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Kyiv, 2023

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List of abbreviations

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral drug
CDC	Centers for Disease Control and Prevention
CO	Charitable organization
DBS	Dried blood spot
ECDC	European Centre for Disease Prevention and Control
EECA	Eastern Europe and Central Asia
EMTCT of HIV	Elimination of mother-to-child transmission of HIV
Fast Track	UNAIDS Fast-Track strategy to end the AIDS epidemic by 2030
GAM	Global AIDS monitoring
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
HCFs	Health care facilities
HIV	Human immunodeficiency virus
HIV CBS	Case-based surveillance of HIV infection
HTS	HIV testing services
IBBS	Integrated biobehavioral survey
ICD	International classification of diseases
ICF	International charitable foundation
IDPs	Internally displaced persons
IMs	Instrumental methods (of diagnosis)
IPT	Isoniazid preventive therapy (or monotherapy)
KPs	Key populations at increased risk of HIV
M&E	Monitoring and evaluation
MIS SSD	Medical information system for socially significant diseases
MoH	Ministry of Health
MSM	Men who have sex with men
MTCT rate	Rate of mother-to-child transmission of HIV
NGO	Non-governmental organization
PCR	Polymerase chain reaction
PEPFAR	US President's Emergency Plan for AIDS Relief
PHC of the MOH of Ukraine	Public Health Center of the Ministry of Health of Ukraine State Institution
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission of HIV
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs
RT	Rapid test
SCESU	State Criminal and Executive Service of Ukraine
SEM	Seroepidemiological monitoring
SMT	Substitution maintenance therapy
STIs	Sexually transmitted infections
SWs	Sex workers
TB	Tuberculosis
TP	Transgender people
SSSU	State Statistics Service of Ukraine
UN	United Nations Organization
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VH	Viral hepatitis
VL	Viral load
WHO	World Health Organization

INTRODUCTION

The day of February 24, 2022 has changed the life of our country forever. Fear, pain, uncertainty, and panic quickly gave way to faith, confidence, determination, and rage - faith in victory and rage against the enemy. But not at once. The enemy's relentless barrage of fire deprived hundreds of thousands of people of homes, medical care and basic livelihoods at the same time, and millions of civilians began their long and dangerous journey to escape. And while the international community was trying to realize the disaster that had come to Ukraine and assess the scale of the possible consequences, Ukrainians began to fight. And in this struggle, we are getting stronger and stronger - each of us at our own level, at the rear and at the front, on the ground and in the sky. We have united, we have been listened to, we have been believed in, we have been helped - someone opens the borders to those in need, someone donates for medicines and food, someone shares weapons, and someone mobilizes forces and resources to keep dangerous diseases under control and preserve people's health.

At the end of 2021, there were about 245,000 people living with HIV in Ukraine. It is estimated that during the response to the HIV/AIDS epidemic, due to the joint efforts of the government and public sector, with technical support from the international partners, the tangible progress has been achieved and the epidemic has begun to recede. Large-scale prevention programs resulted in a 5-fold decrease in the number of new HIV cases per year compared to 1999, and the annual number of AIDS-related deaths due to diagnosis and access to treatment has decreased by 5.5 times over the past 15 years. The majority of people being at risk of HIV infection were covered by prevention programs, and more than 150,000 people living with HIV received the life-saving treatment.

> The war has led to a humanitarian crisis, causing significant damage to Ukraine's health care infrastructure and large-scale disruptions in the provision of social and medical services. At the same time, humanitarian needs increased dramatically due to massive internal displacement of the population and refugee flows. As of January 31, 2023, more than 8 million refugees from Ukraine were registered across Europe, and about 5.4 million people were internally displaced.
>
> Source: UN. Ukraine Internal Displacement Report, IOM. 23 January 2023

As a result of constant shelling, the threat of occupation and the destruction caused by the war, a significant number of health care facilities in some regions have closed or temporarily suspended their operations, some of which have been damaged or destroyed. Including those facilities that provided antiretroviral therapy and life-saving information to people living with HIV. The security problems were compounded by difficulties with the delivery of necessary medical supplies, which negatively affected the work of laboratories and limited diagnostic services provision, resulted in a significant increase of the burden on HIV response system in the regions where thousands of people have moved to seek shelter and medical services.

Due to the terrorist actions of the occupiers, the planned delivery of antiretroviral drugs, which was scheduled for February 2022, has not taken place. The logistics of the remaining medicines to the regions with active hostilities was significantly complicated, causing difficulties in timely replenishment of medicines and threatening with treatment interruption to 130,000 patients.

Public Health Center of the MoH of Ukraine urgently took a set of measures to prevent interruption of treatment for people living with HIV at any cost, from negotiations with the international donors to changes in treatment approaches and rapid redistribution of medicines to meet the urgent needs of internally displaced persons.

