUATION IN THE WHO EUROPEAN REGION**

Since 2008, the European Center for Disease Control and Prevention (ECDC) and the WHO Regional Office for Europe have jointly implemented enhanced HIV/AIDS cases surveillance in 53 countries in the WHO European Region (the Region)<sup>7</sup>. Countries in the Region are divided into three geographical areas: the West (23 countries), the Center (15 countries) and the East (15 countries)<sup>8</sup>.

Reliable epidemiological data are crucial for health services as they allow to monitor the situation and make decisions on the timeliness and effectiveness of response to HIV epidemic in the Region. The number of countries carrying out advanced HIV surveillance and reporting to ECDC on the collected epidemiological data is gradually increasing.

## **KEY FACTS**

- HIV epidemic in the WHO European Region has affected 2 million people, however, one in five people living with HIV is not aware of their HIV-positive status.
- According to the current trends, the Region will not be able to meet the WHO/UNAIDS targets of achieving the Sustainable Development Goals by 2020.
- In 2017, nearly 160 000 people were diagnosed with HIV (20.0 per 100,000 population) being the highest rate in the history of new HIV cases recorded during the year.
- Over 80% of people with newly diagnosed HIV-positive status are identified in the East of the Region annually. 75% of all new cases in the Region are registered in two countries the Russian Federation and Ukraine (65% in the RF, 10% in Ukraine) and 92% (80% in the RF, 12% in Ukraine) of new cases, registered in the East.
- In many countries, the cases of contracting HIV infection due to the injection drugs use continue to reduce. In 2017, 37% of new HIV cases reported this mode of transmission in the Eastern Region.
- In the Region, 53% of people are late presenters, which increases the risk of further disease progression, mortality, and spread of HIV.

<sup>&</sup>lt;sup>7</sup> HIV/AIDS surveillance in Europe 2018: 2017 data / European Centre for Disease Prevention and Control WHO Regional Office for Europe;

Retrieved from https://ecdc.europa.eu/en/publications-data/hivaids-surveillance-europe-2018-2017-data

<sup>&</sup>lt;sup>8</sup> Geographical zones of the WHO European Region (53 countries):

West: Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, the United Kingdom.

Center: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Hungary, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey.

East: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldavia, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

## **NEW HIV CASES**

In 2017, 159 420 of new HIV cases (20.0 per 100,000 population)<sup>9</sup> were reported in 50 out of 53 countries in the Region. Continuing the trend of the last decade, the total number of new HIV cases was the highest in the East, amounting to 130 861 cases (82%) in 2017. The reported HIV incidence was higher among men comparing to women in all age groups except for those under 15 years of age. By the age structure, persons aged 15-24 amounted to 9.3%, 50 and older – 16.1%; the ratio between men and women was 2.2. Late detection of HIV-positive people is observed, in particular, HIV infection clinically diagnosed at late stages (CD4 <350 cells/mm3) accounted to 53.1% of persons, with this indicator being the highest in the East (57.2%). Table 2 contains descriptions of new HIV cases reported in the Region.

Indicators	Region	West	Center	East
Number of new HIV cases	159 420	22 354	6 205	130 861
Incidence rate (per 100 000 population)	20.0	6.9	3.2	51.1
Percentage of people aged 15-24	9.3%	11.0%	13.7%	6.9%
Percentage of people aged 50 and older	16.1%	20.7%	13.1%	13.0%
Men/women ratio	2.2	2.9	5.8	1.6
Percentage of cases with CD4 <350 cells/mm3	53.1%	48.0%	52.5%	57.2%

## **Table No.2**. Characteristics of new HIV casesin the WHO European Region in 2017

Distribution of new HIV cases by the modes of HIV transmission demonstrates heterogeneity of the epidemic situation in the Region: 56% – heterosexual contacts; 14% – homosexual contacts; 29.4% – injection drug use; 0.6% – mother-to-child transmission of HIV. The incidence is increasing among MSM in many Western and Central countries and among persons who have unprotected heterosexual contacts in the East (Figure 3). The aggregated data from the Russian Federation show that the percentage of new HIV diagnoses with heterosexual transmission had increased from 42% in 2008 to 59% in 2017, while the percentage of PWID decreased from 55% to 37%, respectively.





Period of coverage by medical supervision was estimated based on a sample of 26 147 new HIV cases for which information on diagnosis dates and CD4 counts was available. Linkage to care during 3 months after diagnosis was documented in 86% of persons with the highest indicator in the Center (96%) and the lowest in the East (82%).

<sup>&</sup>lt;sup>9</sup> 49 countries provided information on 55,018 new cases using a single electronic surveillance system (TESSy). Information on 104,402 cases, diagnosed in the Russian Federation, was obtained from official sources of the Russian Federal Scientific and Methodological Center on AIDS prevention and control. No data were available from Germany, Turkmenistan and Uzbekistan.

## **HIV CASES**

Information on the AIDS incidence and AIDS-related deaths was provided by 47 Member States of the WHO European Region<sup>10</sup>. In 2017, 14 703 new cases of AIDS (2.3 per 100,000 population) were registered in the Region, 78% of those were documented in the East (10.2 per 100,000 population), 17% in the West (0.7) and 6% in the Center (0.4).

During 2008 – 2017, the incidence of new AIDS diagnoses in the Region remained practically unchanged. However, AIDS incidence rate increased by 100% in the East over the past 10 years (from 5.1 to 10.2 per 100,000 population), remained stable in the Center (0.4 per 100,000 population) and was declining steadily in the West. (from 2.1 to 0.7 per 100,000 population).

In 2017, TB was diagnosed in 20% of AIDS patients (15% in the West, 19% in the Center and 26% in the East). The most widespread AIDS-defining illness is wasting syndrome (17% of all AIDS patients), pulmonary TB (13%) and esophageal candidiasis (9%). These diseases account for 38% among patients with AIDS that were infected heterosexually. 50% of patients who were infected with HIV due to injection drug use are most often diagnosed with extrapulmonary and pulmonary TB, wasting syndrome: 62% of MSM with AIDS are diagnosed with pneumocystis pneumonia, wasting syndrome and pulmonary TB.

4,933 people died of AIDS in the Region in 2017, which was 14% less compared to 2008 (5,718 deaths). 84% of deaths due to AIDS were reported in the East, 11% in the West, 5% in the Center.

Among the countries of the East, the highest number of HIV tests per 1,000 population (excluding blood donors and anonymous testing) was recorded in Belarus (160.0) and Kazakhstan (150.0); the highest rates of new HIV cases per 100 000 population were registered in the Russian Federation (71.1), Ukraine  $(37.0)^{11}$ , Belarus (26.1) and Moldova (20.6). Table 3 contains HIV/AIDS statistical data by Eastern countries for 2017.

Table No.3. Number of HIV tests, new HIV/AIDS cases and deaths due to AIDS in the Eastern countri	es of the
WHO European Region in 2017 <sup>12</sup>	

Countries	HIV tests per 1,000 population	New HIV cases			New AI	DS cases	New cases of deaths due to HIV		
	13	absolute number	per 1,000 population	% of persons <sup>14</sup> with CD4 < $350$ cells/mm <sup>3</sup>	absolute number	per 1,000 population	absolute number		
East	-	26 459	23.6	55.6	11,454	10.2	3 997		
Azerbaijan	66.9	570	5.8	52.0	168	1.7	18		
Belarus	160.0	2 468	26.1	-	439	4.6	67		
Armenia	40.8	354	12.1	54.8	144	4.9	74		
Georgia	53.0	631	16.1	52.2	258	6.6	80		
Estonia	78.2	219	16.6	53.8	20	1.5	4		
Kazakhstan	150.7	3,019	16.6	45.6	361	2.0	209		
Kyrgyzstan	62.3	840	13.9	67.5	59	1.0	27		
Latvia	42.0	371	18.8	62.0	118	6.0	31		
Lithuania	39.4	263	9.1	66.3	54	1.9	4		
Moldova	39.7	836	20.6	53.3	278	6.9	50		
Tajikistan	68.6	1 208	13.5	62.5	247	2.8	135		
Russian	-	104	71.1	-	-	-	-		
Federation		402							
Ukraine	42.8	15 680	37.0	58.8	9 308	21.9	3 298		

<sup>&</sup>lt;sup>10</sup> There are no data for Belgium, Germany, the Russian Federation, Turkmenistan, Uzbekistan and Sweden

<sup>&</sup>lt;sup>11</sup> Excluding data of the Autonomous Republic of Crimea and part of the territory of the anti-terrorist operation and excluding data on children born to HIVpositive women with unknown HIV-status <sup>12</sup> excluding Turkmenistan, Uzbekistan

<sup>&</sup>lt;sup>13</sup> excluding HIV testing among blood donors (its components), other biological fluids, cells, tissues and organs, and anonymous testing

<sup>&</sup>lt;sup>14</sup> among newly diagnosed people aged 14 and older

## Section II. UKRAINE'S PROGRESS IN REACHING 90-90-90 TARGETS

## 2.1. National HIV/AIDS strategy

In 2018, the National Targeted Social Program on HIV/AIDS for 2014-2018 (Program) was completed<sup>15</sup>. After the implementation of the National Strategy to Fight the HIV Epidemic, an average of UAH 1.3 billion was spent on program activities annually. During 5 years, the total sum of funding reached UAH 6.6 billion. It should be noted that the cost of implementing regional target programs increased significantly, almost 3.5-fold compared to 2014. In total, the share of expenditures from state sources (state budget funds, oblast and city budgets) accounted for 52%.

Targeted resources increased nearly 6-fold during the period of the Program implementation, which helped not only to ensure the continuity of existing HIV/AIDS services, but also to expand them both in public organizations and in health care facilities. In response, the sustainability of measures was ensured, but not limited to, by a substantial contribution from international technical assistance projects, in particular, the Global Fund to Fight AIDS, Tuberculosis and Malaria, USAID, CDC, PEPFAR, AHF, etc. The total amount of external aid during 2014-2018 exceeded UAH 3.1 billion. (Table 4).

Sources of funding	data	2014	2015	2016	2017	2018	Total
State budget	plan	785763.56	857157.26	920780.80	1122393.88	1133964.71	4820060.21
	actual	171334.74	349959.30	415953.55	911040.30	424407.56	2272695.45
Result	%	22%	41%	45%	81%	37%	47%
Local budgets	plan	11385.34	11382.63	11380.75	147135.09	150093.77	331377.58
	actual	206398.62	41978.90	99040.88	136988.08	689831.52	1174238.00
Result	%	1813%	369%	870%	93%	460%	354%
Other sources	plan	379672.88	419700	429337.76	0.00	0.00	1228710.64
(including GF)	actual	635449.47	25502.20	835628.35	941204.67	684967.50	3122752.19
Result	%	167%	6%	195%	-	-	254.15%
Total under the	plan	1176821.78	1288239.89	1361499.31	1269528.97	1284058.48	6380148.43
Program							
	actual	1013182.84	417440.40	1350622.78	1989233.05	1799206.58	6569685.65
Result	%	86%	32%	99%	157%	140%	103%

**Table 4.** Volume and structure of costs for the implementation of the National Targeted Social Program on HIV/AIDS for 2014-2018<sup>16</sup>

According to 2018 results, the major part of funds (47%) was used for the provision of medical care to PLWH (ART and clinical and laboratory support of its effectiveness), of which 70% were channeled for ARV drugs, in particular. 33% of the annual funds was spent for preventive measures - 42% of those were used for the implementation of measures among KG, 39% - for the prevention of mother-to-child transmission of HIV and 19% - for primary prevention of HIV infection among general population. Almost 13% was spent on testing and reducing the gaps in the number of PLWH who know their HIV status.

27 indicators, approved by the Monitoring and Assessment Plan for Implementation of the National Targeted Social Program on HIV/AIDS for 2014-2018, were used to measure progress in reaching the Program targets<sup>17</sup>. According to the Program results, an analysis of implemented events in the context of target indicators achievement was performed and gaps in fighting HIV/AIDS in Ukraine were identified. Presented information is based on the assessment of changes in indicators compared to the baseline and target values (Figure 4).

<sup>&</sup>lt;sup>15</sup> https://zakon.rada.gov.ua/laws/show/1708-18

<sup>&</sup>lt;sup>16</sup> Clarification of volumes and a more detailed cost analysis will be presented after a study is conducted to assess the national costs to fight HIV/AIDS epidemic in Ukraine.

<sup>&</sup>lt;sup>17</sup> https://zakon.rada.gov.ua/rada/show/v0002828-15





Summarizing the Program results, a large share of indicators (37%) demonstrates that significant success was achieved and the set Program targets were reached, in particular:

- HIV prevalence among young people aged 15-24 decreased from 0.33% to 0.22% (target: 0.27%), demonstrating progress in reducing the number of new HIV cases in general population (based on indicator of HIV infection in pregnant women aged 15-24).
- Progress in reducing mortality from HIV-related diseases was achieved: the indicator decreased from 11.5 to 8.9 per 100,000 population (target: 9.9 per 100,000 population).
- One of expected results of the Program was reduction of HIV infection among KG representatives. According to data of integrated bio-behavioral survey (IBBS), success was achieved only in one group: HIV prevalence rate among female sex workers in 15-24 age group decreased from 2.3% to 1.3% (target: 1.4%).
- A significant increase in the coverage of prisoners by HIV testing from 36% to 68.9% (target: 60%) demonstrated progress in the implementation of prevention programs in penitentiary system and increased access to HIV testing services among prisoners.
- During the Program implementation period, the number of KG representatives covered by prevention programs increased by 13%<sup>18</sup>. Most progress was achieved among MSM: the number of people receiving the minimum preventive care package doubled compared to 2013.
- The Program was successful in accomplishing the task of providing access to continuous ART treatment for 100 percent of HIV infected people. The number of people with HIV on ART doubled from 55,800 to 102,400 (target: 118,000) compared to 2013<sup>19</sup>.
- In order to reduce TB/HIV co-infection mortality and improve the quality of life of PLWH, ART coverage of HIV-positive patients with TB-coinfection receiving tuberculosis treatment increased from 64.6% to 79.5% (target: 70%).

One third of the indicators (33%) demonstrate failure to achieve the Program targets, but the obtained results indicate that progress and positive changes were reached in the following areas:

- Indicator, used to assess the Program's success in bringing the number of new HIV cases among general population to zero, demonstrates slow improvement of the epidemical situation: HIV prevalence among pregnant women decreased from 0.87% to 0.74% (target: 0.49%).
- As mentioned above, the goals of reducing HIV infection among KG representatives were achieved only among female sex workers. The percentage of PLWH in 15-24 age group decreased from 6.4% to 5%, but the target was not reached (target: 3.5%).
- Introduction of program to prevent mother-to-child transmission of HIV further reduced mother-to-child transmission rate from 4.3% in the children cohort of 2012 to 3.6% in 2016 or 2% in 2018 (based on early diagnosis by PCR method). The program target for the vertical HIV transmission was to reduce it to 1%.

<sup>&</sup>lt;sup>18</sup> Considering the fact that the Program targets were set in 2013 and were determined for Ukraine's whole territory, including the AR of Crimea, Donetsk and Lugansk oblasts.

<sup>&</sup>lt;sup>19</sup> In total, 122,700 based on information received from the Autonomous Republic of Crimea, Sevastopol and territories of Donetsk and Luhansk oblasts temporarily uncontrolled by the Government of Ukraine

- Assessing progress in the implementation of prevention programs for MSM, it should be noted that, according to the research, the percentage of MSM covered by HIV testing increased from 38.3% to 43.3% (IBBS, 2017), but the coverage rate of 55% was not reached.
- The target of reaching 100% coverage of HIV-positive people registered with HCFs by health and social services was not achieved. Although the percentage of PLWH who underwent medical supervision during 2018 increased to 82.5% from 74.9% in 2013, nearly 18% of patients failed to visit a medical facility for various reasons during 2018.
- The percentage of children on ART from the share of HIV-positive children under medical supervision in HCFs substantially increased from 89.6% to 98.2% (target coverage: 100%).
- Evaluation of programs effectiveness for TB/HIV co-infection treatment demonstrates that the situation improved, evidenced by the decreased number of TB-related deaths among PLWH from 5.6 in 2013 to 4.1 per 100 000 population (target: decrease to 3.0 per 100 000 population).
- The obtained results demonstrated gradual progress in the implementation of harm reduction programs, as evidenced by the increased coverage of opioid-dependent people by SMT services from 17% to 30.4% (target: 35%).
- According to sociological surveys, the level of discrimination against people living with HIV decreased by 20% compared to 2012 (from 85.3% to 68%), which demonstrates increased tolerance to PLWH (target: reduction of the level of discrimination by 50% compared to the baseline indicator).

Below are the indicators that have a negative deviation from the baseline indicators (26%), demonstrating that the situation worsened due to a lack of positive results in the process of implementation of certain preventive measures among the KG, as well as measures for care and support of  $PLWH^{20}$ .

- In particular, the indicator "Percentage of MSM living with HIV in 15-24 age group", which indicates recent HIV infection indirectly and which is used to assess the impact of prevention programs aimed at reduction of the number of new HIV cases among KG, increased from 3.0% to 6.7% according to 2017-2018 IBBS data (target: reduction to 2.1%).
- The targets to ensure progress in the implementation of HTS programs for KGs were not reached. According to IBBS, the percentage of PLWH covered by testing decreased from 42.8% to 38.6% (target: 55%), while the percentage of SWs decreased from 63.1% to 59.8% (target: 70%). The obtained results demonstrated the need for further implementation of programs to provide access to HIV counseling and testing among PLWH and SWs, and an increased need for such services.
- The target of increasing the knowledge on the ways of HIV transmission among young people was not reached. According to sociological surveys, the percentage of young people aged 15-24 who correctly identify ways to prevent sexual HIV transmission and know the ways of how infection cannot be transmitted decreased from 48% to 26.7% (target: 70%).
- The task of timely linkage to care of HIV-positive people was not fulfilled, negatively affecting the results of treatment and hindering Ukraine's achievement of 90-90-90 targets. During Program implementation, the percentage of PLWH in III and IV clinical stages of HIV infection that were registered for medical supervision among the total number of new HIV cases increased from 53.6% to 56.9% (target: the decrease to 37%).
- The situation with the provision of care and support services for PLWH, important for retaining HIV-positive patients in medical system and maintaining their adherence to ART has worsened. The percentage of care and support services for adults living with HIV decreased from 55.3% to 35.9%, for children from 82.8% to 23.4% (the set target for all PLWH age groups: 100%).
- Assessment of adherence of HIV patients to ART demonstrates slight fluctuation between 85.4% (2014) and 87.7% (2017), while the number of PLWH still receiving ART after 12 months of its initiation decreased to 84.9% in 2018 (target: 86%).

There is no information for the calculation of the indicator "Percentage of comprehensive educational institutions which have trained teachers and during the last academic year conducted training for students within life-skills development programs aimed to bring awareness about healthy lifestyle and HIV prevention".

It should be considered that the presented data do not completely and comprehensively reflect the scope of the national response to the HIV epidemic, but they rather provide a concise reflection of the process of implementation of the national strategy determined by the 2014-2018 Program (Table 1 of Annex 1).

Table 1 of Annex 3 contains indicators of the National Progress Report on Global AIDS Response in 2017-2018 (GAM reporting).

<sup>&</sup>lt;sup>20</sup> In 2018, integrated bio-behavioral studies were not conducted, therefore some indicators were not used to evaluate the results of previous researches (2017)

## **MAIN RECOMMENDATIONS**

Results that were obtained during implementation of the Program have identified the areas that need improvement and provided understanding on the direction of actions that will ensure that the response to the HIV epidemic is effective at all levels. They also showed what level of capacity is needed to be built and in what areas the efforts should be strengthened in order for Ukraine to reach the 2020 targets, determined by the UNAIDS and strategic goals "Acceleration: Ending the AIDS Epidemic by 2030". Recommendations for decision-makers and stakeholders at the national and regional levels based on the Program outcome are as follows:

### 1) as to HIV prevention:

1.1. ensure further implementation and sustainability of prevention services for KG, in particular, harm reduction programs;

1.2. take measures in overcoming barriers of KG representatives' access to HIV testing services, identify the amount of services needed based on the updated estimates of the number of KG and global goals for reducing HIV prevalence in these groups;

1.3. introduce modern interventions in order to provide access to prevention, especially for the representatives of KGs of young age;

1.4. increase the amount and quality of primary HIV prevention measures in general population, especially among young people;

1.5. achieve elimination of mother-to-child transmission of HIV and syphilis;

1.6. increase the number of PLWH who know their HIV status to 90%;

### 2) as to the continuum of medical services for PLWH:

2.1. introduce modern interventions aimed at increasing the coverage level of providing medical supervision to people diagnosed with HIV according to the "test-and-treat" strategy;

2.2. accomplish the task of early HIV diagnosis and timely linkage to care of persons with positive HIV status;

2.3. ensure access to continuous ART treatment for all patients with HIV that require it and to provide treatment to at least 90% of PLWH who are under medical supervision;

2.4. ensure accessibility and sustainability of comprehensive services for people with TB/HIV co-infection;

2.5. identify the need and ensure rational coverage of PLWH by care and support services;

2.6. continue removing barriers to effective response to the HIV epidemic due to lack of knowledge about HIV/AIDS and reducing discrimination against KG and PLWH in society.

## **2.2. HIV/AIDS estimation data**

Model-based analysis with consideration to all available up-to-date data is an additional source of information for monitoring national and global HIV epidemics, as well as managing prevention and treatment programs. The national and regional estimates were obtained using Spectrum program (version 5.756 beta 5), recommended by the UNAIDS/WHO Global HIV/AIDS Surveillance and STI Working Group<sup>21</sup>.

The estimates, received in Ukraine as of January 1, 2019, were examined by the UNAIDS and WHO and were approved and recommended for use by the National Council on Tuberculosis and HIV/AIDS at a regular meeting held on May 23, 2019 (Table 2 of Annex 1).

According to results of the model-based analysis, the estimated number of PLWH in Ukraine accounted for 240 000 people [220 000-260 000] at the end of 2018. After a rapid increase of the PLWH number over the past 15 years (starting from 2005), the total number remains almost unchanged and ranges from 220 000 to 240 000 people with a slight increase after 2016 (Figure 5).



Figure 5. The number of people living with HIV in Ukraine (model-based analysis)

In particular, the number of PLWH currently living in the government-controlled territories stands at 198 780, and about 41 200 PLWH - in the rest of the territories (the Autonomous Republic of Crimea, Sevastopol and temporarily uncontrolled territories of Donetsk and Luhansk oblasts). Based on the results of the model-based analysis, currently, in Ukraine, the total of 70 000 people [40,000-80,000] have unknown HIV diagnosis and are not registered in care. Underachievement of the target indicator of "90 % of PLWH know their status" was 23% at the end of 2018.

According to the estimates, **13 000 people** were infected with HIV in 2018 [10,000-15,000]. The number of new cases increased rapidly in the 1990s, reaching a peak in 2000 (29,000), experiencing then a subsequent gradual decline. Since 2010, the scaling up of treatment programs has led to a slowdown and levelling of HIV incidence (Figure 6).

The results of advanced forecasting have demonstrated that if 90% of PLWH are covered with ART, the number of new HIV cases will likely to halve in the next two years.

<sup>&</sup>lt;sup>21</sup> http://spectrumbeta.futuresinstitute.org



According to the model-based analysis, **6 200 people** [4,700-8,000] living with HIV died of AIDS in 2018. The maximum mortality rate was observed between 2007 and 2009 with the estimated annual number of deaths at around 15 000 people (Figure 7).



Figure 7. AIDS-related deaths (model-based analysis)

AIDS-related mortality in Ukraine has been declining rapidly since 2013, probably, due to the scaling up of ART. The results of forecasting have clearly demonstrated the positive ART's effect on the prevention of AIDS-related mortality.

It is expected that early HIV diagnosis will increase the effectiveness of available treatment, and have a positive impact on the reduction of AIDS complications and the increase of life expectancy and quality among PLWH.

## 2.3. The HIV treatment cascade

Performance indicators for the National Targeted Social Program on HIV/AIDS for 2014-2018 help to evaluate the level of achievement of the UNAIDS 90-90-90 targets within the HIV treatment cascade. Achieving an undetectable level of VL in PLWH receiving treatment is one of the most important impact factors. During the 5-year period of Program's realization, and comparing to the 2013 base year, Ukraine has significantly reduced the gap towards the achievement of global 90-90-90 targets (Figure 8)<sup>22</sup>.



Figure 8. The HIV treatment cascade in Ukraine 2013, 2018 Progress in reaching 90-90-90 targets

According to the estimates, 239 956 people living with HIV resided on the territory of Ukraine at the end of 2018 (including 198 780 persons on the territory controlled by the Government of Ukraine).

**169 433** of PLWH know their status, and officially registered with HCFs (including 137 200 people living on the territories controlled by the Government of Ukraine). Although their number has increased by 28% over the past 5 years, almost 1/3 of PLWH, which is about 70 500 people, do not know their status still (41 500 of them reside on the territory controlled by the Government of Ukraine). The overall rate of achieving the first 90 is 71%.

**122 697** of PLWH are receiving ART (of which 102,432 persons are living on the territory controlled by the Government of Ukraine). The result obtained at this stage of the HIV treatment cascade, demonstrates the most tangible progress. The number of PLWH covered by treatment from the number of people with known HIV-positive status has doubled in the last 5 years, and the achievement rate of the second 90 has increased accordingly from 42% to 72% in 2018). In order to reach the ART coverage target, at least 30 000 of PLWH will have to receive treatment yet (90% of people who know their HIV status).

**113 581** of PLWH reached an undetectable VL (95 262 of them reside on the territory controlled by the Government of Ukraine) due to high quality medical care and social support for patients receiving treatment. At the end of 2018, 93% of PLWH receiving treatment had their VL levels reduced to <1,000 RNA copies/ml<sup>23</sup>.