To ensure that every Ukrainian could receive medical advice on HIV/AIDS around the clock, the online portal help24.org.ua was created, operating on the telemedicine principle and providing legal and psychological support around the clock, as well as everything necessary for the prevention, diagnosis and treatment of HIV infection. Treatment protocols were quickly optimized, and measures were taken to provide information support to the military and civilians. To simplify HIV testing, a Telegram bot TEST nearby (TEST Poruch) was developed.

Despite the fact that many mechanisms have been developed to ensure the sustainability of ART, some patients, unfortunately, have interrupted treatment.

To overcome this problem, proactive communication with the lost patients was carried out to resume their scheduled visits to clinics and maintain their health. By the end of the year, more than 121,000 people living with HIV were receiving ART.

Thus, it was possible to prevent a deluge of problems, ensure the provision and referral of HIV diagnosis and treatment services, and at the same time not only maintain the proper level of prevention services, but also ensure the expansion thereof. Doctors continued to work, and during this difficult year we managed to double the number of people receiving pre-exposure prophylaxis (PrEP) - 6,374 new clients were enrolled, and by the end of the year more than 9,000 people were receiving PrEP.

"Now everyone in on their personal frontline in the workplace. I compare the war with russia to the war against HIV: a lot has been achieved in the recent decades in the fight against HIV, so it is important to keep the situation and move forward".

Larysa Hetman

© Public Health Center. https://phc.org.ua/sites/default/files/users/user90/PHC_digest_2022.12_2023.01.pdf)

Since the first very days of the war, the **Alliance for Public Health** (Alliance), together with other civil society organizations, medical facilities and governmental agencies, has been working to support people and maintain control over the HIV and TB epidemic.

During the year of the full-scale military aggression, the number of the beneficiaries of the Alliance increased 4 times compared to the previous years, i.e., more than 1 million Ukrainians. Due to cooperation with donors and partners, more than 2,000 tons of humanitarian and medical supplies were delivered and transferred to more than 200 medical facilities across Ukraine, including Kherson, Kharkiv, Kyiv, Sumy and Chernihiv oblasts after de-occupation thereof.

In May 2022, the project on integrated humanitarian response in war and post-war recovery was launched. The project envisages a significant expansion of the list of key populations receiving targeted comprehensive assistance. In addition to the groups most vulnerable to HIV, assistance is also provided to IDPs, families in difficult life circumstances, people with disabilities, the elderly, etc. The joint efforts of the Alliance and 27 regional NGOs have helped to expand activities in 18 regions of Ukraine. A total of 117,089 people were reached with various services. The humanitarian projects include the Safe Place shelter, humanitarian convoys, targeted assistance to the military, medical and humanitarian assistance to Ukrainian cities participating in the Fast Track initiative (Odesa, Kryvyi Rih and Dnipro), etc.

The mobile outpatient clinics, which provided preventive services to key populations in peacetime, have not stopped operating and continue to provide uninterrupted services delivery, especially in regions where the medical network has been destroyed and where access to remote health care facilities is complicated. With the support of the Global Fund and PEPFAR, the teams of 37 mobile outpatient clinics reached 42,294 clients who made more than 109,000 visits for HIV/TB prevention and testing services.

© Alliance for Public Health. 2023

Additional services provided through mobile outpatient clinics:

- Evacuation of clients and employees of the NGOs
- Delivery of ART, PrEP, SMT for the purposes of non-interruption of treatment and prevention
- Provision of humanitarian assistance
- Transportation of clients and doctors to medical facilities in combat zones.

Mobile outpatient clinics have become real mobile emergency stations. During the two months of work under a new project, Alliance's mobile clinics traveled to Vovchansk and Kupiansk districts, visited Izium and many other small villages lost on the map of the war in Kharkiv oblast. More than 5,000 occupation survivors received consultations with a therapist, had their cardiograms done, their blood sugar measured and received the necessary medications, etc.

"People from the de-occupied territories, those who saw the war in their backyard, those whose routine lives were ruined by it, are somehow especially pathetically grateful for the attention and help. And we know for sure that we will not leave our people behind. We know that we will survive if every smallest village, every yard and every family will survive behind our army. To this end, we continue to collect aid and deliver it to those who need it," the Alliance team noted.

In less than a year, the Alliance's #HelpNowHUB service has received more than 20,000 requests from Ukrainians in 47 countries. HelpNowHUB helps Ukrainian refugees belonging to key populations to get support and access to treatment-related information in host countries.

Detection of new HIV cases among key populations remains a priority of the Alliance programs. Despite the destruction of the medical infrastructure, the overall level of HIV detection increased last year - 156,000 people were screened, of whom 7,143 were diagnosed with HIV, and 7,001 were linked to care.