## **MAIN RECOMMENDATIONS**

Based on the received results with regard to the provision of HIV treatment cascade and in order to achieve the UNAIDS 90-90-90 targets, Ukraine needs to identify, link to care, initiate treatment and reach an undetectable VL in 62 000 PLWH in total.

Reducing the gaps in the HIV treatment cascade should become an objective of HIV/AIDS strategic planning, aimed at ensuring the increase of efficiency, optimization of resources allocation and acceleration of outcomes.

<sup>&</sup>lt;sup>22</sup> Including data from the Autonomous Republic of Crimea, Sevastopol city, and territories of Donetsk and Luhansk oblasts, temporarily uncontrolled by the Government of Ukraine.

<sup>&</sup>lt;sup>23</sup> Rate of viral suppression recommended by the WHO (In more detail «Strategic information: a consolidated framework. In. Consolidated Strategic Information Guidelines for HIV in the Health Sector; 2015»).

## **2.4. Fast-Track-Cities Initiative (FTCI)**

Since the day when the Paris Declaration was signed (December 1, 2014), over 250 cities and municipalities have adopted it. Strategies in response to the AIDS epidemic, including but not be limited to, serve as a platform for transformation helping to address the issues of social exclusion, protection, security and health. Ukraine is the first among the Eastern European countries to support the acceleration strategy: Kyiv and Odesa have joined the movement of the most influential cities in the world.

Interventions that support the achievement of the 90-90-90 targets by providing the HIV chain of services are the major effort of FTCI in big cities to improve access to early diagnosis and treatment in order to reduce HIV incidence, death and the spread of infection.

## **Kyiv city**

The FTCI Paris Declaration was signed on April 6, 2016. Estimated data on the number of PLWH in Kyiv were updated resulting in the number 19 837 at the end of 2018 (the previous count: 23100)<sup>24</sup>. Implementation of acceleration strategy has helped to reduce the gaps at all stages of HIV care. The greatest success was achieved in the coverage of PLWH by antiretroviral therapy (Figure 9).





Indicator of achieving the first 90 – the number of PLWH who know their status – increased from 50% to 73% of the estimated number of PLWH. In order to reduce the gap in the number of PLWH who know their HIV status (50% in the base year of 2015), measures were taken to increase the coverage of population with HIV testing, first of all from the KG number, and to register the identified HIV-positive persons to care. Due to the decentralization of medical services, HTSs were introduced in each Kyiv city's HCF at the end of 2017. Despite the bigger number of services that are rendered to increase the number of HIV-positive people who know their HIV status, it has not been possible yet to improve testing targets: the highest percentage of positives HIV tests was registered in 2015 (1.5%), while this figure decreased to 1.2% in 2018.

Compared to the base year (2015), the number of people screened for HIV increased by 60%, the number of people with HIV-positive results increased by 35%, which was mainly due to the widespread introduction of rapid tests (Figure 10).

Overall, 782 000 people were screened in Kyiv during three years, 10 600 of them had HIV antibodies and 5 273 PLWH were registered with HCF regardless of the time when were diagnosed with HIV (*including foreigners and excluding children born from HIV-positive women with indeterminate HIV status*). Thus, the HIV incidence rate per each 1 000 population examined is 14 people, and only half of them gets registered in healthcare system in relation to HIV.

<sup>&</sup>lt;sup>24</sup> Section 2.4 of the publication contains further details



**Figure 10.** Increase of the number of people with HIV who know their HIV status: number of people screened for HIV and those with HIV+ result, Kyiv city

Number of PLWH, registered in HCFs in 2018 (*from the number of people newly diagnosed with HIV in the current year*) increased by 50% compared to 2015 (1 656 compared to 1 111 people), but the index corresponding to the coverage by medical supervision remains at a rather low level (Figure 11).

Significant progress has been achieved in the reaching of second 90 – the number of PLWH among those who know their status and receive ART – the indicator increased from 53% to 73% (Figure 12). Compared to 2015, the number of PLWH receiving ART has doubled. As of January 1, 2019, a total of 10 462 persons were receiving ART (9 543 of them were receiving ART at their local municipal HCFs and 919 persons - in the facilities subordinated to the Ministry of Health of Ukraine)<sup>25</sup>.





\* Note: the chart takes into account foreigners and does not co children born to HIV-positive women with an indeterminate HIV status in the value "Number of PLWH covered by medical supervision from the number of people newly diagnosed with HIV".

 $<sup>^{\</sup>rm 25}$  The indicators were updated within the data quality and completeness measures.





In 96% of PLWH receiving ART, the level of VL was less than 1 000 RNA copies/ml, in 89% – less than 40 RNA copies/ml. As for the global target of undetectable VL in 73% of PLWH, in Ukraine, the gap has narrowed from 21% in 2015 to 51% in 2018.

Major barriers to achieving the 90-90-90 targets in Kyiv: every fourth person living with HIV does not know his/her HIV status, and accordingly is not receiving healthcare due to HIV; half of people with positive HIV test are lost at the stage of linkage to care.

## **Odesa city**

Odesa has joined the cities, that signed the Paris Declaration on February 28, 2017. As of the end of 2018, the estimated number of PLWH in Odesa amounted to 17 047 persons. The implementation of acceleration strategy contributed to the increase of the number of PLWH receiving ART (Figure 13).



#### Figure 13. Progress in reaching FTCI targets, Odesa city

For many years, one of the gaps in HIV/AIDS counteraction has been the low level of medical coverage of people who were diagnosed with HIV when screened in HCFs. The problem appeared mainly due to the fact that serological tests for HIV in HCFs were carried out by mainly using ELISA method, when the waiting time for results took from 3 to 10 days in the majority of cases. The screened persons usually did not turn for the results of testing and 50% of them were lost for health care, accordingly.

Within the FTCI implementation in 2017, the City Department of Health approved a series of regulatory documents that identified the city's strategy aimed at a widespread implementation of HIV testing using RT, increasing the level of registration of HIV- positive people with HCFs: the algorithm of identification and referral of HIV-positive individuals was changed, patient routes were updated, and the procurement of RT using the city budget, and MDCs were created in each HCF. The City Target Program for HIV/AIDS, Tuberculosis, Hepatitis and Drug Addiction in Odesa "Fast-Track Odesa" was adopted on June 06, 2018 for 2018-2020. Due to the introduced changes, both the volume of testing and the number of identified HIV-positive people (by 20%) have increased compared to the 2016 base year (Figure 14).



**Figure 14.** Increase of the number of PLWH who know their HIV status: the number of people screened for HIV and people with HIV+ result, Odesa city

The program monitoring system was updated for the day-to-day management of activities, which included weekly collection and analysis of the received results.

Thus, due to mutual efforts of community and complex innovative approaches to the provision of care to PLWH, gaps were significantly reduced in the registeration of PLWH to care within a short period of time. At the end of 2018, the number of PLWH who know their status reached 70%.



**Figure 15.** Linkage of HIV+ people to medical care: number of identified HIV+ persons and statistics on linkage to care in HCFs, Odesa city

In 2016, (*prior to FTCI introduction*), 54% of PLWH from the number of people newly diagnosed with HIV were covered by outpatient supervision. In 2018, the indicator increased to 74% (Figure 15). In order to be objective in evaluating the results of the FTCI implementation, measures should be taken to align surveillance and medical statistics data between facilities of city, oblast and department subordinations at the level of Odesa region.

Overcoming the barriers to reduction of losses on the stage of referring of new patients to HCFs is a significant breakthrough towards the 90-90-90 targets. The number of identified HIV-positive persons increased by 60%, namely from 406 to 654, compared to 2016. The situation changed during last three years, which is illustrated below (Figure 16).

Figure 16. "FTCI Acceleration" result in Odesa: changes in medical supervision indicators among persons newly diagnosed with HIV



At the moment when the Paris Declaration was signed, Odesa had very low coverage of PLWH (34%). During two incomplete years of the Acceleration Strategy, the volume of medical care was substantially increased and almost 3,000 people were involved in ART within a short period of time. The number of PLWH receiving ART increased by 70% compared to 2016 demonstrating successful teamwork in the region. By the end of 2018, 56% of PLWH among those who knew their status and were linked to care were receiving ART in Odesa (Figure 17).



Figure 17. Increase of the number of PLWH receiving ART: number and percentage of PLWH receiving ART, Odesa city

Besides the increased volume of medical care provision to PLWH, the ART effectiveness was notably improved: the percentage of PLWH with VL <1,000 RNA copies/ml increased from 88% to 92% compared to 2016. The suppression of VL to undetectable level (<40 RNA copies/ml) was achieved in 83% of PLWH receiving ART.

Main barriers to achieving the 90-90-90 targets in Odesa: every 3 PLWH out of 10 do not receive medical care in connection to HIV; a quarter of people with HIV+ test results are lost at the stage of linkage to medical care.

## Section III. REVIEW OF EPIDEMICAL SITUATION IN UKRAINE<sup>26</sup>

## **KEY FACTS**

- In 2018, 15 749 people were newly diagnosed with HIV, the incidence rate was 40.8 [6.6 94.9] per 100 000 population.
- In 2018, the index corresponding to the coverage of HIV-positive people with medical care reached 79.1% [47.3 108.4].
- At the beginning of 2019, 137 176 HIV-positive citizens of Ukraine received medical supervision on the territories controlled by the Government of Ukraine 356.4 per 100 000 adult population [46.6 863.7] and 4,885 children had an indeterminate HIV status.
- Among HIV cases registered in 2018:
  - the majority of cases identified among male population: the ratio of men to women was 6:4;
  - the vast majority of people belonged to the age group of 25-49 y.o. (84.7%); and the number and percentage of people aged 40-50 and older is gradually increasing (15.1%);
  - Sexual transmission prevailed in the structure of HIV transmission: heterosexual transmission was registered in 72.2% of cases, homosexual in 3.2% of cases;
  - 58.7% of PLWH had a CD4 level <350 cells/ml at the time of screening when seeking medical help, of which 56.1% were diagnosed with AIDS.
- AIDS incidence rate was 22.9 [3.9 53.1] per 100,000 population, the AIDS death rate 8.9 [0.9 26.7].
- In 2018, 2 350 children born to HIV-positive women with indeterminate HIV status were registered to care for further medical supervision.

## 3.1. RESULTS OF SEROEPIDEMIOLOGICAL MONITORING OF THE SPREAD OF HIV

Seroepidemiological monitoring of the spread of HIV (SEM) reflects the results of HIV testing, performed within laboratory screening and confirmation (verification) studies. Annually, about 2.3 to 2.5 million people in Ukraine undergo screening for HIV (Annex, Table 1).

In 2018, 2 415 202 citizens of Ukraine were screened, representing 5.7% of the average annual population. Almost half of the tests are performed among donors and pregnant women – 50.9% (1 229 365 persons). This indicator is high in Vinnytsia (69.7%), Ivano-Frankivsk (76.0%), Kyiv (63.2%), Kirovograd (70.9%), Lviv (78.9%), Poltava (70.0%), Ternopil (78.0%) and Khmelnytskyi (68.6%) oblasts.

As for the rate per 100 000 population in Ukraine, the number of HIV screenings accounted for 6 280 in 2018 (Figure 18). The resultiveness of testing (HIV infection rate within the SEM) in 2018 was 0.95% (22,881 people) and was slightly higher among other population categories excluding donors and pregnant women -1.81% (21,423 people). The vast majority of HIV-positive people was identified using instrumental methods (ELISA, IB) - 63.8% (13,677 persons)<sup>27</sup>.

There is a continuing trend of decreasing HIV infection rates (percentage of those screened) across all SEM codes except for the code 119 (deceased). The highest rates of HIV infection are for the codes 119 (deceased; 28.5%) and 101 (persons who had sex with HIV-positive people; 4.87%). See Tables 1-15 of Annex 2 for more details.

<sup>&</sup>lt;sup>26</sup> The information presented in this section **does not include** children born to HIV-positive women whose HIV status was not established; the statistics of temporarily occupied territories of the Autonomous Republic of Crimea, Sevastopol and temporarily uncontrolled territories of Donetsk and Luhansk oblasts **is not taken into account**; **incidence rates** of Donetsk and Luhansk regions are calculated based on the population of the territories controlled by the Government of Ukraine.

<sup>&</sup>lt;sup>27</sup> Excluding SEM data by codes 108 (donors) and 109 (pregnant women)



## **Figure 18.** Dynamics of the number of HIV screenings (per 100,000) and the rate of HIV infection among Ukrainian citizens

The use of rapid test in Ukraine is increasing every year. In 2018, the number of persons screened using RT amounted to 1/4 of the total number of persons who received HTS – 26.0% (628,461 persons); excluding testing among donors and pregnant women – 51.6% (612,187 people). The tests were rarely used in Zakarpattia (9.3%), Ivano-Frankivsk (13.0%) and Volyn (15.5%) oblasts (Table 3 of Annex 2).

In 2018, the resultiveness when using RT for HIV detection (except donors and pregnant women) stood only at 1.27% as opposed to 2.38% when using instrumental methods. However, in three oblasts the use of RT was more effective than ELISA, namely: Zaporizhzhia (1.22% vs. 1.0%, respectively), Kherson (2.24% vs. 1.02%), Chernihiv (1.55% vs. 1.4%) oblasts. According to the official reports, no positive HIV test results were obtained using RT in 4 oblasts (Volyn, Lviv, Kharkiv and Chernivtsi) (Table 4 of Annex 2).

Over the last three years, the number of people screened for HIV in HCFs using RT for the code 113 (from 52 177 to 144 704 people) and their share in the total number of people screened for HIV using RT has increased by 2.8 times (from 17, 9% to 37.7%, respectively). A similar trend was observed in the rates of detection of HIV-positive persons in HCFs using RT, where the number of such persons increased by 2.6 times (from 1 038 to 2 703 persons) during this period. Accordingly, their share in the total number of all persons identified using RT increased (from 16.5% to 38.5%, respectively). However, the resultiveness of population testing using RT for the code 113 has not changed significantly and currently accounts for 1.99%, 2.58% and 1.83%, respectively (Table 9 of Annex 2). It can be assumed that routine provision of HIV Testing Services (HTS) at the initiative of a healthcare provider in HCFs of different profiles remains to be a lost opportunity, especially for primary care facilities.

The SEM data are less informative in terms of coverage of key groups by HTS, as they actually do not take into account KGs screened for HIV by the codes of medical facilities, primarily due to THE reluctance of most KGs to inform HCFs that they belong to such groups (Table 10 of Annex 2).

In order to compare the results by regions, an indicator of the number of screenings of KG per 100 000 population was calculated, excluding donors and pregnant women. In Ukraine, the average indicator stands at 3984.1 per 100 000 population [1472.7 - 7966.9] whereas the share of screened KG representatives from the total number of those screened (excluding donors and pregnant women) - 19.1%. This indicator ranged from 3.1% in Zakarpattia oblast to 29.1% in Kyiv and Lviv oblasts, which emphasizes significant differences in HTS provision at the regional level (Figure 19).





## **3.2. REGISTRATION OF HIV-POSITIVE PEOPLE IN HCFs**

As of 01.01.2019, 137 176 HIV-positive citizens of Ukraine were registered with HCFs - 356,4 per 100 000 population [46,6 - 863,7] and 215 foreigners (Figure 20).



**Figure 20.** The number of PLWH registered in HCFs per 100 000 population by Ukraine's regions as of 01.01.2019

The situation at the regional level differs significantly both by the number of known HIV cases and the incidence rate of these cases per 100 000 population. In fact, half (52%) of all PLWH that are registered in HCFs are located in 4 out of 25 regions – Dnipropetrovsk (24 961 people), Odesa (20 486 people), Donetsk (12 213 people) oblasts and the Kyiv city (13 424 persons). In 2018, the highest indicators per 100 000 population were observed in Odesa (863.7), Dnipropetrovsk (773.3) and Mykolaiv (760.1) oblasts, the lowest - in Zakarpattia (46.6) and Ivano-Frankivsk (79.1) oblasts, respectively. The number of patients with AIDS amounted to 46 380 people (33.8% of all registered PLWH) – 120.5 per 100 000 population [46.6 – 863.7] (Table 24 of Annex 2).

In terms of the age and sex structure of PLWH, the predominance was observed among men (53.8%) and persons aged 25-49 (80.2%) in the age group 15 and older. Most of them are urban residents -78.4%.

During 2018, 2 419 children with final HIV-negative status born to HIV-positive women were removed from the HIV register along with 17 280 adult patients, including: 6,761 (39.1%) due to death, regardless of the cause of death; 3,759 (21,8%) due to change of residence; 6,760 (39.1%) – for other reasons.

Among patients who were removed from the register for other reasons, 80% (5,407 people) had not received medical supervision for over 5 years; 2.7% (180 people) refused from further medical supervision; 10 people (0.1%) due to false positive HIV testing results. In addition, after the introduction of the MIS-HIV database, 1 163 (17.2%) duplicates were identified.

## **3.3. REGISTERED HIV CASES**

Over the last 10 years, in Ukraine, the number of HIV cases has been gradually decreasing, mostly, due to a lack of statistics from the temporarily occupied territories of the Autonomous Republic of Crimea, Sevastopol and the territories of Donetsk and Luhansk oblasts not controlled by the Ukrainian Government. However, the situation started changing after 2015: the number of reported cases increased (by 21% in 2018 compared to 2015), influencing the growth rate of registered cases - from 37.0 to 40.8 per 100 000 population in 2018 with year-on-year growth rate of +0.5% (Figure 21).





The coverage of HIV-positive people by medical supervision from the number of newly diagnosed people shows an upward trend and has increased from 68.4% to 79.1% over the past 5 years.

The region's contribution to the increase of detected and reported cases of HIV varies significantly due to many factors, including social, demographic, epidemic and resource factors. In 2018, the highest rates of HIV infection per 100,000 population were registered in Dnipropetrovsk (94.9) and Odesa (94.5) oblasts, accounting for 33.8% of all cases registered in the country during the year. The indicators for Donetsk (73.0), Mykolaiv (63.8), Kyiv (47.2), Kirovohrad (43.1), Chernihiv (42.2), Kherson (48.4) oblasts and Kyiv city (56.7) are significantly higher than the average indicators across Ukraine. The lowest incidence was reported in Ternopil (6.6) and Zakarpattia (9.4) oblasts (Figure 22).





Based on the data obtained from the screening of new HIV patients on the level of immunosuppression by the number of CD4 cells, it can be said that late turning of HIV-positive people for medical care is observed on the whole territory of Ukraine (Table 20 of Annex 2).

Compared to 2014, the proportion of PLWH with immunosuppression rates <350 cells/mcl increased from 45.8% to 58.7% in 2018. The indicator has significant differences at the regional level and is the smallest (34.8%) in Ternopil oblast with 100% coverage with the CD4 count testing. The highest proportion of PLWH registered in care in HCFs with CD4 <350 cells/mcl was recorded in regions with the so-called mature epidemic – Dnipropetrovsk (58.5%), Donetsk (58.6%), Mykolaiv (67, 8%), Odesa (61.5%), Kherson (60.2%) and Chernihiv (59.0%) oblasts. The lowest coverage of HIV-positive people by medical care is observed in Kyiv (47.3%,) where this indicator is also quite high (58.9%) and can be mainly explained by the high level of internal migration, in particular, the movement of citizens from different regions to the capital of the country due to social, economic and political factors.

The HIV epidemic in Ukraine is concentrated in cities. In 2018, 76.7% of identified HIV infections was reported in urban population (47.1 per 100 000 population) and 23.3% in rural (28.4 per 100,000 population). The gender structure of new HIV cases shows a gradual increase in the proportion of men, which was 61% in 2018 (Figure 23).

Figure 23. Men account for the majority of registered HIV cases in Ukraine (61% in 2018)

According to the number of registered cases, HIV incidence has increased from 43.4 to 53.7 among men per 100 000 population, and from 28.7 to 29.8 among women over the past 10 years. In fact, every 3 registered cases of HIV among men account for 2 cases among women. In the age structure of new HIV cases, 25-49 age group prevails standing at 84.7% of all PLWH taken under medical supervision in 2018; the proportion of persons aged 15-24 is 4.8%, those aged 50 and over -14.8% (Table 17 of Annex 2).

Over the last 10 years, the proportion of new cases among young women aged 15-24 has decreased from 23.6% to 6.7%, among young men – from 7.3% to 3.6%, respectively. The opposite trend was observed among older age groups – the proportion of new cases among women aged 40 increased from 17.6% in 2009 to 44% in 2018, among men – from 24.2% to 43.6%, respectively.

On the one hand, changes in age structure may be a sign of "aging" of the HIV epidemic, while, on the other hand, it may confirm the tendency of late referral of HIV-positive people to medical facilities, meaning that the

overwhelming majority of persons above 40-50, that belong to the so called "new cases of HIV infection", was infected several years ago.

Sexual way of infection transmission prevails in the structure of HIV transmission (considering the rate of mother-to-child transmission) and amounted to 75,4% in 2018 (Figure 24).



**Figure 24.** Structure of HIV transmission among newly registered HIV cases in Ukraine 2005-2018

Proportion of heterosexual way of transmission is steadily increasing, accounting for 72.2% of the newly reported HIV cases in 2018 (Table 2 of Annex 2). However, it is likely that a number of HIV-positive people are trying to conceal the facts about their risky drug-related behavior or avoid being associated with MSM.

According to the official registration, the share of injectable drug infections has been gradually decreasing and amounted to 24.0% in 2018, although the number of cases associated with this mode of HIV transmission remains high. The epidemiological concern is primarily due to the high risk of being infected by injecting drug use, the difficulty of involving PWID into prevention programs, as well as the highest HIV prevalence in this group compared to other KGs as according to the latest BBS: the average of 22,6%, ranging from a minimum of 0.8% in Uzhhorod to 43.7% in Chernihiv.

The proportion of PWID among new HIV cases was higher in Kharkiv (35.6%), Kyiv (35.4%), Lviv (27.8%), Cherkasy (27.6%) oblasts and Kyiv city (27.0%) compared to other regions of Ukraine. In 8 oblasts (Donetsk, Zakarpattia, Lviv, Rivne, Sumy, Kharkiv, Cherkasy), the number of PWID newly diagnosed with HIV increased compared to 2017 (Table 19 in Annex 2).

The MSM group moves toward occupying more significant proportion of the general epidemic numbers. The proportion of men infected with HIV through sexual contacts with men has been increasing and, in fact, doubled in the last 5 years: from 1.8% to 3.2%. Every second person who was infected due to homosexual contacts (among 506 registered in 2018) was identified and referred to HCFs by social workers of NGOs.

Overall, over the last 10 years, the number of newly registered HIV-positive MSM has increased more than 5fold (from 94 to 506 people) primarily due to the improvement of MSM access to HTS and prevention programs as a whole. Due to a high level of MSM stigmatization in society, male patients rarely admit their belonging to homosexual community as well as transmission mode, often claiming that they were infected through their sexual contacts with women.

As noted above, the HIV epidemic has significant differences across Ukraine. Mostly, the difference in indicators is observed between the southern and western regions. Thus, the highest rate of HIV registration per 100 000 population is recorded in the south (74.4 versus 14.5 in the west). The percentage of people aged 15-24 is the highest in the western regions (8.0%), while the proportion of people aged 50 and older is higher in the southern regions compared to other regions (17.6%). South also has a high rate of late-presenters (63%) and the structure of HIV transmission differs (see Table 5).

Indicator	Ukraine	South	North	Center	East	West
Number of newly registered HIV-positive people	15 749	3 399	3 495	1 492	5 829	1 534
Incidence per 100 000 population	40,9	74,4	43,8	28,9	56,8	14,5
Percentage of people aged 15-24, %	4,8	5,0	4,9	4,3	4,0	8,0
Percentage of people aged 50 and older, %	14,8	17,6	11,3	13,5	16,2	12,5
Men and women ratio	1,6:1	1,4:1	1,7:1	1,4:1	1,5:1	1,8:1
Percentage of people with CD4 <350 cells/mm <sup>3</sup> , %	59	63	58	57	58	54
Ways of HIV transmission, %						
Sexual, via homosexual contacts	3,2	4,6	1,5	1,5	1,5	1,9
Sexual, via heterosexual contacts	72,2	75,7	69,7	75,9	69,7	81,6
Parenteral, via injecting drug use	24,0	18,5	28,1	22,1	27,7	16,2
From HIV-positive mother to child	0,5	0,7	0,5	0,2	0,5	0,4
Unknown or being specified	0,2	0,5	0,2	0,3	0,1	0,0

## Table 5. Regional peculiarities of the structure of newly registered HIV cases in Ukraine in 2018<sup>28</sup>

According to laboratory tests, during linkage to care, HIV-positive persons aged 15 and older where screened positively for either hepatitis B or hepatitis C markers - at 5.8% and 22.3% respectively; 22.0% of them had markers of STI and 405 persons were diagnosed with syphilis (Table 6).

 Table 6. Results of screening for Hepatitis B, Hepatitis C and STI markers in persons newly diagnosed with HIV aged 15 and older, Ukraine

	201	6	201	7	201	8
Indicator	absolute number	%	absolute number	%	absolute number	%
Total number of HIV-positive people aged 15 and older, of which:	14 249		15 578		15671	
Screened for Hepatitis B markers,	10 869	76,3	12 070	77,5	12 676	80,9
of which – detected Hepatitis B markers	1 202	11,1	1 844	15,3	916	5,8
Screened for Hepatitis C markers,	10 686	75,0	11 820	75,9	12 677	80,9
of which – detected hepatitis C markers	3 080	28,8	3 709	31,4	3491	22,3
Screened for STIs, of which:	11 714	82,2	13 179	84,6	14167	90,4
persons with STIs	3 413	29,1	3 109	23,6	3458	22,0
persons with syphilis	151	1,3	182	1,3	405	2,6

## **3.4. MORBIDITY AND MORTALITY DUE TO AIDS**

Late diagnosis of HIV, AIDS-related morbidity and mortality from AIDS diseases remain a challenge in the fight against the HIV epidemic. Over the past 10 years, the number of AIDS patients and AIDS deaths has increased steadily, and their numbers have remained almost unchanged: 8,500 - 9,000 new AIDS cases and 3,000 - 3,500 AIDS deaths have been reported annually since 2014 (Figure 25).

<sup>&</sup>lt;sup>28</sup> South – Mykolaiv, Kherson, Odesa oblasts; North – Zhytomyr, Kyiv, Chernihiv, Sumy oblasts and Kyiv city; Center – Vinnytsia, Kirovohrad, Poltava, Cherkasy oblasts; East – Dnipropetrovsk, Donetsk. Zaporizhzhia, Luhansk, Kharkiv oblasts; West – Volyn, Zakarpattia, Ivano-Frankivsk, Lviv, Rivne, Ternopil, Khmelnytsky, Chernivtsi oblasts



Figure 25. Number of AIDS cases and AIDS-related deaths in Ukraine, 2009-2018

In 2018, 8,839 AIDS cases were diagnosed (22.9 per 100,000 population; an increase compared to 2009 is + 99%). The highest rates of AIDS incidence per 100,000 population were registered in Odesa (74.6), Dnipropetrovsk (53.1) and Donetsk (51.4) oblasts, the lowest were reported in Ivano-Frankivsk (3.9), Ternopil (4.0) and Chernivtsi (5.1) oblasts (Figure 26; Table 21 of Annex 2).





Among newly registered patients with AIDS aged 15 and older in 2018:

- men predominated by gender (61.2%; 5 367 persons);
- among age groups, the majority were persons aged 40 and older (53.4%; 4 686 persons);
- sexually transmitted infections were the most prevalent (72.8%; 6 387);
- 4 830 (54.6%) people newly diagnosed with AIDS had tuberculosis.

Important factors affecting the mortality rate due to HIV-related diseases are timely HIV diagnosis, early initiation of ART, degree of adherence to treatment, and medical support. 3 448 patients died of AIDS during the year (8.9 per 100,000 population; growth rate amounts to + 27% compared to 2009 indicator).

The highest rates of AIDS deaths per 100 000 population were registered in Dnipropetrovsk (26.7), Odesa (21.1), Mykolaiv (13.7) and Kirovohrad (12.3) oblasts, and the lowest - in Zakarpattia (0.9), Ternopil (0.9), Ivano-Frankivsk (2.4) and Rivne (2.6) oblasts (Figure 27; Table 22 of Annex 2).



Figure 27. AIDS mortality in Ukraine's regions, 2018

In total, 6 761 HIV-positive people died in 2018. Death of 52.5% (3,578) of them was directly related to HIV, 47.5% died either of other diseases (2,167 people) or for other reasons (388 people) or the cause of death was not identified (658 people) (Table 23 of Annex 2). In 2018, the proportion of PWID increased from 36.7% to 40.4% in the total number of HIV-positive deceased people compared to 2017.

In Ukraine, the concentrated stage of the HIV epidemic has been recorded since 1996. However, given high rates of HIV prevalence among pregnant women in some regions (above 1%) and recent results of bio-behavioral survey among KG, it is possible to say that the epidemic process clearly varies by regions and that there are several epidemics in different territories of the country, with concentrated stage prevalent in most of the regions and mixed epidemic type in several regions/territories<sup>29</sup>.

Integrated analysis of surveillance data allows to investigate the involvement of KG population in the development of epidemic. However, a steady predominance of population subgroups with low-risk behavior related to HIV infection is currently being observed, requiring further study of sub-epidemics in different territories of Ukraine.

Long-term epidemiological surveys demonstrate a clear unequal territorial distribution in the spread of HIV in Ukraine, which may be related to both regional pecularities of the epidemic process (KG, prevailing ways of pathogens transmission, social factors, etc.), as well as practice of field testing (involvement and completeness of certain KG coverage by screening). In areas where serological coverage remains insufficient, especially for persons belonging to KG, the reported HIV incidence is lower than the actual rate.

<sup>&</sup>lt;sup>29</sup> According to WHO/UNAIDS quality criteria, mixed HIV epidemics are one or several concentrated epidemics with features of a generalized epidemic: people with HIV are in one or several population groups as well as in the general population.

## Section IV. KEY POPULATIONS

The WHO and UNAIDS have determined 5 key populations most vulnerable to HIV and subsequent inadequate access to services: men who have sex with men, sex workers, transgender people, people who inject drugs, prisoners and detainees. According to the UNAIDS estimates, globally, 40 to 50% of all new HIV cases among adults occur among KG and its sexual partners. New large-scale programs and efforts are required to create an appropriate social and legal environment in order to achieve the target of reducing the number of new HIV cases among KG.

## 4.1. Estimated data

Calculation of estimated data on the number of KG representatives is an important element of the HIV epidemiological surveillance system. Availability of such data enables effective planning of prevention and treatment interventions among these populations and enhances the effectiveness of Ukraine's overall response to the HIV epidemic. As such groups as PWID, SW and MSM are mostly hidden, official statistics cannot provide real numbers of their representatives. Thus, in order to evaluate the dynamics of these populations, special training on how to estimate the absolute population number of these groups is needed.

In 2018, such research, in particular, on the assessment of the number of key populations at national and regional levels, was conducted within the project "Involvement of Local Organizations to Develop Monitoring and Evaluation of HIV/AIDS in Ukraine" (METIDA), implemented by the ICF "Alliance for Public Health"<sup>30</sup>.

### Criteria for KG eligible for the assessment of populations numbers:

- **PWID** men and women who have been using injection drugs for the last 30 days;
- **SW** men and women who have been providing sexual services for payment during last 6 months;
- **MSM** men who have been practicing anal or oral sex with men during last 6 months.

The total number of KG at the end of 2018 amounted to 616 300 persons, the majority (56,8%) accounted for PWID, 1/3 (29,1%) accounted for MSM and SW (14,1%) accounted for the smallest group (Figure 28; Table 3 of Annex 1)<sup>31</sup>.



## Figure 28. Estimated number of KG in Ukraine at the end of 2018

<sup>&</sup>lt;sup>30</sup> Estimates at the local level are calculated using "multiplier method", "capture-recapture method", "successive sampling method" and "inverse testing method".

<sup>&</sup>lt;sup>31</sup> Agreed at a meeting of the National Council on Tuberculosis and HIV/AIDS

The share of individual KGs in the population aged 15-59 shows significant fluctuations at a regional level. For example, the share of PWID in Ukraine's population stands at 1.4% [0.3-3.0%] on average. The largest share of PWID is observed in Dnipropetrovsk oblast, while the lowest– in Zakarpatska and Ivano-Frankivsk oblasts (Figure 29).





On average, the share of MSM in the male population aged 15-59 years accounts for 1.4% [0.6-3.8%]. The largest share of MSM is in Kyiv (being far ahead from the other oblasts), and the lowest - in Ternopilska and Zakarpatska oblasts (Figure 30).



Figure 30. Percentage of MSM in male population aged 15-59

Resource: ICF "Alliance for Public Health"

On average, the share of SW amounts to 0.7% [0.2-1.6%] in the female population aged 15-59 years. It is estimated that the largest proportion of SW dwells in Kyivska and Odeska oblasts, while the lowest - in Zakarpatska (Figure 31).



Figure 31. Percentage of SW in female population aged 15-59

**Resource: ICF "Alliance for Public Health"** 

Resource: ICF "Alliance for Public Health"

## **4.2. Community-based prevention programs**

## **2018: KEY FACTS**

- 64 non-governmental organizations implement prevention programs among KG in Ukraine
- 290 000 KG members received a minimum package of NGO-based services
- 243 000 people were tested for HIV
- 6 900 people with HIV were identified through prevention programs
- 3 900 persons were linked to care in HCFs in connection with HIV by the NGO's referrals
- 4 600 PLWH started receiving ART<sup>32</sup>

One of the main elements of HIV/AIDS strategy in Ukraine is HIV prevention programs in KG (PWID, SW, MSM and TGP). Working with KG is not limited to the HIV prevention services such as distribution of syringes and condoms. These programs also include prevention of viral hepatitis, STIs, HIV detection and TB screening. Since 2004 and until now, prevention programs for KG have been funded mainly by the GF. Individual events and projects are additionally funded by other international agencies.

A wide network of NGOs (consisting of 64 NGOs) has been involved in the prevention programs for KG in Ukraine. During 2018, 290 000 KG representatives received a minimum package of preventive services, which included a syringe or needle, a condom, specialist's consultation. SWs, MSM and TGP received a condom and a specialist's consultation (if needed). Over 243 000 NGO clients were tested for HIV in 2018 (Table 7).

	People who inject drugs		eople who inject drugs Sex workers		Men who ha	ave sex with	Transgender people		
	Minimum package of PS	HIV testing	Minimum package of PS	HIV testing	Minimum package of PS	en HIV testing	Minimum package of PS	HIV testing	
Number of persons	204 291	171 607	39 832	30 905	45 278	40 109	1 049	967	

Table 7	Coverage	of KG by j	prevention	services	$(PS), 2018^{33}$
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In total, 47 mobile outpatient clinics were working towards achieving targets on KG coverage by prevention services in Ukraine; 33 of them provided HIV prevention and testing services to the PWID and SW groups, while 14 - covered MSM and TGP groups.

During many dynamic years, the greatest positive developments have been achieved in prevention programs among PWID. The coverage of MSM by prevention programs is gradually increasing, but most of them do not seek HIV prevention and testing services due to a high level of stigma and discrimination in society. Therefore, judging by the data provided by different sources, the epidemic in the MSM group has not been taken under control yet.

## 4.3. People who inject drugs

## **KEY FACTS**

- the estimated number of PWID in Ukraine accounted for 350 300 people by the end of 2018
- HIV prevalence according to IBBS stood at 23%<sup>34</sup>
- 58% of PWID knew their HIV-positive status
- 38% of HIV-positive PWID, who know their status, were receiving ART

In 2018, over 204 000 PWID were covered by prevention services, which was 59% of the estimated number of PWID group in Ukraine (Figure 32).

<sup>&</sup>lt;sup>32</sup> Including persons with HIV-positive results of testing in previous periods

<sup>&</sup>lt;sup>33</sup> Resource: ICF "Alliance for Public Health"

<sup>&</sup>lt;sup>34</sup> According to 2017-2018 IBBS data



Figure 32. Coverage of PWID by HIV prevention programs in Ukraine, 2018

## 4.3.1. COVERAGE OF PWID BY HIV TESTING SERVICES

Significant efforts were made to identify HIV cases and provide case management services to start ART through PWID-oriented programs, implemented by NGOs with a support of ICF "Alliance for Public Health".

The importance of providing HIV testing and case management services to PWID can be underpinned by the 2017-2018 IBBS results – almost 60% of all HIV-positive PWID already knew of their HIV-positive status. At the same time, their percentage among the clients of harm reduction services consisted of 81%, while the level of HIV status awareness among PWID who are not involved in prevention programs is much lower, only 37%.

Mobile clinics are actively involved in the provision of HTS. According to the available data, 73 739 visits of PWID clients were registered in 33 mobile clinics in 2018<sup>35</sup>, which resulted in over 32 619 PWID being covered with prevention services.

Statistics on prevention programs coverage among PWID during 2018:

- 171 607 people were tested for HIV using RT and received results;
- 6 132 people had positive test results (3.6% of those tested);
- 3 190 of PWID with positive HIV test confirmed positive result;
- 3 352 of PWID were linked to care in connection with HIV;
- 3 893 of PWID initiated ART.

Effectiveness of prevention services for PWID increased due to a combination of two components:

1) testing realized within the GF-funded prevention programs to increase the number of PWID who know their HIV status;

2) CDC-supported intervention toward optimization of HIV cases finding among PWID in 12 regions, most affected by HIV. Optimized Case Finding (OCF) and Community Initiated Treatment Intervention (CITI) project started in December 2015 to improve the HIV testing performance using respondent driven sampling among risk social networks of vulnerable groups, actively involving HIV-positive PWID and their partners in health care programs to ensure their access to ART.

One of the current problematic issues on the way to increasing coverage of HIV-positive people by medical supervision is the "drop-out" of people with positive HIV test results from the service chain at the stage of registering with HCFs. In 2018, among 2 440 people who were screened for HIV and received a positive test result, only 1 645 persons were taken under medical supervision (i.e., 1/3). As part of the Optimized Case Finding, 2 248 people from PWID number, who knew their HIV status but did not register with HCFs, were additionally involved in medical supervision and started ART.

Resource: ICF "Alliance for Public Health"

<sup>&</sup>lt;sup>35</sup> Source: SYREX database
#### 4.3.2. HIV INCIDENCE AND PREVALENCE AMONG PWID

HIV prevalence among PWID has remained high in recent years. According to the results of 2017-2018 IBBS, this indicator among PWID of all age groups accounted for 22.6%, which did not differ significantly from the previous research results (21.9% in 2015). The highest HIV prevalence among PWID was reported in the following cities: Chernihiv (43.7%), Cherkasy (41.8%), Bila Tserkva (40.4%) and Kryvyi Rih (40.3%). The lowest prevalence was reported in Uzhgorod (0.8%), Vinnytsia (5.6%) and Zaporizhzhia (6%).



Figure 33. HIV prevalence among PWID according to the BBS data

Significant differences are observed across age groups. HIV prevalence is the highest among PWID above 25 y.o., standing at 23.9%. The corresponding indicator is much lower for the age group under 25 y.o., it had a decreasing trend after 2011, but it increased slightly from 4.1% to 5.0% in 2017 compared to the previous result (Figure 33). **Figure 34.** HIV incidence among PWID

3.0

Ukraine is one of the first countries to take advantage of modern algorithms to identify recent HIV infection. Since 2013, the HIV incidence (morbidity) indicator among PWID has been calculated within the implementation of IBBS of based on the DBS results<sup>36</sup>. In 2018, the incidence rate increased – it was 2.44% comparing to 0.74% in 2013 and demonstrated possible exacerbation of epidemic situation in the PWID environment (Figure 34).

## 2.5 2.0 1.5 1.0 0.5 2013 2015 2017/2018

#### 4.3.3. HARM REDUCTION PROGRAMS

Addressing HIV issue related to injecting drug use is one of the key healthcare challenges in the sphere of HIV/AIDS prevention and treatment, especially in the countries of the WHO Eastern European Region<sup>37</sup>. One of the most important factors in HIV prevention among PWID and their sexual partners is availability of harm reduction programs – approach, based on the principles of pragmatism, , observance of human rights and dignity, ensuring public health, aimed at reduction of negative impact on health, social and economic harm related to drug use without requiring people to stop drug use<sup>38</sup>.

Implementation of harm reduction programs in Ukraine commenced in 2004, supported by the GF. In 2015, when the country had around 213,000 of PWID, over 19 million syringes were distributed and that level of services was steadily ensured until 2018 inclusive. Due to these programs, HIV prevalence among PWID decreased from 42% to 22.6% compared to 2008 (Figure 36). As part of 2017-2019 GF grant agreement, Ukraine plans to switch from GF funding to state funding while implementing prevention programs.

<sup>&</sup>lt;sup>36</sup> In 2015 and 2017/18, laboratory analysis of DBS samples was performed in laboratory of L.V. Hromashevskyi Institute of Epidemiology and Infectious Diseases, while blood samples analysis was performed in Atlanta, USA in 2013

<sup>&</sup>lt;sup>37</sup> http://www.euro.who.int

<sup>&</sup>lt;sup>38</sup> https://www.hri.global/files/2018/09/25/lost-decade-harm-reduction-funding-2018.PDF

During 2018, 50 NGOs implemented HIV prevention programs among PWID in 401 cities and towns in Ukraine. PWID were given sterile injection equipment (primary and secondary syringe exchange) at inpatient outlets, outreach routes, mobile clinics and pharmacies. As part of the syringe exchange and dispensing program in 2018, 20 million of needles and syringes were distributed among PWID, with an average of 57 syringes/needles per customer<sup>39</sup>. In addition to syringes and needles, PWID received over 3 million condoms, with an average of 15 condoms per customer (the amount of consumables per year is calculated taking into account the need, available financial resources and the ability of the potential client to provide themselves with these materials independently)<sup>40</sup>.

# SUBSTITUTION MAINTENANCE THERAPY OF PATIENTS WITH OPIOID DEPENDENCE

The SMT programs for patients with opioid dependence have been implemented in Ukraine since 2004. The transition period of ensuring provision of SMT using state budget instead of donor funding started in October 2017, and already in 2018, most patients (79%) received medications from the state budget (Figure 35).



Figure 35. Sources of SMT program funding (percentage of patients) in Ukraine as of 01.01.2019

Compared to 2014, the number of PWID participating in the SMT program increased by 35% and amounted to 11 385 persons as of 1 January 2019 (Figure 36; Table 42 of Annex 2). The program is expanded by regions unevenly. Thus, in 2018, the highest rates of increase in the number of patients on SMT were in Dnipropetrovska, Zaporizhzhska, Cherkaska oblasts and Kyiv city. On the contrary, in three regions there was a decrease in the number of persons on SMT: Zhytomyrska, Ternopilska and Chernovytska oblasts (Annex, Table 43).



## Figure 36. Expanding access of PWID to SMT program during 2014-2018 in Ukraine

<sup>&</sup>lt;sup>39</sup> WHO recommends to distribute over 200 needles-syringes per 1 PWID annually (WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users. WHO; Geneva: 2012)
<sup>40</sup> Source: ICF "Alliance for Public Health"

The coverage of estimated number of opioid-dependent PWID by SMT is 3.8%, and the number of people undergoing opioid-related psychiatric disorders and behavior accounts for 27.4%.

SMT services are provided by 211 medical facilities. The largest proportion of patients receive SMT in narcological outpatient clinics (46.5%) and in HCFs of regional or city subordination (31.4%), much smaller proportion of patients (5.9%) receive SMT in AIDS prevention centers, TB outpatient clinics (5.7%) and in psychoneurological outpatient clinics (4.9%). Vast majority of patients (88%) received methadone hydrochloride (tablets), about 10% received buprenorphine hydrochloride (sublingual tablets) and slightly less than 2% - methadone hydrochloride (oral solution).

Gender distribution of SMT participants has remained virtually unchanged in recent years with a dominant proportion of men (82%). This is broadly in line with the gender structure of opioid dependence in Ukraine.

There is a progressive trend towards introduction of SMT at the primary care level. During 2018, 33 SMT offices were opened in 9 oblasts and Kyiv city in primary centers of health care, where 643 persons received SMT services (5.6% of the total number of SMT program participants).

Updating regulatory framework in accordance with international recommendations has contributed to the expansion of the practice of introduction of prescription form for the delivery of SMT drugs, creation of home care and dispensing drugs directly from medical and preventive facilities for self-administration by patients on an outpatient basis.

Compared to 2016, the number of patients who self-administer SMT drugs doubled in 2018 from 23.3% (2,147) to 44.7% (5,092), respectively (Figure 37).





In particular, 3 686 persons received a drug for SMT for self-administration in HCFs, 878 persons received a prescription drug at a pharmacy and 528 persons received medication within home care (Table 44 of Annex 2).

In 2018, the most common infection among SMT patients was viral hepatitis C, which was detected in 59.4% (6 760 people) of SMT program participants, 41% (4,660 people) were infected with HIV, hepatitis B was diagnosed in 13.5% of people, tuberculosis was diagnosed in 15.7%.

At the beginning of 2019, most PLWH participating receiving SMT were covered by ART, which accounted for 88% (4 087 people) and 103 remaining persons were preparing for ART initiation. Coverage of HIV-positive patients receiving SMT by ART varies significantly by regions: from 56.7% in Khmelnytsky oblasts to 100% in Zakarpatska.

## 4.3.4. EVALUATION OF THE IMPACT OF PREVENTION PROGRAMS AMONG PWID

Long-term support for the high levels of coverage of PWID by prevention programs in Ukraine has helped to obtain a tangible result, which is best demonstrated by the dynamics of HIV prevalence among PWID, which decreased from 27% to 22.6% in all age groups compared to 2007 and from 29.1% to 5% in PWID group under 25 years old.

Further reduction in the incidence of HIV among PWID is possible by combining prevention and treatment measures. According to 2017-2018 IBBS conducted among PWID, almost 60% of all HIV-positive PWID already knew their HIV-positive status, but only 37.9% were on ART.

The effectiveness of prevention programs for PWID, which include HTS and case management services for HIV-positive people, was achieved due to the following interventions:

- introduction of assisted testing services model;
- attracting new clients to HTS (in 2018, 81% of new NGO clients received HTS);
- expansion of the network of testing facilities using RTs: 1 315 facilities in 2018, of which 290 were new;
- establishing regional cooperation between HCFs and NGOs;
- implementation of an updated testing algorithm and further redirection between NGOs and HCFs, which significantly improved the procedure for testing and further referral to treatment.

However, according to the visual representation of the differences in the PWID treatment cascade, the results differ significantly depending on whether PWID were covered by prevention programs or not. In particular, among HIV-positive PWID who were participating in prevention programs, the level of awareness of their HIV status was much higher (81%) than in those who were not covered by prevention services (37%). Accordingly, the coverage by ART is also different: 57% versus 21% (Figure 38).



Figure 38. Differences in PWID treatment cascade depending on their participation in prevention programs (IBBS, 2017-2018)

Access of HIV-positive PWID to ART is higher among women (41.9%) than among men (36.6%); Speaking about age-specific features, the coverage of PWID over 25 years old by treatment services is much higher (38.3%) than among PWID under 25 years old (4.2%).

### **RELEVANT:**

The Global Systematic Survey on PWID coverage by HIV Hepatitis Prevention Measures indicated that the worldwide coverage of PWID by prevention services remains low and is likely to be insufficient to prevent HIV and viral hepatitis C infection. Scaling up these measures among PWID remains a top priority for ending HIV and HCV epidemics in the world<sup>41</sup>.

The WHO, UNAIDS and the United Nations Office on Drugs and Crime (UNODC) support a comprehensive package of measures for treatment and prevention of HIV and HCV among PWID. Major interventions should include syringe exchange programs (NSP) to prevent injection tool sharing; SMT to reduce frequency and stimulate opioid withdrawal; HTS as a way to HIV treatment and care; ART to reduce viral load in PWID community; and condom distribution programs to prevent the pathogen transmission to sexual partners<sup>42</sup>.

## 4.4. Men who have sex with men

## **KEY FACTS**

- 179 400–estimated number of MSM in Ukraine as of the end of 2018
- HIV prevalence among MSM 7.5%<sup>43</sup>
- 59% of MSM are aware of their HIV-positive status
- 46% of HIV-positive MSM, aware of their HIV-status, receive ART

<sup>&</sup>lt;sup>41</sup> https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5683737/

<sup>&</sup>lt;sup>42</sup> WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users. WHO; Geneva: 2012

<sup>&</sup>lt;sup>43</sup> According to biobehavioural survey in 2017.

MSM is one of the hard-to-reach population groups in terms of preventive programs implementation. In 2018, compared to 2015, the coverage of MSM by preventive services increased from 19% to 25% of the estimated MSM population size (more than 45 000 of people) (Figure 39).



Figure 39. MSM coverage with HIV-infection prevention programs in Ukraine, 2015-2018

## 4.4.1. COVERAGE OF MSM BY HIV-TESTING SERVICES

In 2018, the preventive services were provided to MSM by 20 NGOs in 48 cities in all oblasts of Ukraine. The projects proposed basic services package for each client of harm reduction program. Two million of condoms were distributed among MSM during 2018 - 46 condoms per each client in average. Within the frameworks of MSM-targeted prevention programs, being implemented by the NGOs, the greater part of MSM (89%) underwent the HIV-testing. To improve the HTS access, 14 mobile clinics were involved.

In general, within the frameworks of preventive programs among MSM in 2018:

- 40 109 MSM underwent HIV rapid testing and got the results;
- 412 MSM had positive test results (0.8% of those tested);
- 329 MSM with positive HIV-testing result confirmed the initial result;
- 319 HIV-positive MSM were linked into medical care;
- 287 HIV-positive MSM started ART.

In 2018, the intervention of optimized detection of PLWH among MSM supported by GF and CDC, was also implemented in projects of HIV-infection prevention among MSM, which led to significant results of treatment cascade: 42 MSM, who were aware of their HIV-positive status but have not sought treatment, were additionally linked to medical care and started ART, making up 15% of all MSM who started treatment in 2018. 85% (245 people) of MSM were diagnosed HIV in 2018.

As well as with other KPs, there is a problem of MSM "falling out" from HIV services cascade at the stage of redirection of a person with positive HIV-testing result from the NGO testing point to a HCF: out of 324 MSM, who underwent HIV-testing and received positive test results in 2018, only 245 (76%) were linked to care and started ART.

### 4.4.2. HIV INCIDENCE AND PREVALENCE AMONG MSM

HIV prevalence rate among MSM during the recent years varies insignificantly and shows an upward trend. According to the IBBS results in 2017-2018, the HIV prevalence rate among MSM, irrespective of age, accounted for 7.5%. Among younger group (up to 25 years old) it is increasing and totals up to 6.7%, and in older group - 8.0% (Figure 40).



The highest rate of HIV prevalence among MSM according to the IBBS conducted in 2017-2018 was registered in the following cities: Donetsk (22.8%), Chernihiv (14.3%), Odesa (13.0%), and the lowest - in Sumy (0.3%).



Figure 41. HIV-infection incidence among MSM

As it was already mentioned above, the HIVinfection incidence rate was calculated using the DBS results of KPs (IBBS among MSM) (Figure 41).