Internally displaced persons in need of harm reduction services are not always ready to contact NGOs at their current place of residence, which creates significant obstacles. Therefore, to ensure continuous access to services, the Alliance has introduced a program of online outreach, remote counseling and delivery of preventive goods based on the Help24 digital platform. The platform is staffed by infectious disease doctors, psychiatrists, narcologists, endocrinologists, gynecologists, urologists, proctologists, psychologists and lawyers.

Prevention services reached 49,406 IDPs from key populations. The largest coverage was in Lviv oblast - (13,227 - 46% of the total number of clients).

The state program of substitution maintenance therapy in Ukraine continues to develop amid wartime conditions. Almost 28,679 people were receiving treatment at the beginning of 2023, the highest number of patients among all Eastern European and Central Asian countries.

(Based on the materials of the Alliance for Public Health). More details at the link: https://aph.org.ua/wp-content/uploads/2023/02/Alliance-SitRep-365-days-of-war-UA.pdf.pdf

100 % LIFE Charitable Organization is the largest patient-led organization in Ukraine, which is represented in every region and works in constant coordination and cooperation with the international donors and national partners. The organization has adapted all projects to new challenges and difficulties. Regional offices continue to work in all regions of Ukraine, where possible, and provide support to HIV-infected patients and people vulnerable to HIV.

100 % LIFE distributes and controls the humanitarian aid from the UN agencies to vulnerable key populations.

Within the framework of a project with the World Food Program in Ukraine, 100% LIFE has provided assistance to hundreds of thousands of Ukrainians since the beginning of the full-scale invasion: food packages for hospitals, retirement homes, shelters, as well as baby food and assistance to vulnerable key populations.

According to Roman Gailevich, Director of the UNAIDS Office in Ukraine, - "For more than a year now, we have been working together with the regional offices of the 100% LIFE CO, creating shelters for internally displaced people from key populations, providing the necessary equipment to medical facilities providing HIV services, and supporting the ability of the offices themselves to operate under such difficult conditions." During the year of the full-scale war, UNAIDS has allocated more than a million dollars to support Ukrainians living with HIV. This includes shelters, procurement of specific equipment for the smooth operation of medical facilities, delivery of medicines and generators and fuel, which are so necessary during blackouts.

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Thanks to the activities of one of the largest public health projects, HealthLink: "Accelerating the HIV response in Ukraine", implemented by the 100% LIFE CO in partnership with the Alliance, with the support of USAID, the team continued to test and identify people with HIV.

Despite the challenging working conditions and reduced testing volumes during the war, the efficiency of identification of HIV-positive people has increased. Approximately 83,000 people were tested for HIV, of whom 3,200 received ART for the first time. Thanks to the coordinated efforts of the 100% LIFE team and the international partners, all patients have been provided with ART for the next year, 53 million doses of drugs have been delivered to all regions of the country with funds allocated by PEPFAR in the amount of ~$13 million.

According to the team of 100% LIFE CO and its social media page, "To withstand, to provide medicines, to provide psychological, social and legal support, to become stronger and more unbreakable. The fight for life continues in every corner of the country..."

Based on the materials of the 100% LIFE CO. More details at the link: https://network.org.ua/novyny/

The above brief overview of the decisive actions of Ukrainians and their international partners in response to the aggression of the neighboring country does not fully capture the scale of cooperation and heroic dedication to health and overcoming the HIV/AIDS epidemic, endless humanity, perseverance and boundless faith in Victory. Today, it is difficult to assess the situation in terms of its long-term impact on the HIV epidemic and the health of the country's population. The war is not over yet, but it is important to understand the results we have today in order to make more informed decisions tomorrow.

In the following sections of this publication, you will find statistical and program data on the results of the implementation of measures to combat the HIV/AIDS epidemic in 2022. The reports submitted by Ukraine as part of the global HIV/AIDS monitoring include data from all partners, all participants in the process of implementing measures to achieve Sustainable Development Goal 3, which is set out in the 2030 Agenda and provides for "ensuring healthy lives and promoting well-being for all at all ages." In particular, it includes the goal of ending the epidemics of AIDS and tuberculosis, including through the use of innovative practices and treatments. The brief information presented in the introduction on the contribution of the main national partners to the overall fight against HIV/AIDS during the war unleashed by russia should draw the reader's attention to a deeper understanding of the situation and a cautious assessment of the results, whether it concerns successes or failures.