During the observation period (2013-2017) the incidence rate among MSM varied without a significant increase: 2013 - 0.91%, 2015 - 1.39%, 2017 - 0.56%.

## 4.4.3. IMPLEMENTATION OF PRE-EXPOSURE PROPHYLAXIS

CDC reports that daily usage of PrEP decreases the risk of contracting HIV infection during sexual contacts by 90% and in case of injecting drugs - by 70%<sup>44</sup>.

In 2017, within the PEPFAR project, the pilot PrEP implementation project among MSM in Ukraine was initiated on the basis of Kyiv City Clinical Hospital No. 5 thanks to the support of CDC and Public Organization "Alliance Global". As a result of this initiative, in 2018, the PrEP was received by 125 people for the first time.

The achievements of this pilot PrEP project cannot be underestimated: the approaches to effective engagement and coverage by PrEP service of HIV-negative MSM/TGP with high risk of HIV infection were developed, along with the expert recommendations on the provision of medical monitoring of PrEP services; recommendations for the participants of ARV drugs adherence programs were developed; a number of trainings for specialists prescribing and performing monitoring of PrEP-related events was held. Pilot project implementation resulted in the development and finalization of client's route and client-oriented scheme of providing consultation and ensuring medication dispensing, as well as the development of recommendations on the implementation and distribution of PrEP services. The experience acquired is planned to be shared and applied in other oblasts of Ukraine to ensure coverage of a significant number of those who need PrEP services.

Simultaneously with the pilot project initiation in Kyiv city, the IBBS collected information on the awareness of PrEP and readiness to receive the preventive treatment among MSM<sup>45</sup>. Out of almost

<sup>&</sup>lt;sup>44</sup> In more detail: <u>https://www.cdc.gov/hiv/basics/prep.html</u>

<sup>&</sup>lt;sup>45</sup> Source: The International Charitable Foundation "Alliance for Public Health"

6 000 of those interviewed, 93% had negative HIV-testing result and 2% have already taken PrEP. One out of three expressed the desire to start PrEP and agreed to all conditions of prescription, monitoring and observation of treatment. Aggregated index of readiness to start PrEP totals to 18%. The PrEP program inclusion criteria include: MSM who had unprotected sexual contacts and/or sexual contacts with more than one partner during the last 30 days and/or have HIV-positive sexual partner.

In 2019, the PrEP program will be expanded up to 2 806 yearly courses for all people at high risk of HIV infection, based on the estimated data of the number of MSM and SW and taking into account the potential of those NGOs involved into the prevention programs.

## **RELEVANT:**

Coverage of MSM by prevention programs in Ukraine increases gradually, but due to a high level of stigma and discrimination in the society the greater part of this population does not seek HIV prevention and testing services. Thus, taking into account data from different sources, the HIV epidemic in Ukraine among MSM is still out of control, namely, HIV prevalence rate among younger age group of MSM is increasing, and the linkage to medical care and initiation of ART by HIV-positive MSM are still low, etc.

During 2007-2017, the Eastern Europe countries registered the 8-fold increase of the number of HIV cases among MSM who contracted HIV via sexual contacts<sup>46</sup>. In some European countries the decrease of HIV incidence between MSM was mainly reached due to a change of behavioral culture, including more frequent HIV-testing and immediate linkage to medical care and ART initiation by HIV-positive people. It is thought that multi-component interventions, including PrEP, self-testing, index testing of PLWH<sup>47</sup>, may facilitate in overcoming of this negative tendency in those countries where HIV infection cases among MSM occur more and more frequently.

## 4.5. Sex workers

## **KEY FACTS**

- 86.600 SW size estimates in Ukraine as of the end of 2018
- HIV prevalence according to IBBS 2017 5.2%
- 53% of SW are aware of their HIV-positive status
- 29% of HIV-positive SW, who know their HIV-status, receive ART

In 2018, almost 40 000 of SW were covered by prevention services, totaling to 46% of the estimated SW population size in Ukraine (Figure 42).



## Figure 42. Coverage of SW by HIV-infection prevention programs, 2015-2018

## 4.5.1. COVERAGE OF SW BY HIV-TESTING SERVICES

In 2018, HIV and STI prevention services were provided to SW in 150 cities and towns in all oblasts of Ukraine by 41 NGOs, supported by the International Charitable Foundation "Alliance for Public Health". The projects

<sup>&</sup>lt;sup>46</sup> European Centre for Disease Prevention and Control, WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2018 – 2017 data. Copenhagen: WHO Regional Office for Europe; 2018.

<sup>&</sup>lt;sup>47</sup> https://ecdc.europa.eu/en/publications-data/hivaids-surveillance-europe-2018-2017-data

proposed basic services package for each client of the program: within a year 5.4 million of condoms were distributed among SW - 135 condoms per each preventive program participant in average. The greater part of SW, covered by prevention programs, underwent the HIV rapid testing. In general, within the frameworks of preventive programs among SW in 2018:

- 39 832 SW were provided with prevention services;
- 30 905 underwent HIV rapid testing and received the results;
- 347 SW had positive test results (1.1% of those tested);
- 252 SW were linked to medical care because of HIV-infection and started ART.

In 2018, in addition to the assisted testing, the optimized cases finding (OCF) intervention under the outreach conditions was implemented with the support of the GF and CDC, using the approach of clients' recruiting among the expanded risk networks, beginning with positive cases, found during outreach testing. The implemented intervention contributed to the increased number of HIV-positive SW who were linked to medical care and started ART.

## 4.5.2. HIV INCIDENCE AND PREVALENCE AMONG SW

HIV prevalence among SW within the recent years tends to decrease. According to the results of IBBS in 2017-2018 the HIV prevalence rate among SW, irrespective of age, totals to 5.2%, being significantly lower than the results of the previous IBBS rounds (Figure 43).



Compared to the previous surveys, the HIV prevalence rate among SW in the age group younger than 25 years old increased from 0.7% in 2015 to 1.3% in 2017; as to older group, HIV prevalence in 2017 totaled to 6.4%. The highest HIV prevalence rate among SW was registered in Cherkasy (23.5%) and



Mariupol (18.1%). In some cities no HIVpositive SW were found (Zhytomyr, Kharkiv).

As it was already mentioned above, the HIVinfection incidence rate was calculated by means of DBS laboratory method during the IBBS among SW.

During the observation period the incidence rate among SW varied without a significant increase: 2013 - 0.44%, 2015 - 0.21%, 2017 - 0.56% (Figure 44).

## 4.5.3. EVALUATION OF THE EFFICIENCY OF PREVENTIVE PROGRAMS AMONG SW

Basic services package is available for sex workers through the NGO network in all oblasts of Ukraine, which combines HIV and STI prevention services. Certain stabilization of epidemiological process among SW is evidenced by low HIV prevalence rate among younger age group of SW and low incidence among SW.

According to the results of the last IBBS round, 48% of SW had access to HIV-infection prevention services, while 93% of female SW reported using condoms with their clients. Coverage of HIV-positive SW by ART is the lowest compared to other KPs and totals to 29%. Similar to PWID, the younger representatives of SW population are covered by ART at much lower rates compared to the older SW.

The HIV prevalence ratio of those SW who injected and did not inject drugs was 36% and 3% respectively. According to the survey results in separate oblasts of Ukraine the practice of injecting drugs is rather widespread, influencing negatively on the epidemic situation and requiring additional interventions. Thus, the widespread practice of injecting drugs in Cherkasy totals to 37%, in Kropyvnytskyi - 32%, with average national rate standing at 5%.

## 4.6. Transgender people - FIRST STEPS

The 2018 was signified by the first meaningful results of TGP coverage by prevention programs, in particular: 1 049 people in 16 cities of Ukraine received the minimal service package (condoms and consultation). In total, 115 000 of condoms were distributed (110 condoms per a client in average); 967 people underwent the assisted HIV rapid testing and got the results. 5 TGP had positive results, 4 of them were linked to medical care and started ART.

Thanks to the NGOs, in 2018, it became possible to enhance the advocacy efforts toward TGP population mobilization, which resulted, in particular, in the involvement of TGP representative into the National Council on TB and HIV/AIDS. Cooperation with the Youth Social Movement "Partner" (Odesa) provided the opportunity to start the preparation of the first in Ukraine information booklet for TGP population representatives as to the rights protection and HIV-infection prevention, to be published in 2019.

## 4.7. Sexual partners of PLWH - SCALING UP INTERVENTIONS

Taking into account the actualization of sexual way of HIV infection transmission, preventive programs and events, aimed at one of the most vulnerable groups in terms of infection – sexual partners of PLWH, have been actively implemented in Ukraine.

In particular, within the GF project "Gain momentum in reducing TB/HIV burden through forging universal access for timely and quality TB diagnosis and treatment, scaling up evidence-based HIV prevention, diagnosis and treatment and building up resilient and sustainable systems for health" HIV-testing intervention "Partner's health" in being implemented. During 2018 within the mentioned initiative almost 15 000 of people underwent HIV rapid testing and 1 579 people, or 10.6% of those tested, found out their HIV-positive status. Of them, 88% of people with the confirmed HIV-status were linked to care and the greater share of them (83%) initiated ART (Figure 45). It should be mentioned that due to the efforts of regional NGOs, involved into the project, 80% of the clients were linked to care in a month after they received HIV-positive results by means of rapid testing.

Another scaled project aimed to accelerate efforts to end HIV/AIDS started in 2018 – HealthLink, which covered 12 priority oblasts of Ukraine with the greatest epidemic burden. The implementation of project activities started in spring of 2018. HTC services are available for general population, but the main attention is paid, in particular, to the sexual partners of PLWH through improvement of access to qualitative prevention and treatment services, as well as reduction of stigma and discrimination of PLWH from the side of medical staff. The project is being implemented by Charitable Organization "100 % of Life" in a partnership with the International Charitable Foundation "Alliance for Public Health" and financial support from the USAID.



## 4.8. Detainees and incarcerated

Globally, penitentiary facilities are considered to be the places with potentially high risk of socially dangerous infections transmission, with HIV-infection being among them. As a rule, HIV-related medical care is provided by infectious diseases physicians of the Healthcare Center (HCC) of the SCESU facilities. In case there is no specialist, the SCESU facilities involve infectious diseases doctors from oblast AIDS centers.

## 4.8.1. COVERAGE OF DETAINEES BY HIV-TESTING SERVICES

To improve situation, in 2018 the algorithm of HTS provision in the penitentiary system was changed: HIV-testing is proposed when detainees arrive to penitentiary facilities and performed annually during routine examinations, which resulted in significant increase of this KP coverage by diagnostics.

91% of detainees underwent HIV-testing in 2018, and considering the total number of prison population of 53 000, it's much higher than in 2017 (66%). Relative share of HIV-infected people in 2018 totaled to 7.3% of the general number of prison population, exceeding the value of 2017 (6.7%). The greatest share of HIV-infected detainees was registered in Dnipropetrovska (11.7%), Donetska (10.8%), Khersonska (10.2%) and Cherkaska (10.1%) oblasts, the least one – in Chernivetska (3.3%), Khmelnytska (3.4%) and Vinnytska (3.5%) oblasts.

### 4.8.2. PROVISION OF ACCESS TO ART

The coverage of HIV-infected detainees by ART in 2018 improved significantly. Due to the optimization of medical services, 3 200 PLWH received treatment (83% of those under medical supervision in connection with HIV-infection), exceeding by 26% the value of the previous 2017. In some oblasts there is more than 95% of ART coverage: Chernivetska (100%), Rivnenska (98,6%), Ternopilska (97,6%) and Volynska (96%) oblasts.

Also in 2018, for the first time, each ARV drug was procured with State Budget funds. As of the beginning of 2019, one out of five patients among HIV-positive detainees received ART through the State Budget funds. Due to joint efforts of the state and civil society, in 2018, the number of people refusing ART was reduced by a third.

#### **RELEVANT:**

According to the results of massive HIV-infection study among prison populations in Eastern Europe and Central Asia countries, it was established that the highest HIV prevalence is observed among Ukrainian imprisoned PLWH, compared to other KPs. Imprisonment and, in particular, the increased risk of injecting drugs after this, may result in 28% - 55% of new HIV infection cases among PWID in Ukraine within the following 15 years<sup>48</sup>.

<sup>&</sup>lt;sup>48</sup> Altice, FL. et al, (2016) "The Perfect Storm: Incarceration and High Risk Environment Perpetuating HIV, HCV and Tuberculosis Transmission in Eastern Europe and Central Asia". Lancet, 17 September; 388 (10050): 1228–1248

## Section V. PROVISION OF MEDICAL CARE TO PLWH

#### **2018: KEY FACTS**

- 137 176 PLWH know their status, are registered and linked to care in HCF<sup>49</sup>;
- 102 432 PLWH receive ART;
- 95 262 PLWH reached the undetectable VL level less than 1 000 RNA copies/ml

## 5.1. Expansion of access to ART

As of 01.01.2019, the ART was received by 102 432 PLWH in the government-controlled territories of Ukraine (Table 30 of Annex 2). Expansion of access to ART is covered by the state budget funds: share of such patients increased, compared to 2017, from 47% to 61% (Figure 46).

Figure 46. Sources of ART provision in Ukraine as of 01.01.2019



Medical care in connection with HIV-infection is provided by 387 ART sites, being by 57 more than in 2017. Expansion of a network of institutions and organizations, providing medical care to PLWH, increased mainly due to the opening of new sites on the basis of outpatient-polyclinic healthcare facilities (Tables 33-34 of Annex 2). The greatest number of new ART sites was opened in Kyiv city (+19) and Luhanska oblast (+12).





Compared to 2017, the number of PLWH receiving ART increased by 16% - by 14 000 more PWIH are covered by treatment (Figure 47).

<sup>&</sup>lt;sup>49</sup> in the territories of Ukraine controlled by the Government; without regard to children born by HIV-positive women with indeterminate HIV-status

As of the beginning of 2019, the number of ART patients has increased almost in all oblasts of Ukraine: the greatest number was observed in Lvivska (+31%) and Kirovogradska (+30%) oblasts. The least increment of ART patients was observed in Mykolaivska (+6%) and Luhanska (+9%) oblasts (refer to Tables 31-32 of Annex 2). Ternopilska oblast is an exception, as according to the results of verification of their data, the number of PLWH and ART coverage has decreased compared to the previous year.

Average value of treatment coverage of PLWH being under medical follow-up in HCF totals to 75% with the following range across the regions: from 87% in Cherkaska oblast to 49% in Ternopilska (Figure 48; Table 31 of Annex 2).





## 5.2. Factors influencing treatment outcomes

Notwithstanding all the efforts, a share of late diagnosis is still high (Figure 49). 5 684 adults (36%) and 37% of children at the age of 0-14 years old were linked to care with IV clinical stage in 2018. According to statistics data, 59% of PLWH of all age groups as of the moment of HIV-infection diagnosis had the level of immune suppression less than 350 cells/mcl, 37% out of them had the CD4 counts less than 200 cells/mcl.

Figure 49. Level of immune suppression among people tested as to absolute and relevant CD4 cells counts at linkage to medical care in 2018



Late diagnosis of HIV-positive status influences negatively on further course of HIV-infection and treatment outcomes, leading to the increase of lethal cases, conditioned by AIDS-defining conditions and illnesses, among PLWH. 3 448 PLWH died from AIDS-related illnesses in 2018. Within the last three years, the mortality rate increased from 8.4 to 8.9 per 100 000 population.

Except this, the expressed immune suppression leads to TB morbidity rate increase among PLWH. 5 646 TB cases were registered in 2018 (13.3 per 100 000 population). The highest TB/HIV morbidity rate is registered in Odeska oblast (53.5 per 100 000 population), the lowest – in Zakarpatska oblast (2.4 per 100 000 population).

84.9% of people who initiated treatment in 2018 (cohort 2017) were retained on ART for 12 months since the beginning of treatment. 68 % of patients continue receiving treatment after 10 years since the therapy initiation (cohort 2008).

Duration of ART treatment (cohort – year of ART initiation)	Retention on ART
1 year (COH-2017)	84.91 %
2 year (COH-2016)	81.92 %
3 year (COH-2015)	74.71 %
4 year (COH-2014)	71.01 %
5 year (COH-2013)	67.35 %
6 year (COH-2011)	68.84 %
10 year (COH-2008)	68.82 %

\* Information is provided according to the official statistics data for the territories of Ukraine controlled by the Government.

There are 92.5 % [73.6 - 98.9] of PLWH receiving ART and having VL <1 000 copies/ml. The highest values were registered in 2018 in Odeska (98.9%), Vinnytska and Cherkaska oblasts (95.9%), the lowest – in Ternopilska (73.6%), Donetska (85.6%) and Kirovogradska (87.5%) oblasts (Table 40 of Annex 2).

The VL <40 copies/ml is observed in 82.5% patients. But in general, the treatment outcomes depend not only on the medical services and social support quality, but on timely diagnosis and early ART initiation as well.

Care and support projects, being implemented under the GF financial support, are aimed at formation of adherence and retention on HIV-infection treatment of two categories of clients, namely:

- people who never received ART before;
- people with low adherence to HIV-infection treatment and/or risk of its interruption.

In total, 43 284 PLWH in 2018 had a possibility to receive care and support services helping them to maintain high level of adherence to treatment -88% (38 234) of people, in particular, out of those PLWH who started treatment in 2018, as well as people retained on treatment due to the support provided.

#### **RELEVANT:**

UNAIDS points out that regardless the fact that different countries all over the world have different levels of ART coverage, since 2016, there is a stable upward trend towards access to ART, early treatment initiation and ARV drugs taken for HIV-infection prevention. The recent WHO recommendations on HIV-infection treatment facilitated the tendency mentioned. Implementation of recommendation on ART initiation among PLWH, irrespective of their CD4 counts, has been an important step towards global elimination of HIV.

Key WHO recommendations on treatment are aimed at making treatment services available within medical care by ensuring provision with lasting access to ART and other HIV-related services for those requiring them. Both healthcare and civil sectors are jointly responsible for successful implementation of HIV-related treatment and care programs in HCF of all levels.

# SECTION VI. ON THE WAY TO ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV AND SYPHILIS

Currently, Ukraine as a country is facing the challenge to eliminate mother-to-child transmission of HIV and syphilis (hereinafter referred to as EMTCT). Double elimination enhances the feasibility and benefit of such integrated approach to achieve the Sustainable Development Goals 3, 5 and 10 aimed at ensuring health, access to services and enhancement of the rights of women, girls and children. Since the beginning of 2015, when Cuba became the first country to receive WHO certificate for achieving double-elimination, other 11 countries in the world followed and have already successfully validated their achievements on EMTCT.

The system for preventing mother-to-child transmission of HIV (PMTCT) in Ukraine is in line with the basic WHO strategy, integrated into maternal and child health care service, and is also a component of reproductive health programs for population. Option "B+" is determined to be the main strategy of the PMTCT programs in the country.

Implementation of the PMTCT measures contributed to a significant reduction in the rate of motherto-child transmission of HIV (RMTCT) from 27.8% in 2001 to 3.6% in 2016, based on cohort surveillance data. According to the results of early diagnostics, RMTCT in 2017 accounted for 2.2%, and in 2018 - 2.0% (see Annex 2, Table 27).

The number of pregnancies and childbirth in HIV-positive women in Ukraine continues to decline. In 2018, 2 414 women living with HIV became pregnant (in 2017 - 2606, 2016 - 2816). From among women who found out about their HIV-positive status during pregnancy, positive HIV diagnosis was established in 31.4% of women within the period up to 12 weeks of pregnancy, 45.0% - within 12-26 weeks, and in 17.2% - after 26 weeks. The percentage of women who learned about the diagnosis during and after delivery reached 6.4%.

In 2018, for 2 317 HIV-positive women the pregnancy resulted in childbirth (in 2017 - 2 544, in 2016 - 2 710), and for 150 HIV-infected women - with termination of pregnancy (in 2017 - 187, in 2016 - 180); 31.0% of women gave birth to children with a planned caesarean section (in 2017 - 31,8%, in 2016 - 35,3%). 96.5% of pregnant women were receiving ART, and 92.3% of women continuing treatment after delivery.

During 2018, almost 100% of children born to HIV-positive mothers were covered with ARV-prevention. However, children coverage indicator with early diagnosis by polymerase chain reaction (PCR) method is still remained at insufficient level. Of the number of children born in 2018, 80.8% of them have been virological testing for HIV (in 2017 - 85.1%, 2016 - 89.6%); 60.9% of whom were diagnosed with PCR method within the first 2 months of birth (in 2017 - 54.2%, 2016 - 59.7%) (see Annex 2, Table 28).

Ukraine, along with the other countries in the world, supports the WHO's initiative to validate the elimination of MTCT of HIV and congenital syphilis. In accordance with the international requirements, a country may apply for EMTCT validation subject to the achievement of mandatory target indicators (see Table 8). In 2017-2018, the country has almost reached the target values of these indicators for both infections (see Annex 2,Table 29).

In order to evaluate the status of PMTCT programs and prepare for the validation of the PMTCT elimination, in November-December 2018 and April 2019, with the support of the WHO Country office in Ukraine, UNICEF, UNAIDS, three working visits of WHO international experts were conducted with the participation of the WHO Collaborative Center on Strategic Information Issues, Zagreb, Croatia.

Following the results of WHO's pre-validated missions, Ukraine received recommendations that were sent to the WHO Country office in Ukraine, the Ministry of Health of Ukraine and PHC.

Table 8. Mandatory indicators to validate the elimination of mother-to-child transmission of HI	V and
syphilis (EMTCT)	

EMTCT validation indicators and their funding targets	Ukraine, 2017	Ukraine, 2018
I. Mother-to-child transm	nission of HIV	
1. Mother-to-child transmission of HIV is <2% in cases if	2,2%*	2,0%*
women do not breastfeed	(according to the PCR	(according to the PCR
	data)	data)
2. Number of new HIV infection cases as a result of MTCT	12,9 per 100,000	11,9 per 100,000
	liveborn infants	liveborn infants
$3. \le 50$ cases per 100,000 liveborn infants	99,8%	99,4%
4. Pregnant women coverage with antenatal care services	99,2%	99,5%
(at least one visit to a pregnant woman) is $\ge 95\%$		
5. Pregnant women coverage with HIV testing is $\ge 95\%$	95,7%	96,2%
II. Mother-to-child transm	ission of syphilis	
1. Number of new cases of congenital syphilis as a result of	0,0 per 100,000	0,31 per 100,000
MTCT - ≤50 cases per 100,000 liveborn infants	liveborn infants	liveborn infants
		(1 case)
2. Pregnant women coverage with antenatal care services	99,8%	99,4%
(at least one visit to a pregnant woman) is $\ge 95\%$		
3. Pregnant women coverage with testing for markers to	96,6%	93,4%
syphilis pathogen is $\geq 95\%$		
4. Treatment coverage of pregnant women with	100% (289 pregnant	100% (211 pregnant
seropositive syphilis ≥90% **	women)	women)

\* The percentage of children born to HIV-positive mothers passed HIV virological testing within the first 2 months of their birth in 2017 was 54,2%, in 2018 - 60,9%.

\*\* The estimated indicator; official statistical reporting does not include treatment monitoring of pregnant women with seropositive syphilis.

#### Annex 1

## Table 1. M&E indicators of the efficiency of National Target Social Program for HIV/AIDS Response for 2014-2018

Indicators	Baseline value	2014	2015	2016	2017	2018	Target value	+/-
№ 2. Percentage of actual Program funding from the planned (%)	36,1	86	32	99	157	140	100	
№ 3. HIV prevalence among young people aged 15-24 years (%)	0,33	0,32	0,27	0,25	0,25	0,22	0,27	
№ 4. Mortality rate as a result of HIV-related disease (per 100,000 population)	11,5	8,0	7,1	8,4	8,5	8,9	9,9	
№ 5. HIV prevalence among pregnant women (%)	0,87	0,36	0,75	0,71	0,72	0,74	0,49	
№ 6. Percentage of PWID living with HIV among 15-24 age group (%)	6,4	n/a	4,1	n/a	5	5	3,5	
№ 7. Percentage of female commercial sex workers living with HIV in the 15-24 age group (%)	2,3	n/a	0,7	n/a	1,3	1,3	1,4	
№ 8. Percentage of MSM living with HIV in 15-24 age group (%)	3	n/a	4,8	n/a	6,7	6,7	2,1	
№ 9. Incidence of mother-to-child transmission of HIV (%)	4,3	4,3	3,9	3,3	3,7	3,6	1	
№ 10. Percentage of PWID covered with HIV antibodies testing (%)	42,8	n/a	38,5	n/a	38,6	n/a	55	
№ 11. Percentage of SWs covered with HIV antibodies testing (%)	63,1	n/a	55,9	n/a	59,8	n/a	70	
№ 12. Percentage of MSM covered with HIV antibodies testing (%)		n/a	54,6	n/a	43,3	n/a	55	
№ 13. Percentage of prisoners covered with HIV antibodies testing (%)		n/a	n/a	n/a	68,9	68,9	60	
№ 14. Coverage of PWID with prevention programs (persons)	196460	196992	212817	224872	226469	204291	154400	
№ 15. Coverage of SWs with prevention programs (number of persons)		37061	37908	37090	38742	39832	36000	
№ 16. Coverage of MSM with prevention programs (number of persons)	21988	28500	33359	38764	42881	45278	49000	
№ 17. Percentage of general educational institutions that have the qualified								
teachers and during the last academic year provided training for students on the life-skills development programs to promote a healthy lifestyle and HIV prevention (%)		n/a	n/a	n/a	n/a	n/a	100	
№ 18. Percentage of young people aged 15-24 years who know prevention methods of sexual transmission of HIV and how HIV cannot be transmitted (%)		23	26,9	n/a	n/a	26,7	70	
№ 19. Percentage of HIV-infected people who were taken under medical supervision in the III and IV clinical stages of HIV infection, of the total number of people who were diagnosed with HIV for the first time in their life (%)	53,6	53,5	55,1	55,6	56,3	56,9	37	

№ 20. Percentage of HIV-infected persons who underwent medical surveillance during the year, from the total number of HIV-positive persons	74,9	77,6	77,7	79,8	80,6	82,5	85	
N 21. Percentage of adults living with HIV covered with care and support services (%)	55,3	40,4	57,5	66,8	67,3	35,9	100	
Percentage of children under 18 years of age, living with HIV, covered with care and support services (%)	82,8	н/д	74,2	34,4	32,2	23,4	100	
Indicator number and name	Baseline value	2014	2015	2016	2017	2018	Target value	+/-
№ 22. Number of persons with HIV infection receiving ART	55784	61730	60753	74780	88270	102432	118240	
№ 23. Percentage of children receiving ART from HIV-infected children number (%)	89,6	98,5	98,4%	99	96,7	98,2	100	
№ 24. Percentage of persons with HIV/AIDS continuing ART 12 months after its initiation (%)	86,7	85,4	85,5	85,9	87,7	84,9	86	
№ 25. Percentage of registered PLWH with TB who received ART during TB treatment (%)	64,6	56,9	57	73,9	77,2	79,5	70	
№ 26. The number of TB-related deaths among patients with HIV/TB co- infection (per 100,000 population)	5,6	4,6	4,5	4,2	3,9	4,1	3	
№ 27. Percentage of people with opioid dependence who receive SMT	17	17,7	21,5	21,8	24,6	30,4	35	
№ 28. The level of discrimination against people living with HIV (%)	85,3	68	n/a	66	68	68	50% reduction	L

## Note: background colours are indentified as followed:

the result meets the target value of the indicator	target value is not reached
positive changes relative to the baseline value of the indicator	data are not available (n/a)

Oblast, city	Estimated number of PLWH
Vinnytska	3 435
Volynska	2 647
Dnipropetrovska	42 976
Donetska (total)	37 179
Controlled territory	16 211
Uncontrolled territory	20 968
Zhytomyrska	4 093
Zakarpatska	716
Zaporizka	5 328
Ivano-Frankivska	2 046
Kyivska	10 631
Kirovohradska	5 770
Lvivska	5 496
Luhanska (total)	7 578
Controlled territory	3 207
Uncontrolled territory	4 371
Mykolaivska	10 573
Odeska	24 663
Poltavska	4 936
Rivnenska	2 865
Sumska	2 359
Ternopilska	1 163
Kharkivska	5 318
Khersonska	5 563
Khmelnytska	4 192
Cherkaska	6 604
Chernivetska	1 491
Chernihivska	6 660
City of Kyiv	19 837
AR of Crimea	11 952
Sevastopol	3 885
Overall in Ukraine/ Nationwide	239 956
Total in the territories controlled by the Government of Ukraine	198 780

# Table 2. Recommended estimated number of people living with HIV at the beginning of 2019 at the regional level (including all age and both sex groups)

Oblast, city	MSM	SWs	PWID
Vinnytska	5200	1500	9400
Volynska	2300	800	3500
Dnipropetrovska	13 200	8500	58 000
Donetska (total)	16 100	9 400	31 100
Controlled territory	7000	3000	13 400
Uncontrolled territory	9100	6400	17 800
Zhytomyrska	2600	4100	6500
Zakarpatska	2300	700	2500
Zaporizka	7300	4800	15 800
Ivano-Frankivska	3900	2400	3400
Kyivska	10 100	1200	14 100
Kirovohradska	2900	1500	13 200
Lvivska	9900	2600	10 400
Luhanska (total)	_	_	12 400
Controlled territory	_	_	3300
Uncontrolled territory	_	_	9000
Mykolaivska	4900	3800	12 300
Odeska	11 900	10 900	32 100
Poltavska	6400	1700	6500
Rivnenska	3600	800	6100
Sumska	2800	1700	15 900
Ternopilska	1900	1000	4400
Kharkivska	13 500	4400	13 400
Khersonska	2600	1400	6000
Khmelnytska	3500	1400	9700
Cherkaska	4800	2300	10 900
Chernivetska	3000	1000	5000
Chernihivska	3400	800	7500
City of Kyiv	32 200	14 600	33 700
AR of Crimea	6800	3300	_
Sevastopol	2300	—	6600
Overall in Ukraine	179 400	86 600	350 300
Total in the territories controlled by the Government of Ukraine	161 200	76 900	317 000

## Table 3. The results of estimation of the size of key population groups in Ukraine,

2018

More details about the methodology and the results of the 2018 study on the Alliance for Public Health website at http://aph.org.ua/uk/resursy/vydannya-alyansu/ in the section "Monitoring and Evaluation".

## Annex 2

Table 1 Results of serve	nidemiological monitorir	g (SEM) on HIV	nrevalence hy surve	v codes in Ukraine
Table 1. Results of serve	pidennological monitorn	g (SEM) on m v	prevalence by surve	y coues in Oki ame

	Contingents of persons screened for HIV		2016		2017				2018 рік			
Code	infection	Screened persons	HIV+ person detected	%	Screened persons	HIV+ person detected	%	Screened persons	HIV+ person detected	%		
100	Total Ukrainian nationals, including those classified by particular codes	2 343 383	23 174	0,99	2 394 364	23 027	0,96	2 415 202	22 881	0,95		
101	Persons who have had sex with HIV+ persons	123 74	1 674	13,53	18 079	1 976	10,93	43 572	2 123	4,87		
102	Persons who inject drugs	163 567	2 309	1,41	181 294	2 467	1,36	173 305	2 248	1,30		
103	Persons who have had homosexual contacts with partners whose HIV status is unknown	33 816	368	1,09	41 645	508	1,22	42 124	450	1,07		
104	Persons who have STI or related symptoms	40 103	422	1,05	42 922	405	0,94	43 523	433	0,99		
105	Persons with risky sexual behavior	115 784	1 493	1,29	130 452	1 533	1,18	134 614	1 601	1,19		
106	Conscripts, cadets	107 510	387	0,36	92 490	285	0,31	87 070	211	0,24		
107	Persons from other most-at-risk groups surveyed by epidemiological indications	37 758	399	1,06	490 60	413	0,84	57 262	518	0,90		
108	Donors	613 410	578	0,09	550 622	470	0,09	520 021	413	0,08		
109.1	Pregnant women	412 653	1 314	0,32	383 559	1 247	0,33	359 171	1 016	0,28		
111	Children at age of 18 months and older, born to HIV positive women, who have been screened to determine the final HIV diagnosis	2 902	28	0,96	2 678	19	0,71	2 432	13	0,53		
112	Persons in detention facilities	28 991	1 228	4,24	29 369	974	3,32	34 298	1 027	2,99		
113	Persons seeking medical care with diseases, conditions which meet the criteria for HIV testing services	29 1140	63 03	2,16	31 5774	6 537	2,07	383 634	7 029	1,83		
114	Persons tested anonymously	32 494	988	3,04	27 719	697	2,51	26 616	475	1,78		
115	Persons at risk of HIV infection as a result of invasive procedures	1 215	0	0,00	846	0	0,00	1 414	3	0,21		
116	Persons tested based on their own initiative	446 102	2 794	0,63	524 598	2 794	0,53	503 046	2 767	0,55		
119	Deceased persons	797	93	11,67	774	202	26,1	804	229	28,48		

	Code 100 (citizens of Ukraine, total)							
Oblast, city	Screened	Identified HIV+	%	Ranking				
	persons	persons						
Ukraine	2 415 202	22 881	0,9					
Vinnytska	60 556	395	0,7	14				
Volynska	87 583	283	0,3	4				
Dnipropetrovska	268 363	3 956	1,5	22				
Donetska	115 636	1 562	1,4	21				
Zhytomyrska	53 259	536	1,0	19				
Zakarpatska	73 451	179	0,2	2				
Zaporizka	123 633	741	0,6	13				
Ivano-Frankivska	51 474	222	0,4	5				
Kyivska	83 376	1 366	1,6	23				
Kirovohradska	41 546	694	1,7	24				
Luhanska	47 206	254	0,5	9				
Lvivska	87 681	478	0,5	11				
Mykolaivska	90 839	873	1,0	18				
Odeska	181 068	3 333	1,8	25				
Poltavska	60 629	498	0,8	15				
Rivnenska	73 796	326	0,4	6				
Sumska	55 113	272	0,5	7				
Ternopilska	33 911	103	0,3	3				
Kharkivska	167 107	835	0,5	8				
Khersonska	60 300	559	0,9	17				
Khmelnytska	74 485	407	0,5	12				
Cherkaska	92 046	498	0,5	10				
Chernivetska	52 901	112	0,2	1				
Chernihivska	60 726	545	0,9	16				
City of Kyiv	318 517	3 854	1,2	20				

## Table 2. SEM results among citizens of Ukraine

Table 3. Data on HIV	v testing based or	rapid diagnostic	tests (RDTs) in	Ukraine
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		2016		2017			2018		
Code	Persons screened using RDTs	% from persons screened by classification code 100	% from persons screened by corresponding classification code	% from persons screened using RDTs	% from persons screened by classification code 100	% from persons screened by corresponding classification code	Persons screened using RDTs	% from persons screened by classification code 100	% from persons screened by corresponding classification code
100	402 601	100,0	17,2	481 145	100,0	20,1	628 461	100,0	26,0
101	6 235	1,3	50,4	1 213	0,3	6,7	19 612	3,1	45,0
102	149 352	31,0	91,3	166 113	34,5	91,6	161 075	25,6	92,9
103	33 401	6,9	98,8	41 260	8,6	99,1	41 727	6,6	99,1
104	8 726	1,8	21,8	10 883	2,3	25,4	12 253	1,9	28,2
105	55 730	11,6	48,1	70 426	14,6	54,0	79 219	12,6	58,8
107	9 769	2,0	25,9	14 324	3,0	29,2	23 732	3,8	41,4
109.1	6 286	1,3	1,5	6 541	1,4	1,7	9 065	1,4	2,5
109.2	6 115	1,3	1,6	4 633	1,0	1,2	7 053	1,1	1,9
112	25 329	5,3	87,4	24 297	5,0	82,7	31 152	5,0	90,8
113	52 177	10,8	17,9	69 212	14,4	21,9	144 704	23,0	37,7
113 tbc	15 591	3,2	38,7	15 860	3,3	39,7	18 622	3,0	46,6
113 inf.	8 014	1,7	27,5	7 650	1,6	29,4	13 451	2,1	51,7
113 other	28 572	5,9	13,5	45 702	9,5	18,3	112 631	17,9	45,1
114	5 992	1,2	18,4	2 650	0,6	9,6	6 571	1,0	24,7
116	37 336	7,8	8,4	52 010	10,8	9,9	87 568	13,9	17,4

Classification codes for HIV testing: code 100 - Ukrainian citizens; code 101 - people who have had sex with HIV-positive people; code 102 - people who inject drugs; code 103 - persons who have had homosexual contacts with persons with unknown HIV status; code 104 - patients with STIs; code 105 - persons with risky sexual behavior; code 107 - persons from other most-at-risk populations for HIV infection; code 109.1 - first screening of pregnant women; code 109.2 - second screening of pregnant women; code 112 - persons in detention facilities, code 113 - persons seeking medical care with diseases, conditions which meet the criteria for HIV testing services; code 113 TBC- screening in HCFs providing care for TB patients; code 113 inf. - screening in infectious diseases clinics; code 113 others - screening in HCFs of different profiles; code 114 - persons screened anonymously; code 116 - persons screened on their own initiative

		2016			2017			2018	
Code	HIV+ persons identified by RTs	% from those identified by classification code 100	% from those identified by corresponding classification code	HIV+ persons identified by RTs	% from those identified by classification code 100	% from those identified by corresponding classification code	HIV+ persons identified by RTs	% from those identified by classification code 100	% from those identified by corresponding classification code
100	3 907	100,0	16,9	5 864	100,0	25,5	7 800	100,0	34,1
101	456	7,8	27,2	886	15,1	44,8	1 219	15,6	57,4
102	852	14,5	36,9	1 157	19,7	46,9	1 180	15,1	52,5
103	199	3,4	54,1	397	6,8	78,1	309	4,0	68,7
104	70	1,2	16,6	112	1,9	27,7	177	2,3	40,9
105	403	6,9	27,0	666	11,4	43,4	882	11,3	55,1
107	53	0,9	13,3	52	0,9	12,6	130	1,7	25,1
109.1	78	1,3	5,9	77	1,3	6,2	52	0,7	5,1
112	494	8,4	40,2	353	6,0	36,2	458	5,9	44,6
113	1 038	26,5	16,5	1 784	30,4	27,3	2 703	34,7	38,5
113 tbc	286	4,9	20,6	438	7,5	30,4	558	7,2	38,8
113 inf.	197	3,4	20,8	222	3,8	26,2	223	2,9	26,4
113 other	555	9,5	14,1	1 124	19,2	26,4	1 922	24,6	45,2
114	61	1,0	6,2	37	0,6	5,3	75	1,0	15,8
116	168	2,9	6,0	321	5,5	11,5	587	7,5	21,2

#### Table 4. Identification of HIV-positive people by rapid tests (RTs) in Ukraine

Classification codes for HIV testing: code 100 - Ukrainian nationals; code 101 - people who have had sex with HIV-positive people; code 102 - people who inject drugs; code 103 - persons who have had homosexual contacts with persons with unknown HIV status; code 104 - patients with STIs; code 105 - persons with risky sexual behavior; code 107 - persons from other most-at-risk populations for HIV infection; code 109.1 - first screening of pregnant women; code 109.2 - second screening of pregnant women; code 112 - persons in detention facilities, code 113 - persons seeking medical care with diseases, conditions which meet the criteria for HIV testing services; code 113 TBC- screening in HCFs providing care for TB patients; code 113 inf. - screening in infectious diseases clinics; code 113 others - screening in HCFs of different profiles; code 114 - persons screened anonymously; code 116 - persons screened on their own initiative

Region	Code 109.1 (pı the first tim period, reg	regnant women, e within the pro ardless of dura gestation)	HIV+ pregnant women identified by code 109.2	HIV+ pregnant women identified by code 109.3	
(oblast, city)	Those screened	Those identified HIV+	%		
Ukraine	359 171	1 016	0,28	24	5
Vinnytska	12 989	32	0,25	2	0
Volynska	11 439	15	0,13	0	0
Dnipropetrovska	39 649	172	0,43	3	0
Donetska	13 169	63	0,48	2	0
Zhytomyrska	10 672	21	0,20	1	1
Zakarpatska	15 099	9	0,06	1	0
Zaporizka	13 905	40	0,29	-1	2
Ivano-Frankivska	13 335	9	0,07	2	0
Kyivska	15 830	59	0,37	2	0
Kirovohradska	9 469	37	0,39	0	0
Luhanska	3 758	5	0,13	2	0
Lvivska	23 412	32	0,14	0	0
Mykolaivska	8 897	35	0,39	3	0
Odeska	26 421	159	0,60	1	0
Poltavska	11 331	31	0,27	0	0
Rivnenska	13 960	15	0,11	0	1
Sumska	6 142	7	0,11	1	0
Ternopilska	8 753	9	0,10	0	0
Kharkivska	21 542	58	0,27	0	0
Khersonska	9 271	22	0,24	0	1
Khmelnytska	12 149	24	0,20	0	0
Cherkaska	10 533	22	0,21	2	0
Chernivetska	10 543	6	0,06	0	0
Chernihivska	7 385	31	0,42	0	0
City of Kyiv	29 518	103	0,35	3	0

## Table 5. SEM results among pregnant women by regions of Ukraine, 2018

# Table 6. SEM results among pregnant women (primary screening) aged 15-24 years,by regions of Ukraine, 2018

	Codes 109.1.1+109.1.2 (pregnant women aged 15-24 year						
Region (oblast, city)	Screened persons	Identified HIV+ persons	%	Ranking			
Ukraine	83 455	184	0,22				
Vinnytska	3 655	7	0,19	15			
Volynska	1 994	0	0,00	1			
Dnipropetrovska	8 602	28	0,33	20			
Donetska	2 252	8	0,36	21			
Zhytomyrska	2 957	0	0,00	1			
Zakarpatska	3 801	3	0,08	7			
Zaporizka	3 388	5	0,15	10			
Ivano-Frankivska	5 228	1	0,02	5			
Kyivska	4 019	13	0,32	19			
Kirovohradska	675	15	2,22	25			
Luhanska	468	0	0,00	1			
Lvivska	8 260	11	0,13	9			
Mykolaivska	2 278	5	0,22	17			
Odeska	5 700	38	0,67	23			
Poltavska	2 525	4	0,16	13			
Rivnenska	2 188	5	0,23	18			
Sumska	1 941	1	0,05	6			
Ternopilska	3 680	3	0,08	8			
Kharkivska	4 743	8	0,17	14			
Khersonska	2 622	4	0,15	12			
Khmelnytska	4 029	6	0,15	11			
Cherkaska	1 914	4	0,21	16			
Chernivetska	3 791	0	0,00	1			
Chernihivska	875	7	0,80	24			
City of Kyiv	1 870	8	0,43	22			

# Table 7. SEM results among donors of blood and its components, organs, tissues, other cells and<br/>biological fluids, by regions of Ukraine, 2018

	Code 108 (donors)					
Region (oblast, city)	Screened persons	Identified HIV+ persons	%	Ranking		
Ukraine	520 021	413	0,08			
Vinnytska	16 677	5	0,03	4		
Volynska	22 780	11	0,05	7		
Dnipropetrovska	52 146	52	0,10	18		
Donetska	26 032	27	0,10	19		
Zhytomyrska	10 096	16	0,16	24		
Zakarpatska	13 918	7	0,05	8		
Zaporizka	34 058	18	0,05	10		
Ivano-Frankivska	11 111	7	0,06	12		
Kyivska	16 323	6	0,04	5		
Kirovohradska	11 108	18	0,16	25		
Luhanska	10 579	8	0,08	14		
Lvivska	23 226	14	0,06	11		
Mykolaivska	21 909	19	0,09	16		
Odeska	26 763	37	0,14	21		
Poltavska	20 693	6	0,03	3		
Rivnenska	11 915	5	0,04	6		
Sumska	11 776	17	0,14	22		
Ternopilska	9 658	5	0,05	9		
Kharkivska	32 437	6	0,02	1		
Khersonska	11 935	9	0,08	13		
Khmelnytska	29 362	43	0,15	23		
Cherkaska	15 963	15	0,09	17		
Chernivetska	9 243	2	0,02	2		
Chernihivska	11 465	15	0,13	20		
City of Kyiv	58 848	45	0,08	15		

	Code 108.1 (primary (single donation) donors)							
Region (oblast, city)	Screened persons	Identified HIV+ persons	%	Ranking				
Ukraine	344 353	389	0,11					
Vinnytska	13 535	5	0,04	2				
Volynska	20 877	11	0,05	5				
Dnipropetrovska	33 596	44	0,13	14				
Donetska	15 188	26	0,17	19				
Zhytomyrska	6 436	16	0,25	24				
Zakarpatska	13 809	6	0,04	3				
Zaporizka	14 806	18	0,12	12				
Ivano-Frankivska	8 207	7	0,09	9				
Kyivska	11 324	6	0,05	6				
Kirovohradska	8 488	18	0,21	22				
Luhanska	2 105	3	0,14	16				
Lvivska	22 302	14	0,06	8				
Mykolaivska	11 073	19	0,17	20				
Odeska	21 245	36	0,17	18				
Poltavska	11 807	6	0,05	4				
Rivnenska	5 305	5	0,09	10				
Sumska	5 294	16	0,30	25				
Ternopilska	4 030	5	0,12	13				
Kharkivska	29 282	6	0,02	1				
Khersonska	5 211	8	0,15	17				
Khmelnytska	20 471	43	0,21	21				
Cherkaska	10 611	15	0,14	15				
Chernivetska	3 728	2	0,05	7				
Chernihivska	5 676	14	0,25	23				
City of Kyiv	39 947	40	0,10	11				

## Table 8. SEM results among primary (one-time donation) donors by regions of Ukraine, 2018

## Table 9. SEM results among persons seeking medical care with diseases, conditions which meet the<br/>criteria for HIV testing services, by regions of Ukraine, 2018

	Code	l as clinically in	dicated)	
<b>Region</b> (oblast, city)	Screened persons	Identified HIV+ persons	%	Ranking
Ukraine	383 634	7029	1,83	
Vinnytska	7 844	142	1,81	14
Volynska	13 378	78	0,58	4
Dnipropetrovska	40 416	1071	2,65	19
Donetska	20 383	548	2,69	20
Zhytomyrska	4 168	125	3,00	21
Zakarpatska	8 287	48	0,58	3
Zaporizka	23 650	243	1,03	9
Ivano-Frankivska	7 512	55	0,73	8
Kyivska	5 413	294	5,43	25
Kirovohradska	5 317	203	3,82	23
Luhanska	9 515	104	1,09	11
Lvivska	10 044	142	1,41	13
Mykolaivska	7 318	224	3,06	22
Odeska	21 081	966	4,58	24
Poltavska	7 765	163	2,10	17
Rivnenska	13 129	90	0,69	7
Sumska	16 181	109	0,67	6
Ternopilska	4 709	25	0,53	2
Kharkivska	19 464	208	1,07	10
Khersonska	7 981	204	2,56	18
Khmelnytska	9 557	126	1,32	12
Cherkaska	28 732	178	0,62	5
Chernivetska	12 179	40	0,33	1
Chernihivska	4 951	94	1,90	15
City of Kyiv	74 660	1549	2,07	16

Region (oblast, city)	Total persons screened	Including screened persons from KGs	%	Ranking	Total identified HIV+ persons	Including identified persons from KGs	%	Ranking
Ukraine	1 536 010	292 726	19,1		22 900	3 444	15,0	
Vinnytska	30 890	3 266	10,6	19	397	31	7,8	21
Volynska	53 364	3 044	5,7	23	283	30	10,6	15
Dnipropetrovska	176 568	46 909	26,6	3	3 956	753	19,0	2
Donetska	76 435	15 682	20,5	7	1 563	160	10,2	16
Zhytomyrska	32 491	4 303	13,2	18	536	46	8,6	19
Zakarpatska	44 434	1 360	3,1	25	180	5	2,8	25
Zaporizka	75 670	11 638	15,4	16	741	92	12,4	10
Ivano- Frankivska	27 028	1 536	5,7	24	222	36	16,2	7
Kyivska	51 223	14 895	29,1	2	1 367	488	35,7	1
Kirovohradska	20 969	3 021	14,4	17	694	132	19,0	3
Luhanska	32 869	5 552	16,9	11	254	27	10,6	14
Lvivska	41 043	11 946	29,1	1	478	39	8,2	20
Mykolaivska	60 033	14 062	23,4	5	874	78	8,9	17
Odeska	127 884	33 942	26,5	4	3 335	290	8,7	18
Poltavska	28 605	2 869	10,0	20	499	86	17,2	5
Rivnenska	47 921	4 051	8,5	22	327	52	15,9	8
Sumska	37 195	7 215	19,4	8	272	29	10,7	13
Ternopilska	15 500	2 635	17,0	10	104	6	5,8	23
Kharkivska	113 128	21 640	19,1	9	837	139	16,6	6
Khersonska	39 094	6 096	15,6	13	559	69	12,3	11
Khmelnytska	32 974	5 090	15,4	15	407	30	7,4	22
Cherkaska	65 550	10 181	15,5	14	498	64	12,9	9
Chernivetska	33 115	5 591	16,9	12	112	5	4,5	24
Chernihivska	41 876	3 710	8,9	21	545	60	11,0	12
City of Kyiv	230 151	52 492	22,8	6	3 860	697	18,1	4

## Table 10. Data on SEM results among key populations for HIV (KG), classified by codes 101.2, 102, 103, 104 and 105.2, by regions of Ukraine,2018 (excluding data for donors and pregnant women)

	Code 102 (PWID)					
Region (oblast, city)	Total persons screened	Identified HIV+ persons	%	Ranking		
Ukraine	173 305	2248	1,30			
Vinnytska	1 904	13	0,68	8		
Volynska	1 298	16	1,23	16		
Dnipropetrovska	30 781	625	2,03	21		
Donetska	12 725	138	1,08	14		
Zhytomyrska	2 912	33	1,13	15		
Zakarpatska	768	0	0,00	1		
Zaporizka	6 364	68	1,07	13		
Ivano-Frankivska	429	23	5,36	25		
Kyivska	6 011	223	3,71	22		
Kirovohradska	1 235	53	4,29	24		
Luhanska	4 226	24	0,57	7		
Lvivska	7 215	25	0,35	4		
Mykolaivska	6 924	59	0,85	10		
Odeska	22 630	162	0,72	9		
Poltavska	1 356	52	3,83	23		
Rivnenska	2 461	42	1,71	19		
Sumska	4 508	22	0,49	5		
Ternopilska	1 141	3	0,26	3		
Kharkivska	10 932	100	0,91	12		
Khersonska	4 232	55	1,30	17		
Khmelnytska	2 864	15	0,52	6		
Cherkaska	5 913	51	0,86	11		
Chernivetska	3 784	2	0,05	2		
Chernihivska	2 346	45	1,92	20		
City of Kyiv	28 346	399	1,41	18		

## Table 11. SEM results among people who inject drugs, by regions of Ukraine, 2018

	Codes 101.2 + 103 (MSM)						
Region (oblast, city)	Total persons screened	Identified HIV+ persons	%	Ranking			
Ukraine	48 090	743	1,55				
Vinnytska	599	10	1,67	16			
Volynska	380	9	2,37	18			
Dnipropetrovska	2 069	31	1,50	14			
Donetska	914	5	0,55	10			
Zhytomyrska	296	5	1,69	17			
Zakarpatska	61	3	4,92	20			
Zaporizka	2 341	8	0,34	6			
Ivano-Frankivska	59	9	15,25	21			
Kyivska	6 879	252	3,66	19			
Kirovohradska	253	63	24,90	23			
Luhanska	6	1	16,67	22			
Lvivska	3 064	4	0,13	3			
Mykolaivska	1 423	3	0,21	5			
Odeska	6 333	42	0,66	12			
Poltavska	11	4	36,36	25			
Rivnenska	689	4	0,58	11			
Sumska	456	0	0,00	1			
Ternopilska	421	2	0,48	8			
Kharkivska	2 802	11	0,39	7			
Khersonska	576	6	1,04	13			
Khmelnytska	3	1	33,33	24			
Cherkaska	630	1	0,16	4			
Chernivetska	1 131	1	0,09	2			
Chernihivska	381	2	0,52	9			
City of Kyiv	16 313	266	1,63	15			

## Table 12. SEM results among persons who have had homosexual contacts, by regions of Ukraine, 2018

		es)		
Region (oblast, city)	Screened persons	Identified HIV+ persons	%	Ranking
Ukraine	34 298	1027	2,99	
Vinnytska	140	22	15,71	24
Volynska	1 254	16	1,28	4
Dnipropetrovska	4 220	291	6,90	22
Donetska	3 617	82	2,27	13
Zhytomyrska	81	46	56,79	25
Zakarpatska	148	8	5,41	19
Zaporizka	2 554	45	1,76	8
Ivano-Frankivska	258	17	6,59	21
Kyivska	121	5	4,13	17
Kirovohradska	1 798	45	2,50	14
Luhanska	445	7	1,57	5
Lvivska	2 121	47	2,22	11
Mykolaivska	2 250	28	1,24	3
Odeska	1 075	90	8,37	23
Poltavska	1 823	35	1,92	9
Rivnenska	1 049	12	1,14	2
Sumska	588	18	3,06	16
Ternopilska	91	5	5,49	20
Kharkivska	4 376	73	1,67	7
Khersonska	1 109	25	2,25	12
Khmelnytska	1 996	21	1,05	1
Cherkaska	1 154	30	2,60	15
Chernivetska	295	6	2,03	10
Chernihivska	847	14	1,65	6
City of Kyiv	888	39	4,39	18

## Table 13. SEM results among imprisoned, including detainees, by regions of Ukraine, 2018

# Table 14. SEM results among people who have symptoms or sexually transmitted infections (STIs), by regions of Ukraine, 2018

	Code 104 (persons with symptoms or patients with STIs)						
Region (oblast, city)	Screened Identified HIV+ persons persons		%	Ranking			
Ukraine	43 523	433	0,99				
Vinnytska	334	2	0,60	10			
Volynska	989	3	0,30	3			
Dnipropetrovska	10 834	93	0,86	14			
Donetska	1 052	16	1,52	17			
Zhytomyrska	514	8	1,56	20			
Zakarpatska	335	2	0,60	9			
Zaporizka	2 248	15	0,67	11			
Ivano-Frankivska	991	4	0,40	4			
Kyivska	1 319	13	0,99	15			
Kirovohradska	1 023	16	1,56	21			
Luhanska	695	2	0,29	2			
Lvivska	439	10	2,28	24			
Mykolaivska	3 105	15	0,48	5			
Odeska	2 693	85	3,16	25			
Poltavska	1 275	28	2,20	23			
Rivnenska	507	6	1,18	16			
Sumska	1 422	7	0,49	7			
Ternopilska	748	1	0,13	1			
Kharkivska	4 985	28	0,56	8			
Khersonska	1 007	8	0,79	12			
Khmelnytska	1 667	14	0,84	13			
Cherkaska	2 464	12	0,49	6			
Chernivetska	92	2	2,17	22			
Chernihivska	788	12	1,52	18			
City of Kyiv	1 997	31	1,55	19			

## Table 15. SEM results among people who have had heterosexual contacts with HIV positive, by regions of Ukraine, 2018

	Code 101.1 (persons who have had heterosexual contacts with					
Region						
(oblast, city)	Screened	Identified HIV+	%	Ranking		
	persons	persons				
Ukraine	37 606	1830	4,9			
Vinnytska	302	33	10,9	15		
Volynska	365	25	6,8	6		
Dnipropetrovska	4 271	329	7,7	9		
Donetska	1 426	133	9,3	12		
Zhytomyrska	505	32	6,3	3		
Zakarpatska	117	10	8,5	10		
Zaporizka	987	88	8,9	11		
Ivano-Frankivska	67	12	17,9	21		
Kyivska	1 993	195	9,8	13		
Kirovohradska	253	63	24,9	23		
Luhanska	339	25	7,4	8		
Lvivska	127	9	7,1	7		
Mykolaivska	1 382	93	6,7	5		
Odeska	1 754	322	18,4	22		
Poltavska	219	36	16,4	18		
Rivnenska	124	21	16,9	20		
Sumska	217	23	10,6	14		
Ternopilska	54	16	29,6	25		
Kharkivska	108	18	16,7	19		
Khersonska	683	36	5,3	2		
Khmelnytska	101	16	15,8	17		
Cherkaska	599	38	6,3	4		
Chernivetska	81	9	11,1	16		
Chernihivska	171	48	28,1	24		
City of Kyiv	21 361	200	0,9	1		

	2016 2017 2018								
Oblast, city	absolute number	per 100,000 population	rate of growth,	absolute number	per 100,000 population	rate of growth,	absolute number	per 100,000 population	rate of growth,
Ukraine	14 334	37,0	+10,8	15 680	40,6	+9,8	15 749	40,8	+0,5
Vinnytska	230	14,5	+5,2	259	16,4	+13,6	284	18,0	+9,7
Volynska	213	20,5	-1,3	233	22,5	+9,6	224	21,6	-3,9
Dnipropetrovska	2 695	83,2	+13,2	3171	98,3	+18,1	3 064	94,9	-3,4
Donetska**	1 152	58,8	+45,6	1243	63,7	+8,3	1 410	73,0	+14,7
Zhytomyrska	362	29,1	-2,6	376	30,4	+4,6	404	32,7	+7,4
Zakarpatska	84	6,7	+42,4	102	8,1	+21,5	118	9,4	+15,7
Zaporizka	617	35,3	+26,1	567	32,8	-7,3	609	35,2	+7,4
Ivano-Frankivska	144	10,4	-10,5	147	10,7	+2,3	147	10,7	0,0
Kyivska	910	52,7	+15,5	858	49,4	-6,3	820	47,2	-4,4
Kirovohradska	344	35,7	-14,0	488	51,1	+43,1	411	43,1	-15,8
Luhanska**	209	29,3	+41,2	205	29,1	-0,8	181	26,1	-10,3
Lvivska	415	16,5	+9	392	15,6	-5,5	453	18,0	+15,6
Mykolaivska	885	76,7	+24,4	772	67,4	-12,1	731	63,8	-5,3
Odeska	1 768	74,4	-8,8	2334	98,3	+32,2	2 243	94,5	-3,9
Poltavska	336	23,6	-9,9	310	21,9	-6,9	351	24,8	+13,2
Rivnenska	199	17,1	+3	166	14,3	-16,5	214	18,4	+28,9
Sumska	166	15,0	-10,9	184	16,8	+11,8	203	18,5	+10,3
Ternopilska	115	10,9	+20,4	80	7,6	-30,0	69	6,6	-13,8
Kharkivska	526	19,5	+26,5	576	21,5	+10	565	21,1	-1,9
Khersonska	482	45,6	+17,1	547	52,1	+14,3	425	40,5	-22,3
Khmelnytska	161	12,5	+12,5	189	14,8	+18,3	228	17,9	+20,6
Cherkaska	488	39,6	+6,3	417	34,1	-13,8	446	36,5	+7
Chernivetska	73	8,1	-9,8	74	8,2	+1,5	81	9,0	+9,5
Chernihivska	381	37,0	-9,6	453	44,5	+20,4	430	42,2	-5,1
City of Kyiv	1 378	47,9	+24,8	1537	53,2	+11	1 638	56,7	+6,6

#### Table 16. HIV incidence in Ukraine \*

\* the registered incidence rate; does not include children, born to HIV-positive women, whose HIV status is indeterminate finally \*\* the indicator calculated taking into account the population in the territory of Donetska and Luhanska oblasts controlled by the Ukrainian Government

		2016		2017	2018 *		
Oblast, city	persons aged	new cases of HIV	persons aged	new cases of HIV	persons aged	new cases of HIV	
T11 ·	15-24 years	infection, %	15-24 years	infection, %	15-24 years	infection, %	
Ukraine	884	5,2	944	6,0	763	4,8	
Vinnytska	20	6,7	22	8,6	20	7,0	
Volynska	10	3,9	23	10,0	29	12,9	
Dnipropetrovska	112	3,6	128	4,1	108	3,5	
Donetska	67	4,7	52	4,2	55	3,9	
Zhytomyrska	35	7,7	29	7,8	19	4,7	
Zakarpatska	9	8,6	11	10,9	8	6,8	
Zaporizka	33	4,6	36	6,4	27	4,4	
Ivano-Frankivska	13	7,8	13	8,8	13	8,8	
Kyivska	48	4,5	57	6,7	35	4,3	
Kirovohradska	33	7,7	26	5,3	17	4,1	
Luhanska	11	4,3	14	6,8	11	6,1	
Lvivska	38	7,8	28	7,2	28	6,2	
Mykolaivska	51	4,9	43	5,6	32	4,4	
Odeska	109	5,1	157	6,8	114	5,1	
Poltavska	25	6,2	18	5,9	8	2,3	
Rivnenska	21	8,3	11	6,7	19	8,9	
Sumska	6	3,0	11	6,0	13	6,4	
Ternopilska	10	7,7	7	8,8	5	7,2	
Kharkivska	36	5,8	39	6,8	32	5,7	
Khersonska	29	5,0	36	6,6	24	5,6	
Khmelnytska	10	5,0	11	5,9	14	6,1	
Cherkaska	31	5,5	34	8,2	19	4,3	
Chernivetska	5	5,2	11	14,9	7	8,6	
Chernihivska	19	4,1	18	4,0	14	3,3	
City of Kyiv	103	6,4	109	7,1	92	5,6	

Table 17. Persons who have been diagnosed with HIV infection at the age of 15-24 years for the first time in their life

\* excluding children, born to HIV-positive women, whose HIV status is indeterminate finally
HIV transmission modes	persons diagn first time and	osed with HIV in registered during year	fection for the g the reporting	Registered persons with HIV infection as of the end of the reporting year			
	2016	2017	2018	2016	2017	2018	
1. Total of HIV-infected persons	14 334	15 680	15 749	127 620	136 378	137 176	
including:	10 506	11 567	11 877	76 110	84 266	87 293	
infected by sexual transmission							
of them: via homosexual contacts	436	492	506	1 733	2 202	2635	
via heterosexual contacts	10 070	11 075	11 371	74 377	82 064	84 658	
parenterally	3 732	4 002	3 776	47 580	48 097	45 993	
of them due to: injecting drugs use	3 728	3 997	3 773	47 531	48 043	45 945	
medication or blood components transfusions	1	0	0	11	11	11	
transplantation of donor organs, cells, tissues, biological fluids	0	0	0	0	0	0	
other medical procedures	0	0	0	8	8	6	
occupational exposures	0	0	0	1	2	1	
other non-medical interventions	3	5	3	29	33	30	
children born to HIV-positive women with confirmed HIV diagnosis	76	86	71	3 058	3 197	3 251	
the mode of infection transmission is indeterminate	20	25	25	872	818	639	
2. Children, born to HIV-infected women, whose HIV infected status is under confirmation stage	2 732	2 514	2 350	5 325	4 993	4 885	

#### Table 18. Structure of outpatient group with indicating HIV transmission modes among Ukraine

### Table 19. Officially registered HIV-infection cases among people who inject drugs, and their share of the total number of new HIV cases

Oblast, city	199	7 1	200	<b>8</b> <sup>2</sup>	<b>2018</b> <sup>3</sup>		
	PWID	%	PWID	%	PWID	%	
<b>Ukraine</b> (excluding data for AR of Crimea and city of Sevastopol)	6 966	84,3	6 558	36,9	3 773	24,0	
<b>Ukraine</b> (including data for AR of Crimea and city of Sevastopol)	7 448	83,6	7 009	37,0			
AR of Crimea	376	71,9	354	35,3			
Vinnytska	37	72,5	98	31,5	35	12,3	
Volynska	90	94,7	71	29,1	36	16,1	
Dnipropetrovska	2 042	93,1	1 316	42,7	951	31,0	
Donetska	1 710	81,8	1 295	32,4	310	22,0	
Zhytomyrska	50	89,3	134	39,4	97	24,0	
Zakarpatska	21	75,0	3	7,1	6	5,1	
Zaporizka	264	89,2	188	35,7	132	21,7	
Ivano-Frankivska	18	90,0	51	30,7	27	18,4	
Kyivska	71	89,9	236	33,7	290	35,4	
Kirovohradska	16	76,2	53	22,2	101	24,6	
Luhanska	147	86,0	295	43,5	46	25,4	
Lvivska	51	82,3	155	49,2	126	27,8	
Mykolaivska	268	85,6	454	38,2	132	18,1	
Odeska	769	67,3	431	27,7	311	13,9	
Poltavska	213	93,0	152	40,2	71	20,2	
Rivnenska	13	68,4	102	47,2	51	23,8	
Sumska	19	82,6	55	29,9	44	21,7	
Ternopilska	30	85,7	68	52,7	5	7,2	
Kharkivska	205	74,0	218	42,2	201	35,6	
Khersonska	64	71,9	233	39,6	107	25,2	
Khmelnytska	40	81,6	77	38,3	22	9,6	
Cherkaska	188	82,5	134	37,5	123	27,6	
Chernivetska	80	94,1	19	21,1	11	13,6	
Chernihivska	102	94,4	123	28,1	95	22,1	
City of Kyiv	458	90,7	597	47,5	443	27,0	
City of Sevastopol	106	85,5	97	43,7			

<sup>1</sup> the year with the highest number of registered HIV-infected PWID was for the whole period of HIV epidemiological surveillance in Ukraine

<sup>2</sup> the year with the shift in the dominant modes of HIV transmission: from artificial parenteral, when injecting drugs, to sexual, mainly through heterosexual contacts

<sup>3</sup> the indicator, excluding children, born to HIV-positive women, with indeterminate HIV status

	Coverage of HIV-positive	HIV-infected	people aged 15 years and older (new ca	ses)
Oblast, city	follow-up in HCFs from the number of identified, based on SEM* data, %	diagnosed with III-IV clinical stages of HIV infection, %	with immune suppression CD4 level of 350 cells/mcL from screened persons, %	Coverage of persons with research to determine CD4 counts, %
Ukraine	79,1	56,9	58,7	86,9
Vinnytska	85,8	64,1	67,8	60,2
Volynska	91,2	51,6	54,4	96,4
Dnipropetrovska	87,3	54,9	58,0	70,8
Donetska**	102,6	58,7	58,6	85,2
Zhytomyrska	88,1	53,5	56,1	85,5
Zakarpatska	73,7	50,0	60,9	78,0
Zaporizka	94,2	48,4	64,0	83,9
Ivano-Frankivska	79,3	40,7	67,5	86,9
Kyivska	68,2	50,6	55,3	81,5
Kirovohradska	71,6	63,6	58,5	99,5
Luhanska	84,3	53,6	56,0	87,8
Lvivska**	108,4	50,7	51,8	100,0
Mykolaivska	98,3	51,6	67,8	90,5
Odeska	77,8	76,4	61,5	99,2
Poltavska	82,3	51,3	61,0	88,3
Rivnenska	81,0	42,7	58,7	92,9
Sumska	84,6	55,2	55,6	79,6
Ternopilska	88,3	31,9	34,8	100,0
Kharkivska	78,9	70,4	54,8	77,7
Khersonska	90,9	54,8	60,2	93,9
Khmelnytska	66,3	62,7	49,5	88,0
Cherkaska**	103,0	34,6	48,3	95,3
Chernivetska	83,9	38,8	47,7	81,3
Chernihivska	90,5	55,4	59,0	91,1
City of Kyiv	47,3	50,6	58,9	98,5

Table 20. Indicator showing the stage of HIV at the moment of enrollment into HIV care and regularity of medical supervision in Ukraine in 2018

\* including children, born to HIV-positive women, whose HIV status is indeterminate finally \*\* an indicator level above 100% evidences about the inclusion of persons with HIV-positive results of verification studies, which have been registered according to the SEM data until 2018.

		2016			2017			2018	
Oblast, city	absolute number	per 100,000 population	rate of growth, %	absolute number	per 100,000 population	rate of growth, %	absolute number	per 100,000 population	rate of growth, %
Ukraine	8 852	22,9	+5,0	9 308	24,1	+5,8	8839	22,9	-5,0
Vinnytska	167	10,5	-8,2	161	10,1	-3,5	190	12,1	+19
Volynska	128	12,3	0	144	13,9	+12,7	129	12,4	-10,2
Dnipropetrovska	1 982	61,1	-2,5	2 181	67,3	+10,2	1713	53,1	-21,2
Donetska*	871	44.4	+35,0	992	50,8	+14,1	993	51,4	+1,2
Zhytomyrska	205	16,5	-4,6	215	17,3	+4,7	233	18,8	+9,1
Zakarpatska	54	4,3	+3,9	47	3,7	-13,0	78	6,2	+66
Zaporizka	447	25,6	+19,7	381	21,8	-14,7	301	17,4	-20,3
Ivano-Frankivska	65	4,7	-23,4	75	5,4	+15,8	53	3,9	-29,2
Kyivska	467	26,9	+14,3	345	20,0	-25,8	380	21,9	+9,4
Kirovohradska	162	16,7	-29,1	228	23,7	+41,8	200	21,0	-11,5
Luhanska*	133	18,7	+30,4	107	15,2	-18,8	117	16,9	+11,1
Lvivska	176	6,9	-6,8	245	9,7	+41,1	299	11,9	+22,2
Mykolaivska	439	38,0	+19,0	356	30,9	-18,8	365	31,9	+3,3
Odeska	1 428	59,8	+1,7	1 705	71,7	+19,9	1770	74,6	+4
Poltavska	209	14,6	-17,4	200	14,0	-3,9	142	10,1	-28,4
Rivnenska	100	8,6	+16,2	84	7,2	-15,9	101	8,7	+20,3
Sumska	91	8,2	-7,3	92	8,3	+1,4	107	9,8	+17,3
Ternopilska	47	4,4	+15,2	28	2,6	-39,9	42	4,0	+51
Kharkivska	271	10,0	+33,5	276	10,2	+2,4	266	9,9	-3,2
Khersonska	212	20,0	+14,0	293	27,7	+38,5	216	20,6	-25,7
Khmelnytska	138	10,7	+8,4	144	11,2	+4,6	169	13,2	+18,3
Cherkaska	249	20,1	-3,9	237	19,2	-4,4	209	17,1	-11,0
Chernivetska	38	4,2	-23,9	30	3,3	-21,2	46	5,1	+53,6
Chernihivska	238	22,9	+1,0	234	22,7	-0,9	183	18,0	-20,8
City of Kyiv	535	18,4	+11,0	508	17,7	-4,0	537	18,6	+5,2

#### Table 21. AIDS incidence in Ukraine

\* the indicator calculated taking into account the population in the territories of Donetska and Luhanska oblasts controlled by the Ukrainian Government

		2016			2017			2018	
Oblast, city	absolute number	per 100,000 population	rate of growth, %	absolute number	per 100,000 population	rate of growth, %	absolute number	per 100,000 population	rate of growth, %
Ukraine	3 253	8,4	+7,7	3 298	8,5	+1,8	3 448	8,9	+4,6
Vinnytska	51	3,2	+16,6	43	2,7	-15,8	74	4,7	+73,5
Volynska	55	5,3	-6,7	63	6,0	+14,1	56	5,4	-10,9
Dnipropetrovska	1 007	31,0	+10,2	873	26,9	-13,2	864	26,7	-0,7
Donetska**	347	17,7	+3	342	8,0	-2,0	335	17,3	-1,0
Zhytomyrska	88	7,1	+1,7	91	7,3	+3	91	7,4	+0,7
Zakarpatska	10	0,8	-16,7	15	1,2	+48,9	11	0,9	-26,6
Zaporizka	143	8,2	-7,1	142	8,1	-0,9	150	8,7	+6,6
Ivano-Frankivska	32	2,3	+10,5	28	2,0	-11,9	33	2,4	+18,1
Kyivska	113	6,5	+6,5	126	7,3	+11,8	130	7,5	+2,5
Kirovohradska	104	10,7	+15,1	85	8,8	-18,1	118	12,3	+40
Luhanska**	42	5,9	+2,4	41	1,9	-1,9	55	7,9	+36,3
Lvivska	73	2,9	-6,4	90	3,6	+22,5	99	3,9	+10,1
Mykolaivska	132	11,4	+18,6	134	11,6	+1,8	157	13,7	+18
Odeska	334	14,0	+2,7	455	19,1	+36,1	503	21,1	+10,7
Poltavska	78	5,4	-17,3	85	5,9	+9,9	81	5,7	-3,9
Rivnenska	30	2,6	+30,4	22	1,9	-27,2	30	2,6	+36,4
Sumska	26	2,3	+24,8	30	2,7	+17,6	38	3,5	+27,8
Ternopilska	15	1,4	-11,4	12	1,1	-19,3	9	0,9	-24,5
Kharkivska	63	2,3	+9,2	78	2,9	+25,1	81	3,0	+4,3
Khersonska	74	7,0	+112,6	76	7,2	+2,5	58	5,5	-23,1
Khmelnytska	57	4,4	+30,3	52	4,0	-8,4	50	3,9	-3,1
Cherkaska	72	5,8	-3,3	78	6,3	+8,7	64	5,2	-17,2
Chernivetska	18	2,0	+38,6	22	2,4	+21	20	2,2	-8,9
Chernihivska	88	8,5	+25,2	78	7,5	-11,7	81	7,9	+5,1
City of Kyiv	201	6,9	+9,4	237	8,1	+17,8	260	8,9	+9,2

#### Table 22. AIDS-related mortality rate in Ukraine

\*\* the indicator calculated taking into account the population in the territories of Donetska and Luhanska oblasts controlled by the Ukrainian Government

		2017			2018	
Newly reported cases of death	Total	Those rec	eived ART		Those rec	eived ART
		total	%	Total	total	%
Total number of deceased persons,	5 500	2 620	47,6	6761	3082	45,6
Including: directly related to HIV infection	3 364	1 663	49,4	3548	1771	49,9
<i>including:</i> those diagnosed with clinical stage III of HIV infection	66	27	40,9	100	36	36,0
those diagnosed with clinical stage IV of HIV infection	3 298	1 616	49,0	3448	1738	50,4
<i>including those due to:</i> TB/HIV co-infection	1 684	931	55,3	1743	932	53,5
causes not related to HIV infection	2 105	978	46,5	2555	1273	49,8
including those who died due to: TB	65	28	43,1	99	40	40,4
HBV and/or HCV, liver cirrhosis of viral etiology	305	146	47,9	316	168	53,2
other conditions	1 374	628	45,7	1752	837	47,8
other causes	361	176	48,7	388	228	58,8
cause of death unknown	31	9	29,0	658	38	5,8
Percentage of IDUs among deceased		36,7			40,4	

### Table 23. Causes of death of HIV-positive persons in Ukraine

Oblast, city	HIV-infected* people	Per 100,000 population	AIDS infected people	Per 100,000 population
Ukraine	137 176	356,4	46 380	120,5
Vinnytska	2 723	173,6	1 272	81,1
Volynska	2 179	210,4	777	75,0
Dnipropetrovska	24 961	773,3	8 665	268,4
Donetska**	12 213	633,6	5 662	293,8
Zhytomyrska	3 373	273,8	1 090	88,5
Zakarpatska	585	46,6	258	20,6
Zaporizka	4 359	253,1	1 804	104,7
Ivano-Frankivska	1088	79,1	430	31,3
Kyivska	7 310	418,1	2 657	152,0
Kirovohradska	2 982	313,9	736	77,5
Luhanska**	2 086	301,0	555	80,1
Lvivska	3 645	145,1	1 345	53,6
Mykolaivska	8 670	760,1	1 785	156,5
Odeska	20 486	863,7	8 304	350,1
Poltavska	3 611	256,8	1 146	81,5
Rivnenska	1 929	166,4	506	43,6
Sumska	1 553	142,2	499	45,7
Ternopilska	956	91,1	162	15,4
Kharkivska	4 347	162,3	1 138	42,5
Khersonska	4 153	397,2	1 100	105,2
Khmelnytska	2 070	162,8	833	65,5
Cherkaska	3 472	285,4	1 208	99,3
Chernivetska	923	102,1	288	31,9
Chernihivska	4 078	403,1	1 206	119,2
City of Kyiv	13 424	464,0	2 954	102,1

# Table 24. PLWH registered with HCFs as of 01.01.2019(number and rate per 100,000 population)

\* excluding children, born to HIV-positive women, with indeterminate HIV status

\*\* the indicator calculated taking into account the population in the territories of Donetska and Luhanska oblasts controlled by the Ukrainian Government

			New case in 2018			Those linked			
		HIV infectio	n				HIV-infected chil	dren	Including
Oblast, city	aged 0-18	incl	uding	AIDS	Death	aged 0-18	inclu	those with	
	years	aged 0-14 years	aged 15-17 years			years	aged 0-14	aged 15-17	AIDS
Ukraine	114	78	36	78	51	3 014	2 411	603	887
Vinnytska	1	0	1	0	1	46	39	7	30
Volynska	5	1	4	1	1	48	37	11	11
Dnipropetrovska	22	16	6	13	11	599	460	139	166
Donetska	10	7	3	6	3	288	243	45	83
Zhytomyrska	4	4	0	2	2	70	56	14	29
Zakarpatska	1	0	1	0	1	11	9	2	3
Zaporizka	3	2	1	0	1	68	57	11	21
Ivano-Frankivska	3	2	1	1	0	23	21	2	12
Kyivska	6	4	2	3	0	188	128	60	98
Kirovohradska	4	2	2	11	3	114	98	16	34
Luhanska	0	0	0	1	1	43	31	12	7
Lvivska	4	3	1	2	3	65	57	8	19
Mykolaivska	4	4	0	1	5	168	131	37	18
Odeska	11	8	3	23	8	468	383	85	103
Poltavska	3	2	1	0	0	65	52	13	11
Rivnenska	4	3	1	1	2	31	30	1	10
Sumska	3	2	1	0	0	29	23	6	4
Ternopilska	1	0	1	0	0	9	8	1	6
Kharkivska	6	4	2	6	3	68	55	13	19
Khersonska	2	0	2	0	1	101	84	17	15
Khmelnytska	3	3	0	3	2	46	36	10	42
Cherkaska	1	1	0	0	1	89	68	21	24
Chernivetska	2	1	1	0	0	100	83	17	53
Chernihivska	4	2	2	2	0	92	80	12	17
City of Kyiv	7	7	0	2	2	185	142	43	52

#### Table 25. Children aged 0-18 years registered with HCFs in 2018 \*

\* excluding children, born to HIV-positive women, with indeterminate HIV status

	New ca	ses*		Those linked into care as of 01.01.2019				
Oblast, city	HIV infection	AIDS	Those taken off the records due to the	HIV-infected c	hildren *	Children diagnosed with HIV, waiting		
			absence of HIV infection	Children, population number	including those with AIDS	confirmaton		
Ukraine	71	81	2 419	3 251	993	4 885		
Vinnytska	0	0	76	52	37	93		
Volynska	1	1	30	44	12	57		
Dnipropetrovska	16	13	385	687	219	648		
Donetska	6	6	221	302	88	331		
Zhytomyrska	4	2	84	63	25	138		
Zakarpatska	0	0	9	10	3	42		
Zaporizka	2	0	83	77	25	126		
Ivano-Frankivska	2	1	16	23	8	41		
Kyivska	5	3	106	177	85	425		
Kirovohradska	0	9	92	114	25	198		
Luhanska	0	1	43	50	9	58		
Lvivska	3	2	84	64	18	182		
Mykolaivska	3	1	134	198	18	240		
Odeska	9	30	324	544	146	1 053		
Poltavska	2	0	61	65	11	118		
Rivnenska	1	0	46	28	10	80		
Sumska	0	0	35	26	4	62		
Ternopilska	0	0	11	8	5	35		
Kharkivska	4	6	69	74	23	175		
Khersonska	0	0	100	99	18	137		
Khmelnytska	2	2	35	54	47	81		
Cherkaska	1	0	86	96	24	122		
Chernivetska	1	0	20	100	53	27		
Chernihivska	2	2	72	95	19	112		
City of Kyiv	7	2	197	201	61	304		

#### Table 26. Children, born to HIV-infected women, registered with health care facilities in 2018

\* excluding children, born to HIV-positive women, with indeterminate HIV status

	Cohort 20	16 (PCR, EL	ISA, Immunoblot	2018 (PCR)			
Oblast, city	HIV- positive children, absolute number	Rate of MTCT, %	Rate of MTCT, average %	PCR coverage, %	HIV- positive children, absolute number	Rate of MTCT, %	
Ukraine	92	3,65	3,54	80,8	38	2,0	
Vinnytska	1	1,41	2,43	94,5	0	0	
Volynska	3	7,69	3,70	52,9	0	0	
Dnipropetrovska	16	4,21	4,25	78,2	11	3,6	
Donetska	9	3,42	3,66	76,4	4	2,7	
Zhytomyrska	1	1,08	1,45	94,1	0	0,0	
Zakarpatska	1	9,09	8,82	78,6	0	0,0	
Zaporizka	3	3,09	3,17	84,1	0	0,0	
Ivano-Frankivska	0	0,00	1,52	86,2	0	0,0	
Kyivska	4	4,12	4,24	86,5	3	3,1	
Kirovohradska	5	5,95	6,06	68,7	1	1,8	
Luhanska	1	2,17	2,34	93,5	2	6,9	
Lvivska	3	4,35	4,39	92,5	0	0,0	
Mykolaivska	5	3,47	3,29	79,5	2	2,0	
Odeska	16	4,31	3,97	71,0	7	3,0	
Poltavska	0	0,00	1,55	86,0	2	4,1	
Rivnenska	1	2,13	1,28	86,0	0	0,0	
Sumska	0	0,00	0,00	86,2	0	0,0	
Ternopilska	1	5,88	1,82	81,8	0	0,0	
Kharkivska	1	1,22	1,98	91,5	2	2,3	
Khersonska	4	4,08	3,49	85,9	1	1,4	
Khmelnytska	0	0,00	1,63	82,9	1	2,9	
Cherkaska	3	3,95	2,00	79,4	1	1,9	
Chernivetska	1	4,35	5,26	69,2	0	0,0	
Chernihivska	1	1,32	2,10	86,9	1	1,9	
City of Kyiv	12	6,12	4,96	85,8	0	0,0	

# Table 27. Rate of mother-to-child HIV transmission (RMTCT) in Ukraine,based on the results of early and serological diagnostics in 2018

		2018	
Oblast, city	Number of liveborn infants	Number of new cases of HIV infection (according to PCR data)	Index per 100,000 live- born infants
Ukraine	318733	38	11,9
Vinnytska	12639	0	0,0
Volynska	11398	0	0,0
Dnipropetrovska	24502	11	44,9
Donetska	11623	4	34,4
Zhytomyrska	10766	0	0,0
Zakarpatska	13729	0	0,0
Zaporizka	12228	0	0,0
Ivano-Frankivska	12773	0	0,0
Kyivska	12978	3	23,1
Kirovohradska	6839	1	14,6
Luhanska	3587	2	55,7
Lvivska	22862	0	0,0
Mykolaivska	8970	2	22,3
Odeska	22733	7	30,8
Poltavska	10210	2	19,6
Rivnenska	13652	0	0,0
Sumska	7108	0	0,0
Ternopilska	8468	0	0,0
Kharkivska	19070	2	10,5
Khersonska	8143	1	12,3
Khmelnytska	10753	1	9,3
Cherkaska	8523	1	11,7
Chernivetska	8640	0	0,0
Chernihivska	6792	1	14,7
City of Kyiv	29747	0	0,0

### Table 28. Number of new HIV infection cases due to mother-to-child HIV transmission(per 100,000 liveborn infants)

		1				РМТСТ	Program	implemen	tation indi	cators	1	1		
Region (oblast, city)	HIV testing coverage for pregnant women, %	HIV prevalence among pregnant women, %	Total number of HIV-positive pregnant women	Percentage of pregnant women diagnosed as HIV-positive after 26 weeks of pregnancy, during or after childbirth (among new HIV infection cases)	Percentage of HIV-positive pregnant women who received ARVs/ART	Percentage of HIV-positive pregnant women who are continuing ART after delivery	Number of deliveries in HIV-positive women	Percentage of HIV-positive pregnant women brought to obstetric hospital prior to labor and delivery	Percentage of HIV-positive women who have given birth by cesarean section	Number of liveborn infants to an HIV-infected woman	Number of new perinatal HIV-infection cases per 100,000 liveborn infants	Percentage of children, born to HIV-positive women, who received ARVs for preventive purpose	Percentage of children born to an HIV-infected woman reached by early diagnosis within the first 2 months of birth	Number of HIV-positive children under the age of 18 who are registered with HCFs and living in families (with their parents, relatives, or have been adopted)
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ukraine	99,5	0,74	2414	23,6	96,5	92,8	2317	58,8	31,0	2325	11,9	98,7	75,5	2788
Vinnytska	93,8	0,47	62	8,8	98,2	98,2	55	56,4	18,2	55	0,0	98,2	64,6	42
Volynska	000													
	00,0	0,37	42	6,7	97,2	100,0	36	52,8	16,7	34	0,0	100,0	27,8	42
Dnipropetrovska	94,9	0,37 1,56	42 409	6,7 21,9	97,2 95,8	100,0 96,4	36 385	52,8 58,2	16,7 23,4	34 386	0,0 44,9	100,0 98,4	27,8 82,0	42 553
Dnipropetrovska Donetska	94,9 94,2	0,37 1,56 1,71	42 409 210	6,7 21,9 15,1	97,2 95,8 94,3	100,0 96,4 88,5	36 385 192	52,8 58,2 65,1	16,7 23,4 21,4	34 386 191	0,0 44,9 34,4	100,0 98,4 97,4	27,8 82,0 75,2	42 553 258
Dnipropetrovska Donetska Zhytomyrska	94,9 94,2 97,7	0,37 1,56 1,71 0,62	42 409 210 68	6,7 21,9 15,1 4,3	97,2 95,8 94,3 100,0	100,0 96,4 88,5 100,0	36 385 192 68	52,8 58,2 65,1 75,0	16,7 23,4 21,4 47,1	34 386 191 68	0,0 44,9 34,4 0,0	100,0 98,4 97,4 100,0	27,8 82,0 75,2 84,4	42 553 258 66
Dnipropetrovska Donetska Zhytomyrska Zakarpatska	94,9 94,2 97,7 93,0	0,37 1,56 1,71 0,62 0,12	42 409 210 68 17	6,7 21,9 15,1 4,3 50,0	97,2 95,8 94,3 100,0 100,0	100,0 96,4 88,5 100,0 84,6	36 385 192 68 13	52,8 58,2 65,1 75,0 46,2	16,7 23,4 21,4 47,1 46,2	34 386 191 68 14	0,0 44,9 34,4 0,0 0,0	100,0 98,4 97,4 100,0 92,9	27,8 82,0 75,2 84,4 100,0	42 553 258 66 9
Dnipropetrovska Donetska Zhytomyrska Zakarpatska Zaporizka	94,9 94,2 97,7 93,0 93,2	0,37 1,56 1,71 0,62 0,12 0,71	<ul> <li>42</li> <li>409</li> <li>210</li> <li>68</li> <li>17</li> <li>96</li> </ul>	6,7 21,9 15,1 4,3 50,0 18,4	97,2 95,8 94,3 100,0 100,0 95,5	100,0 96,4 88,5 100,0 84,6 90,9	36 385 192 68 13 88	52,8 58,2 65,1 75,0 46,2 40,9	16,7         23,4         21,4         47,1         46,2         25,0	34 386 191 68 14 88	0,0 44,9 34,4 0,0 0,0 0,0	100,0 98,4 97,4 100,0 92,9 98,9	27,8 82,0 75,2 84,4 100,0 82,4	42 553 258 66 9 63
Dnipropetrovska Donetska Zhytomyrska Zakarpatska Zaporizka Ivano-Frankivska	94,9       94,2       97,7       93,0       93,2       100,0	0,37 1,56 1,71 0,62 0,12 0,71 0,22	<ul> <li>42</li> <li>409</li> <li>210</li> <li>68</li> <li>17</li> <li>96</li> <li>27</li> </ul>	6,7 21,9 15,1 4,3 50,0 18,4 0,0	97,2 95,8 94,3 100,0 100,0 95,5 100,0	100,0 96,4 88,5 100,0 84,6 90,9 100,0	36 385 192 68 13 88 28	52,8 58,2 65,1 75,0 46,2 40,9 92,9	16,7         23,4         21,4         47,1         46,2         25,0         64,3	34 386 191 68 14 88 29	0,0 44,9 34,4 0,0 0,0 0,0 0,0	100,0 98,4 97,4 100,0 92,9 98,9 96,6	27,8 82,0 75,2 84,4 100,0 82,4 80,0	42 553 258 66 9 63 23
Dnipropetrovska Donetska Zhytomyrska Zakarpatska Zaporizka Ivano-Frankivska Kyivska	38,8         94,9         94,2         97,7         93,0         93,2         100,0         94,0	0,37 1,56 1,71 0,62 0,12 0,71 0,22 0,77	<ul> <li>42</li> <li>409</li> <li>210</li> <li>68</li> <li>17</li> <li>96</li> <li>27</li> <li>130</li> </ul>	6,7 21,9 15,1 4,3 50,0 18,4 0,0 24,6	97,2 95,8 94,3 100,0 100,0 95,5 100,0 100,0	100,0 96,4 88,5 100,0 84,6 90,9 100,0 86,2	36 385 192 68 13 88 28 109	52,8 58,2 65,1 75,0 46,2 40,9 92,9 57,8	16,7         23,4         21,4         47,1         46,2         25,0         64,3         26,6	34 386 191 68 14 88 29 111	0,0 44,9 34,4 0,0 0,0 0,0 0,0 23,1	100,0 98,4 97,4 100,0 92,9 98,9 96,6 99,1	27,8 82,0 75,2 84,4 100,0 82,4 80,0 70,8	42 553 258 66 9 63 23 163
Dnipropetrovska Donetska Zhytomyrska Zakarpatska Zaporizka Ivano-Frankivska Kyivska Kirovohradska	38,8         94,9         94,2         97,7         93,0         93,2         100,0         94,0         95,6	0,37 1,56 1,71 0,62 0,12 0,71 0,22 0,77 1,17	<ul> <li>42</li> <li>409</li> <li>210</li> <li>68</li> <li>17</li> <li>96</li> <li>27</li> <li>130</li> <li>82</li> </ul>	6,7 21,9 15,1 4,3 50,0 18,4 0,0 24,6 18,9	97,2 95,8 94,3 100,0 100,0 95,5 100,0 100,0 95,2	100,0 96,4 88,5 100,0 84,6 90,9 100,0 86,2 95,2	36 385 192 68 13 88 28 28 109 84	52,8 58,2 65,1 75,0 46,2 40,9 92,9 57,8 47,6	16,7         23,4         21,4         47,1         46,2         25,0         64,3         26,6         28,6	34 386 191 68 14 88 29 111 83	0,0 44,9 34,4 0,0 0,0 0,0 0,0 23,1 14,6	100,0         98,4         97,4         100,0         92,9         98,9         96,6         99,1         97,6	27,8 82,0 75,2 84,4 100,0 82,4 80,0 70,8 49,1	42 553 258 66 9 63 23 163 102

#### Table 29. Implementation indicators for the Mother-to-Child HIV Transmission Prevention Program, by regions of Ukraine, 2018

A	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Lvivska	100,0	0,29	67	25,0	98,5	98,5	66	72,7	50,0	67	0,0	100,0	96,8	61
Mykolaivska	92,0	1,29	124	41,2	98,4	98,4	127	30,7	24,4	127	22,3	100,0	100,0	159
Odeska	93,2	1,31	313	38,0	96,1	86,7	330	56,4	39,7	331	30,8	99,4	46,4	420
Poltavska	97,1	0,57	61	45,0	100,0	100,0	57	89,5	36,8	57	19,6	100,0	70,8	61
Rivnenska	99,9	0,29	39	28,6	93,9	91,8	49	61,2	32,7	50	0,0	98,0	81,4	30
Sumska	99,1	0,35	25	0,0	100,0	75,0	28	71,4	17,9	29	0,0	100,0	48,0	25
Ternopilska	97,2	0,21	18	11,1	100,0	95,5	22	90,9	40,9	22	0,0	100,0	72,2	8
Kharkivska	98,5	0,63	120	21,7	94,7	94,7	94	87,2	44,7	94	10,5	94,7	51,3	66
Khersonska	98,5	0,99	80	26,1	95,3	92,9	85	69,4	23,5	85	12,3	100,0	93,3	99
Khmelnytska	96,4	0,48	51	25,0	97,6	95,1	41	95,1	70,7	41	9,3	100,0	82,4	45
Cherkaska	98,0	0,78	69	26,1	97,0	98,5	67	65,7	26,9	68	11,7	98,5	100,0	83
Chernivetska	97,4	0,18	16	16,7	92,3	92,3	13	23,1	15,4	13	0,0	100,0	55,6	100
Chernihivska	88,3	1,00	74	12,9	91,9	85,5	62	37,1	19,4	61	14,7	100,0	92,5	89
City of Kyiv	94,2	0,69	186	22,1	98,4	92,1	189	40,2	31,7	190	0,0	98,9	93,3	180

#### Table 30. Total number of persons receiving ART in Ukraine as of 01.01.2019

	HCFs of MoH and NAMS of Ukraine HCFs of SCES of Ukraine				Jkraine	Subtotal				
No.	Oblast, city, organization	State Budget	Global Fund	PEPFAR	AHF Ukraine	Total, MoH and NAMS of Ukraine	Global Fund	State Budget	Total, HCFs SCES of Ukraine	(HCFs of MoH, NAMS & SCES of Ukraine)
1	Vinnytska	1405	494	0	0	1899	51	24	75	1974
2	Volynska	1074	324	0	0	1398	36	12	48	1446
3	Dnipropetrovska	9904	4429	3325	0	17658	448	176	624	18282
4	Donetska	6508	1453	1245	0	9206	130	68	198	9404
5	Zhytomyrska	1636	564	0	0	2200	124	17	141	2341
6	Zakarpatska	385	40	0	0	425	4	0	4	429
7	Zaporizka	1779	755	908	0	3442	140	39	179	3621
8	Ivano-Frankivska	776	106	0	0	882	14	0	14	896
9	Kyivska	2657	1153	1261	0	5071	201	26	227	5298
10	Kirovohradska	1086	381	766	0	2233	49	35	84	2317
11	Luhanska	1371	332	0	0	1703	15	2	17	1720
12	Lvivska	1659	635	0	0	2294	83	15	98	2392
13	Mykolaivska	4435	1047	554	0	6036	141	23	164	6200
14	Odeska	7608	2500	2936	0	13044	155	28	183	13227
15	Poltavska	1796	509	361	77	2743	55	52	107	2850
16	Rivnenska	978	303	0	0	1281	49	22	71	1352
17	Sumska	763	241	0	0	1004	50	8	58	1062
18	Ternopilska	333	100	0	0	433	26	9	35	468
19	Kharkivska	1898	992	0	0	2890	217	48	265	3155
20	Khersonska	1978	862	249	0	3089	113	33	146	3235
21	Khmelnytska	1035	405	0	0	1440	30	22	52	1492
22	Cherkaska	1294	633	978	0	2905	101	26	127	3032
23	Chernivetska	444	149	0	0	593	10	2	12	605
24	Chernihivska	1606	592	656	0	2854	49	3	52	2906
25	City of Kyiv	4543	1587	2605	808	9543				9543
26	NCSH "OKHMADYT"	235	12	0	2	249				249
27	Gromashevskiy IEID of the NAMS of Ukraine	2113	742	0	81	2936				2936
	TOTAL	61299	21340	15844	968	99451	2291	690	2981	102432

No.	Oblast, city	Number of PLWH	Number of PLWH	Coverage with ART,
		registered	receiving ART	%
1	Vinnytska	2 723	1 974	72%
2	Volynska	2 179	1 446	66%
3	Dnipropetrovska	24 961	18 282	73%
4	Donetska	12 213	9 404	77%
5	Zhytomyrska	3 373	2 341	69%
6	Zakarpatska	585	429	73%
7	Zaporizka	4 359	3 621	83%
8	Ivano-Frankivska	1 088	896	82%
9	Kyivska	7 310	5 298	72%
10	Kirovohradska	2 982	2 317	78%
11	Luhanska	2 086	1 720	82%
12	Lvivska	3 645	2 392	66%
13	Mykolaivska	8 670	6 200	72%
14	Odeska	20 486	13 227	65%
15	Poltavska	3 611	2 850	79%
16	Rivnenska	1 929	1 352	70%
17	Sumska	1 553	1 062	68%
18	Ternopilska	956	468	49%
19	Kharkivska	4 347	3 155	73%
20	Khersonska	4 153	3 235	78%
21	Khmelnytska	2 070	1 492	72%
22	Cherkaska	3 472	3 032	87%
23	Chernivetska	923	605	66%
24	Chernihivska	4 078	2 906	71%
25	City of Kyiv	13 424	9 543	71%

# Table 31. Coverage with ART of outpatient follow-up groupas of 01.01.2019

\* including 2 981 patients receiving ART in HCFs of SCES of Ukraine

No.	Oblast, city	Number of persons receiving ART as of 01.01.2018	Number of persons receiving ART as of 01.01.2019
1	Vinnytska	1 777	1 974
2	Volynska	1 310	1 446
3	Dnipropetrovska	15 346	18 282
4	Donetska	7 675	9 404
5	Zhytomyrska	2 011	2 341
6	Zakarpatska	339	429
7	Zaporizka	2 907	3 621
8	Ivano-Frankivska	789	896
9	Kyivska	4 651	5 298
10	Kirovohradska	1 776	2 317
11	Luhanska	1 580	1 720
12	Lvivska	1 829	2 392
13	Mykolaivska	5 873	6 200
14	Odeska	11 532	13 227
15	Poltavska	2 494	2 850
16	Rivnenska	1 108	1 352
17	Sumska	835	1 062
18	Ternopilska	803	468
19	Kharkivska	2 647	3 155
20	Khersonska	2 721	3 235
21	Khmelnytska	1 243	1 492
22	Cherkaska	2 374	3 032
23	Chernivetska	506	605
24	Chernihivska	2 485	2 906
25	City of Kyiv	8 313	9 543
26	NCSH "OKHMADYT"	248	249
27	SE "Gromashevskyi IEID"	3 098	2 936
	Ukraine	88 270	102 432

### Table 32. Dynamics in the number of patients receiving ART in health care facilities

Table 33. Information on facilities and organizations providing ART	
as of 01.01.2019	

				, á 🗸	Sites on th	Sites on the basis of specialized health facilities				
Oblast, city	Number of HCFs	Regional AIDS Center	City AIDS Center	Sites based on central district hospital (CDH), municipal hospital (MH outpatient's clinic, TMA	Tuberculosis clinics	Dermatovenerologic clinics	Neuropsychiatric clinics	Narcological clinics		
Vinnytska	6	1		5						
Volynska	7	1		6						
Dnipropetrovska	43	1	7	26	6	1	1	1		
Donetska	22	1	2	19						
Zhytomyrska	5	1		4						
Zakarpatska	1	1								
Zaporizka	18	1	1	13	3					
Ivano-Frankivska	7	1		6						
Kyivska	32	1	1	25	3		1	1		
Kirovohradska	10	1		8	1					
Luhanska	5	1		16						
Lvivska	10	1		8	1					
Mykolaivska	15	1		13	1					
Odeska	53	1	1	46	4	1				
Poltavska	16	1		14				1		
Rivnenska	7	1		6						
Sumska	8	1		7						
Ternopilska	6	1		5						
Kharkivska	11	1		8	2					
Khersonska	23	1		20	1			1		
Khmelnytska	12	1		11						
Cherkaska	27	1		24	1			1		
Chernivetska	1	1								
Chernihivska	12	1		11						
City of Kyiv	28	1		24	1	1		1		
National level HCFs	2									
Total	387	25	12	325	24	3	2	6		

\* Including: 3 ART sites of the Odessa oblast center for socially significant diseases control, 15 ART sites of Odessa City AIDS Center, 7 ART sites of Kyiv City AIDS Center

Oblast, city	Number of ART sites as of 01.01.218	Number of ART sites as of 01.01.2019	Changes in the number of ART sites
Vinnytska	6	6	0
Volynska	5	7	+2
Dnipropetrovska	40	43	+3
Donetska	22	22	0
Zhytomyrska	5	5	0
Zakarpatska	1	1	0
Zaporizka	14	18	+4
Ivano-Frankivska	7	7	0
Kyivska	25	32	+7
Kirovohradska	8	10	+2
Luhanska	5	17	+12
Lvivska	10	10	0
Mykolaivska	12	15	+3
Odeska	45	53*	+8
Poltavska	13	16	+3
Rivnenska	7	7	0
Sumska	7	8	+1
Ternopilska	3	6	+3
Kharkivska	11	11	0
Khersonska	25	23	-2
Khmelnytska	12	12	0
Cherkaska	28	27	-1
Chernivetska	1	1	0
Chernihivska	7	12	+5
City of Kyiv	9	28*	+19
NCSH "OKHMADYT"	1	1	0
SE "Gromashevskyi IEID" of NAMS of Ukraine	1	1	0
Ukraine	330	387	+57

#### Table 34. Dynamics of the number of ART sites during 2018

\* Including: 3 ART sites of the Odessa oblast center on socially significant diseases control, 15 ART sites of Odessa City AIDS Center, 7 ART sites of Kyiv City AIDS Center

			Number of person	s receiving ART	
No.	Oblast, city	adults aged 18	years and older	children age inclu	ed 0-17 years usive
		Male	Female	Male	Female
1	Vinnytska	1 006	848	24	21
2	Volynska	710	643	21	24
3	Dnipropetrovska	8 364	8 735	261	298
4	Donetska	4 413	4 521	116	156
5	Zhytomyrska	1 050	1 082	34	34
6	Zakarpatska	230	185	4	6
7	Zaporizka	1 735	1 644	21	42
8	Ivano-Frankivska	515	346	11	10
9	Kyivska	2 648	2 263	83	77
10	Kirovohradska	1 081	1 055	43	54
11	Luhanska	840	820	21	22
12	Lvivska	1 393	836	29	36
13	Mykolaivska	2 874	2 998	77	87
14	Odeska	5 958	6 658	194	234
15	Poltavska	1 482	1 199	30	32
16	Rivnenska	679	574	16	12
17	Sumska	496	479	13	16
18	Ternopilska	221	203	4	5
19	Kharkivska	1 440	1 389	28	33
20	Khersonska	1 533	1 459	38	59
21	Khmelnytska	721	674	19	26
22	Cherkaska	1 453	1 366	42	44
23	Chernivetska	273	223	50	47
24	Chernihivska	1 392	1 377	37	48
25	City of Kyiv	5 534	3 826	89	94
26	NCSH "OKHMADYT"	29	82	70	68
27	SE "Gromashevskyi IEID" of NAMS of Ukraine	1 715	1 221	-	-
28	SCES of Ukraine	2 735	246	-	-
	Total	52 520	46 952	1 375	1 585

### Table 35. Number of persons receiving ART, by age and gender, as of 01.01.2019

# Table 36. Number and percentage of HIV-positive patients receiving ART, according to the lines of<br/>therapy as of 01.01.2019

No.	Oblast, city	Number and proportion of patients receiving ART in Ukraine, by the lines of therapy								
		First	line	Secon	d line	Third line				
1	Vinnytska	1 793	94,4	106	5,6	0	0,0			
2	Volynska	1 365	97,6	33	2,4	0	0,0			
3	Dnipropetrovska	17 104	96,9	545	3,1	9	0,1			
4	Donetska	8 776	95,3	430	4,7	0	0,0			
5	Zhytomyrska	2 147	97,6	53	2,4	0	0,0			
6	Zakarpatska	417	98,1	7	1,6	1	0,2			
7	Zaporizka	3 248	94,4	191	5,5	3	0,1			
8	Ivano-Frankivska	849	96,3	33	3,7	0	0,0			
9	Kyivska	4 834	95,3	234	4,6	3	0,1			
10	Kirovohradska	2 207	98,8	26	1,2	0	0,0			
11	Luhanska	1 635	96,0	68	4,0	0	0,0			
12	Lvivska	2 264	98,7	30	1,3	0	0,0			
13	Mykolaivska	5 838	96,7	183	3,0	15	0,2			
14	Odeska	12 426	95,3	614	4,7	4	0,0			
15	Poltavska	2 608	95,1	133	4,8	2	0,1			
16	Rivnenska	1 214	94,8	67	5,2	0	0,0			
17	Sumska	958	95,4	46	4,6	0	0,0			
18	Ternopilska	400	92,4	33	7,6	0	0,0			
19	Kharkivska	2 738	94,7	152	5,3	0	0,0			
20	Khersonska	3 039	98,4	50	1,6	0	0,0			
21	Khmelnytska	1 358	94,3	81	5,6	1	0,1			
22	Cherkaska	2 774	95,5	131	4,5	-	0,0			
23	Chernivetska	588	99,2	4	0,7	1	0,2			
24	Chernihivska	2 723	95,4	129	4,5	2	0,1			
25	City of Kyiv	8 919	93,5	622	6,5	2	0,0			
26	NCSH "OKHMATDYT"	219	88,0	21	8,4	9	3,6			
27	SE "Gromashevskyi IEID" of NAMS of Ukraine	1 999	68,1	688	23,4	249	8,5			
28	SCES of Ukraine	2 962	99,4	19	0,6		0,0			
	Ukraine	97 402	95,1	4 729	4,6	301	0,3			

### Table 37. Coverage with CD4 count testing inHIV-infected persons and screening results of patients, Ukraine, 2018

Structure of screened patients	Total number of screenings	% from screenings	Number of patients as of 01.01.2018	Number of patients screened at least once during the year	% of coverage with screening
Ukraine, totally, among them:	154 255	100	141 371	93 616	66,2
patients receiving ART	140 927	91,4	88 270	68 199	77,3
patients do not receive ART	30 187	19,6	50 495	20 615	40,8
HIV-infected pregnant women	1 529	1,0	2 606	1 130	43,4

Screening during		In total		receive ART		do not rece	eive ART		
the calendar year	Structure of screening, %	screened persons, including	number of patients	% from the screened patients	number of patients	% from the screened patients	number of pregnant women	% of screened patients	
For the first time	7,8	13 538	0	0	13 082	43,6	456	28,1	
First	47,3	81 591	68 199	48,4	12 718	42,39	674	41,6	
Second	39,4	68 046	63 793	45,3	3 914	13,05	339	20,9	
Third	5,4	9 373	8 935	6,3	287	0,96	151	9,3	
Total number of screenings	100	172 548	140927	100	30001	100	1620	100	

	Number of         Among them with CD4 immunosuppression level							
Oblast, city, organization	screened patients while registered with HCF	0-350 cells/mcL	%	351-500 cells/mcL	%	> 500 cells/mcL	%	
Ukraine	14 768	9 041	61,22	2 491	16,87	3 236	21,91	
Vinnytska	31	22	70,97	6	19,35	3	9,68	
Volynska	97	57	58,76	15	15,46	25	25,77	
Dnipropetrovska	1384	796	57,51	272	19,65	316	22,83	
Donetska	592	232	39,19	279	47,13	81	13,68	
Zhytomyrska	339	206	60,77	46	13,57	87	25,66	
Zakarpatska	111	70	63,06	19	17,12	22	19,82	
Zaporizka	517	306	59,19	70	13,54	141	27,27	
Ivano-Frankivska	128	79	61,72	25	19,53	24	18,75	
Kyivska	900	551	61,22	172	19,11	177	19,67	
Kirovohradska	772	376	48,70	118	15,28	278	36,01	
Luhanska	137	73	53,28	21	15,33	43	31,39	
Lvivska	668	430	64,37	102	15,27	136	20,36	
Mykolaivska	480	346	72,08	58	12,08	76	15,83	
Odeska	3205	2251	70,23	400	12,48	554	17,29	
Poltavska	356	229	64,33	57	16,01	70	19,66	
Rivnenska	219	134	61,19	46	21,00	39	17,81	
Sumska	273	132	48,35	44	16,12	97	35,53	
Ternopilska	83	39	46,99	18	21,69	26	31,33	
Kharkivska	574	327	56,97	110	19,16	137	23,87	
Khersonska	580	364	62,76	90	15,52	126	21,72	
Khmelnytska	133	82	61,65	22	16,54	29	21,80	
Cherkaska	506	288	56,92	80	15,81	138	27,27	
Chernivetska	40	24	60,00	7	17,50	9	22,50	
Chernihivska	561	368	65,60	87	15,51	106	18,89	
City of Kyiv	2080	1258	60,48	327	15,72	495	23,80	
NCSH "OKHMATDYT"	2	1	50,00	0	0,00	1	50,00	

#### Table 38. CD4 testings results of HIV-infected persons at registration with HCFs in 2018

#### Table 39. Coverage with VL testing of HIV-infected persons, Ukraine, 2018

Structure of screened patients	Total number of screenings	% from screenings	Number of patients as of 01.01.2018	Number of patients screened at least once during the year	% of coverage with screening
Ukraine, total among them:	173 791	100	141 371	113 106	80,01
patients receiving ART	143 744	82,71	88 270	85 327	96,67
patients do not receive ART	27 828	16,01	50 495	26 253	51,99
HIV-infected pregnant women	2 219	1,28	2 606	1 526	58,56

Screening during	Structure of	cture of In total screened	receive	e ART		do not receive ART			
the calendar year	the screenings, %	persons, - including	number of patients	% from screened persons	number of the patients	% from screened persons	number of pregnant women	% from screened persons	
First	65,08	113 106	85327	59,36	26253	94,34	1526	68,77	
Second	32,86	57 102	55119	38,34	1346	4,84	637	28,71	
Third	1,7	2959	2865	1,99	49	0,18	45	2,03	
Result clarification	0,36	624	433	0,3	180	0,65	11	0,5	
Total number of persons	100	173 791	143 744	100	27 828	100	2 219	100	

	Total screened	VL <1000	copies/ml	VL <40 copies/ml		
Oblast, city	persons, absolute number	absolute number	%	absolute number	%	
Ukraine	78448	72592	92,5	64735	82,5	
Vinnytska	1870	1793	95,9	1695	90,6	
Volynska	986	909	92,2	811	82,3	
Dnipropetrovska	12003	11120	92,6	9788	81,5	
Donetska	6364	5450	85,6	4231	66,5	
Zhytomyrska	1472	1301	88,4	1079	73,3	
Zakarpatska	353	327	92,6	243	68,8	
Zaporizka	3010	2802	93,1	2581	85,7	
Ivano-Frankivska	738	670	90,8	522	70,7	
Kyivska	1668	1460	87,5	1313	78,7	
Kirovohradska	4577	4041	88,3	3549	77,5	
Luhanska	1603	1421	88,6	1172	73,1	
Lvivska	2363	2115	89,5	1829	77,4	
Mykolaivska	6758	6086	90,1	5581	82,6	
Odeska	11918	11791	98,9	10801	90,6	
Poltavska	2150	1986	92,4	1829	85,1	
Rivnenska	823	750	91,1	705	85,7	
Sumska	859	797	92,8	728	84,7	
Ternopilska	397	292	73,6	202	50,9	
Kharkivska	2289	2118	92,5	1856	81,1	
Khersonska	2683	2479	92,4	2307	86,0	
Khmelnytska	372	336	90,3	295	79,3	
Cherkaska	2645	2537	95,9	2363	89,3	
Chernivetska	492	450	91,5	381	77,4	
Chernihivska	2642	2452	92,8	2296	86,9	
City of Kyiv	7200	6912	96,0	6408	89,0	
NCSH "OKHMATDYT"	213	197	92,5	170	79,8	

### Table 40. Data on virologic efficacy of ART in patients treated for 6 months or more, 2018

		Numb who c hum	per of po ontacte nan bloo	ersons d with od or	The n	umber	of perso pr	ons who ophylax	had clii tis (here	nical evi einafter	dences f - PEP)	or post-ex	posure			
Data description	No.	tools, conta the ab (here sourc HI	equipm objects minated ove bio naterial einafter ce of pot V infecti	ent or l with logical s - the ential ion)	receiv cour	ed a con rse (28 d	nplete lays)	receiv cours	ed a par e (less tl days)	rt-time han 28	refuse	d to receiv course	ve PEP	Numl not el	per of pe igible for	rsons r PEP
Α	Б	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
The total number of persons who had contacts with a source of potential HIV infection	1	1215	1388	1429	785	884	972	61	75	83	74	70	59	295	359	315
<i>including:</i> the total number of persons who had contacts with potential HIV infection source related to their professional duties (hereinafter referred to as healthcare worker)	2	523	559	547	344	347	366	25	24	24	24	27	24	130	161	133
<i>including:</i> healthcare workers working in HCFs	2. 1.	492	525	515	324	319	345	22	24	22	24	27	22	122	155	126
healthcare workers who do not work in HCFs	2. 2.	31	34	32	20	28	21	3	0	2	0	0	2	8	6	7
The total number of persons who had contacts with potential HIV infection source not related to their professional duties	3	692	829	882	441	537	606	36	51	59	50	43	35	165	198	182

#### Table 41. Drug post-exposure prophylaxis of HIV infection, 2016-2018

Region (oblast, city)	Number of persons registered in HCFs due to opioid use	Number of persons enrolled in the SMT program	Coverage with SMT services from the number of persons registered
	Satisfactory SM	T coverage level	0
Vinnytska	901	428	47,5%
Dnipropetrovska	4 004	1 935	48,3%
Zhytomyrska	974	375	38,5%
Ivano-Frankivska	926	343	37,0%
Luhanska	638	310	48,6%
Mykolaivska	2 080	917	44,1%
Poltavska	1 794	697	38,9%
Sumska	1038	540	52,0%
	Low SMT co	overage level	
Volynska	981	203	20,7%
Donetska	1 658	407	24,5%
Zakarpatska	148	41	27,7%
Zaporizka	2 749	456	16,6%
Kyivska	884	175	19,8%
Kirovohradska	1 474	414	28,1%
Lvivska	961	335	34,9%
Odeska	4 222	515	12,2%
Rivnenska	863	178	20,6%
Ternopilska	443	117	26,4%
Kharkivska	1 270	352	27,7%
Khersonska	1 450	323	22,3%
Khmelnytska	1 323	338	25,5%
Cherkaska	1 516	392	25,9%
Chernivetska	303	91	30,0%
Chernihivska	1 377	281	20,4%
City of Kyiv	5 747	1 222	21,3%
Total	39 724	11 385	30,4%

#### Table 42. Number of patients receiving SMT and linked into care

Oblast, city	Number of persons receiving SMT	Number of HIV- positive persons receiving SMT	Number of persons receiving ART	Number of patients with HBV	Number of patients with HCV
Vinnytska	428	117	104	19	266
Volynska	203	66	56	23	124
Dnipropetrovska	1 935	1057	966	249	1082
Donetska	407	192	173	64	149
Zhytomyrska	375	137	104	84	272
Zakarpatska	41	3	3	4	31
Zaporizka	456	160	150	88	325
Ivano-Frankivska	343	114	97	119	170
Kyivska	175	84	63	13	132
Kirovohradska	414	135	91	44	203
Luhanska	310	114	94	19	179
Lvivska	335	135	100	40	134
Mykolaivska	917	405	350	190	494
Odeska	515	296	294	101	415
Poltavska	697	222	207	16	456
Rivnenska	178	81	60	14	89
Sumska	540	111	78	45	352
Ternopilska	117	33	31	2	85
Kharkivska	352	93	91	27	206
Khersonska	323	125	107	119	178
Khmelnytska	338	90	51	39	61
Cherkaska	392	201	188	44	255
Chernivetska	91	21	20	12	74
Chernihivska	281	174	129	20	156
City of Kyiv	1 222	494	480	147	872
Total	11 385	4 660	4 087	1 542	6 760

# Table 43. Number of patients receiving SMT, by regionsas of 01.01.2019

	SMT medication	Number of	of them	of them	of them.	% of persons
		persons	received drug	received a	received the	receiving the
Oblast, city		receiving	in HCF for	prescription	drug within	drug for self-
		SMT	self- administration	drug	home care	
Vinnytska	Buprenorphine	65	27	24		78,5
	Methadone (tablet)	363	96		18	31,4
	Total	428	123	24	18	38,6
Volynska	Buprenorphine	22	13			59,1
	Methadone (tablet)	181	109			60,2
	Total	203	122		6	63,1
Dnipropetrovska	Buprenorphine	103	15	31		44,7
	Methadone (liquid)	139				0,0
	Methadone	1693	357	2	55	24,5
	Total	1935	372	33	55	23,8
Donetska	Buprenorphine	42	18		1	45,2
	Methadone (tablet)	365	109		19	35,1
	Total	407	127		20	36,1
Zhytomyrska	Buprenorphine	39	18	10		71,8
	Methadone (tablet)	336	141		3	42,9
Zakarpatska	Total	375	159	10	3	45,9
	Buprenorphine	15				0,0
	Methadone (tablet)	26			1	3,8
	Total	41			1	2,4
Zaporizka	Buprenorphine	47	45			95,7
	Methadone (tablet)	409	254		46	73,3
	Total	456	299		46	75,7
Ivano-Frankivska	Buprenorphine	65	34	29	1	98,5
	Methadone (tablet)	278	174		8	65,5
	Total	343	208	29	9	71,7
Kyivska	Buprenorphine	12				0,0
	Methadone (tablet)	163	41		19	36,8
	Total	175	41		19	34,3
Kirovohradska	Buprenorphine	23	15	4		82,6
	Methadone (tablet)	391	156			39,9
	Total	414	171	14	16	48,6
Luhanska	Buprenorphine	15	6			40,0
	Methadone (tablet)	295	115		7	41,4
	Total	310	121		7	41,3
Lvivska	Buprenorphine	27	10	10	1	77,8
	Methadone (tablet)	308	112		25	44,5
	Total	335	122	10	26	47,2
Mykolaivska	Buprenorphine	63	50	4		85,7
	Methadone (tablet)	854	120	261	37	48,9
	Total	917	170	265	37	51,5

Table 44. Number of patients receiving SMT for self-administration

Table 44 (cont'd)

Oblast, city	SMT medication	Number of persons receiving SMT	of them received drug in HCF for self- administration	of them received a prescription drug	of them, received the drug within home care	% of persons receiving the drug for self- administration
Odeska	Buprenorphine	89	47	33	6	96,6
	Methadone (tablet)	426	155	91	48	69,0
	Total	515	202	124	54	73,8
Poltavska	Buprenorphine	35	28		2	85,7
	Methadone (tablet)	662	214		20	35,3
	Total	697	242		22	37,9
Rivnenska	Buprenorphine	15	11			73,3
	Methadone (tablet)	163	131		2	81,6
	Total	178	142		2	80,9
Sumska	Buprenorphine	35		2	12	40,0
	Methadone (tablet)	505	47	67	64	35,2
	Total	540	47	69	76	35,6
Ternopilska	Buprenorphine	21		17		81,0
	Methadone (tablet)	96		53		55,2
	Total	117		70		59,8
Kharkivska	Buprenorphine	15	6	5	3	93,3
	Methadone (tablet)	337	173	14	34	65,6
¥71 1	Total	352	179	19	37	66,8
Khersonska	Buprenorphine	31	13			41,9
	Methadone (tablet)	292	22		2	8,2
<b>YZ1 1 4 1</b>	Total	323	35		2	11,5
Khmelnytska	Buprenorphine					
	Methadone (tablet)	338	213		6	64,8
<u> </u>	Total	338	213		6	64,8
Cherkaska	Buprenorphine	63	4	44		/6,2
	Methadone (tablet)	329	41	1	15	17,3
Championstales	Total	392	45	45	15	26,8
Chernivetska	Buprenorphine	20	16			80,0
	Methadone (tablet)	71	47			66,2 69,2
Chernihivska	Buprenorphine	14	13			92.9
	Methadone (tablet)	267	21		16	13.9
	Total	281	34		16	17.8
City of Kyiv	Buprenorphine	216	96	44		64,8
- •	Methadone (liquid)	47				
	Methadone	959	353	122	35	53,2
	Total	1222	449	166	35	53,2
Total	Buprenorphine	1092	485	257	26	70,3
	Methadone (liquid)	186				
	Methadone	10107	3201	621	502	42,8
	Total	11385	3686	878	528	44,7

#### Annex 3

### Table 1. Indicators of the National Report on Global AIDS Response Progress, 2017-2018

No.	Indictor	Indicator description	2017	2018
1.1	People living with HIV and know their status	Number of people living with HIV and know their status	136 378 <sup>i</sup>	169 433
1.2	People living with HIV and receive ART	Number of people receiving ART	98 237 <sup>ii</sup>	122 697
1.3	Retention in ART during 12 months	Percentage of adults and children living with HIV and continue to receive antiretroviral therapy 12 months after the start of HIV treatment	87,7 %	84,9%
1.4	People living with HIV and have suppressed viral load	Number of people living with HIV and have supressed viral load	57 010	72 512
15	I ata diagnosis of HIV	Percentage of people living with HIV who have an initial CD4 level of <200 cells/mm3 during the reporting period	36,8%	36,6%
1.5		Percentage of people living with HIV who have an initial CD4 level of <350 cells/mm3 during the reporting period	58%	58,7%
17	AIDS_related mortality	Total number of people died of AIDS-related diseases	3 298	3 448
1.7	AIDS-related mortality	Total number of people died of AIDS-related diseases per 100,000 population	7,7	8,1
2.1	Early diagnosis of HIV in children	Percentage of infants, born to HIV-positive women, tested for HIV within the first two months of life	54,2%	60,9%
2.2	Mother-to-child	Percentage of new HIV infections in children due to mother-to-child transmission of HIV among HIV-positive mothers who have given birth in the past 12 months (by cohort data)	3,7 % (когорта 2015 року)	3,6% (когорта 2016 року)
2.2	transmission of HIV	Percentage of new HIV infections in children due to mother-to-child transmission of HIV among HIV-positive mothers who have given birth in the past 12 months (by PCR data)	2,2%	1,6%
2.3	Prevention of mother-to- child transmission of HIV	Percentage of pregnant women living with HIV who received antiretroviral drugs to reduce the risk of mother-to-child transmission of HIV	92%	96,2%
2.4	Syphilis among pregnant women	Percentage of women with access to prenatal care services who have had a positive syphilis test result	0,085%	0,069%
2.5	Congenital syphilis	Percentage of registered cases of congenital syphilis (among live- and stillborn infants)	0%	0,0003%
2.6	HIV testing among pregnant women	Percentage of pregnant women whose HIV status is known	97,2%	99,5%

No.	Indictor	Indicator description	2017	2018
		Estimate number of sex workers	80 100	86 600
3.2.	Number estimation of high-at-risk groups for	Estimate number of MSM	181 500	179 400
	HIV infection	Estimate number of PWID	346 900	350 300
		Percentage of persons living with HIV among CSWs	5,2%	-
3.3A- C	HIV prevalence among key groups of population	Percentage of persons living with HIV among MSM	7,5%	-
		Percentage of persons living with HIV among PWID	22,6%	-
3.3E	HIV prevalence among prisoner population	Percentage of persons living with HIV among prisoners	3,3%	-
		Percentage of SWs who have been tested for HIV in the past 12 months or know their current HIV status	58,2%	-
3.4A- 3.4.D	HIV testing among key groups	Percentage of MSM who have been tested for HIV in the past 12 months or know their current HIV status	39,2%	-
		Percentage of PWID who have been tested for HIV in the past 12 months or know their current HIV status	43,1%	-
		Percentage of SWs living with HIV and receiving antiretroviral therapy in the past 12 months	29%	-
3.5A- 3.5.D	Coverage with antiretroviral therapy of people living with HIV in key populations	Percentage of MSM living with HIV and receiving antiretroviral therapy in the past 12 months	46,3%	-
		Percentage of PWID living with HIV and receiving antiretroviral therapy in the past 12 months	37,9%	-
3.5.E	Coverage with antiretroviral therapy of prisoners living with HIV	Percentage of prisoners living with HIV and receiving antiretroviral therapy in the last 12 months	62%	82,9%
		Percentage of SWs who reported using a condom with their last client	93,9%	-
3.6.A - 3.6.D	Condom use among key populations	Percentage of MSM who reported using a condom at their last anal intercourse	77,7%	-
		Percentage of PWID who reported using a condom during their last sexual intercourse	43,9%	-

No.	Indictor	Indicator description	2017	2018
		Number of SWs covered with HIV infection prevention measures	38 742	39 832
3.7A-	Coverage with HIV prevention programs of	Number of MSM covered with HIV infection prevention measures	42 881	45 278
3.7D	the key groups representatives	Number of PWID covered with HIV infection prevention measures	226 469	204 291
		Number of transgender people covered with HIV infection prevention measures	595 <sup>iii</sup>	1 049
3.8	Injection safety practices among people who inject drugs	Percentage of injecting drug users who reported using sterile injecting equipment during their last injection	96,6%	-
3.9	Needles and syringes distributed among people who inject drugs, per person	Number of syringes distributed per inject drug user within the framework of syringe and needle exchange programs, during the year	83,8	57,2
3.10	Opioid substitution therapy coverage	Percentage of people who inject drugs and receive opioid substitution therapy	3,5%	3,8%
		Number of people living with HIV among prisoners	3 999	3 860
3.13	HIV prevention programs in prisons	The number of people who received ART among prisoners	2 375	3 200
		Number of people tested for HIV among prisoners	29 369	48 314
3 1 /	3.14 Viral hepatitis among key populations	Prevalence of HIV/HCV co-infection among SWs	3,7%	-
5.14		Prevalence of HIV/HCV co-infection among PWID	18,7%	-
3.15	People receiving pre- exposure prophylaxis (PrEP)	The number of people who received oral PrEP medications at least once during the reporting period	4	125
3.18	Condom use during last sexual intercourse among the representative of high-risk groups	Percentage of respondents claiming to have used condoms during their last sexual intercourse with a partner other than his/her spouse/cohabitant, who has had sexual intercourse with that partner in the last 12 months	79,9%	-
4.1	Discrimination against people living with HIV	Percentage of women and men aged 15-49 years who reported discrimination against people living with HIV	-	-
5.1	Young people: HIV prevention knowledge	Percentage of young women and men aged 15-24 years who correctly identify ways to prevent sexual transmission of HIV and reject the basic misconceptions about HIV transmission modes	26,7%	-
10.1	Co-management of TB and HIV treatment	Number of HIV-positive people with new cases and relapses of tuberculosis among those who initiated or have already received ART during TB treatment in the reporting year	4 426 <sup>iv</sup>	4 806

No.	Indictor	Indicator description	2017	2018
10.3	People living with HIV who started a course of tuberculosis preventive treatment	Number of patients who started latent tuberculosis infection (LTBI) treatment, expressed as a percentage from the total number of people, who first entered the HIV- related health care system during the reporting period	59,8%	60,6%
10.4	Men with urethral discharge	Number of men who have reported urethral discharge within the past 12 months	0,002% <sup>v</sup>	0,0019%
10.5	Gonorrhea in men	Indicator of gonorrhea laboratory diagnostic among men in countries with laboratory diagnostic	0,0188%	0,0162%
10.7	People with HIV/HBV co- infection who receive combination treatment	Percentage of people with HIV/HBV co- infection who receive combination treatment	71,5%	65,4%
10.9	People with HIV/HCV co- infection who started HCV treatment	Percentage of persons with HIV/HCV co- infection who started treatment for HCV	8,9%	7,7%

<sup>i</sup> Information provided includes only those persons registered in care as of 01.01.2018.

<sup>ii</sup> The information provided taking includes ATO zone and temporary occupied territories (UNICEF data).

 <sup>iii</sup> Program monitoring data within the framework of prevention programs realization.
 <sup>iv</sup> Registry of tuberculosis patients.
 <sup>v</sup> Center for Medical Statistics of the Ministry of Health of Ukraine compiles (collects) information. However, it should be noted that the indicator does not reflect real situation, since private clinics do not always submit relevant data to the Center.