Section I. HIV GLOBAL EPIDEMIC

Overview of relevant publications

"The global response to AIDS is under threat". These are the opening words of the annual report of the United Nations on HIV/AIDS (hereinafter referred to as UNAIDS). Over the past two and a half years, the overlap of AIDS and COVID-19, along with the economic and humanitarian crises, has put the global response to HIV epidemic at even greater risk. COVID-19 and other instabilities have disrupted the provision of medical services in the majority of the world's countries. Low- and middle-income countries have been challenged to respond, as 60 percent of the world's poorest countries are in debt distress or at a high risk of debt distress. As a result, the AIDS response has faced a severe pressure, while communities that were already at increased risk of HIV infection have become even more vulnerable.

In some parts of the world and in some communities, the response to AIDS pandemic has demonstrated a remarkable resilience in adverse times, helping to avoid the worst scenarios. However, global progress in the fight against HIV is slowing rather than accelerating: the latest data compiled by UNAIDS shows that while the number of new HIV cases declined globally in 2021, the drop was only 3.6% compared to 2020 - the smallest annual decline since 2016. As a result, many regions, countries and communities are struggling to cope with rising numbers of new HIV cases amid other ongoing crises.

New Political Declaration on HIV and AIDS: Ending Inequalities and Getting on Track to End AIDS by 2030, adopted by the UN General Assembly on June 9, 2021, commits heads of state and government to adopt a new set of ambitious, achievable targets for 2025. The new targets call for more than the general progress: they require that 95% of people at risk of HIV infection use combination prevention, and the new 95-95-95 testing and treatment targets must be achieved across all subpopulations, age groups and geographic settings.

Achieving the targets in 2025 will decrease HIV-related inequalities, significantly reduce the number of new HIV infections and AIDS-related deaths, and scale up the global HIV response to end AIDS as a public health threat by 2030.

Recent data from the countries suggest that important gains have been made in reducing AIDS-related mortality, and that some countries have made progress in cancellation of punitive laws and policies that hinder effective measures to combat HIV. However, progress in ending the AIDS pandemic is slowing rather than accelerating.

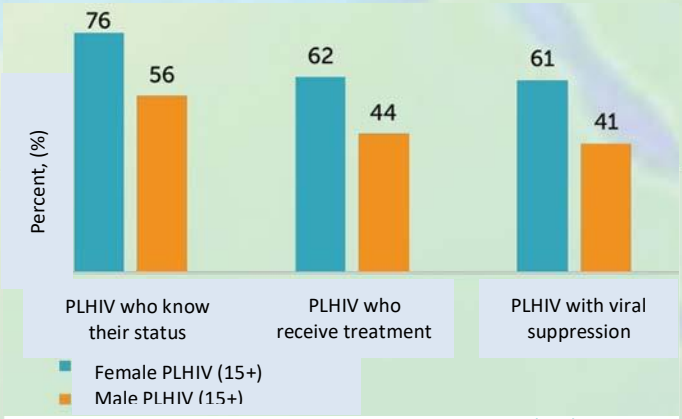
As of December 2021, the international community was not on the track to meet one of the 2025 HIV prevention targets: 1.5 million people were infected with HIV in 2021. 4,000 people in the world become infected with HIV daily; 7,800 young people (aged 15 to 24) are infected weekly.

The annual number of new cases of HIV infection in the world has fallen by 32% since 2010 - this is significantly less than the planned decrease of 83%, required to achieve the target by 2025. The decline in the number of new infections in 2021 was the smallest annual decline since 2017. Based on current trends, 1.2 million people will be infected with HIV in 2025 - almost three times the projected figure for 2025.

The fastest in the world unfolding of HIV epidemic is observed in Eastern Europe and Central Asia region. In 2021, 160,000 people were newly infected with HIV, which is 48% more than in 2010. The number of AIDS-related deaths in the region in 2021 (44,000) is 32% higher than in 2010.

Regional coverage of HIV prevention and treatment services remains insufficient. As of 2021, 63% of people living with HIV knew their status, 81% of people who knew their HIV-positive status were on treatment, and 94% of people on treatment reached viral suppression (48% of all infected). Unsafe injection practices, which are more common among the male population, remain an important factor in the epidemic in the region. At the same time, the comparison of cascades among the adult population shows better results among the female population **(Fig. 1).**

Figure 1. HIV testing and treatment cascade among people aged 15+ years, by sex, EECA, 2021



Source: UNAIDS special analysis, 2022.

In February 2022, the russian federation invaded the territory of Ukraine, where 240,000 PLHIV live. The war caused a humanitarian crisis, causing serious damage to the infrastructure of Ukraine's health care system and leading to a widespread interruption in the work of medical facilities. Maintaining access to health services (including the region's largest opioid agonist therapy program), as well as food, shelter and personal safety, has proven particularly challenging for more than 15.7 million people in urgent humanitarian need and more than 7.1 million displaced by war persons, in particular people living with HIV.

Source: UNAIDS. IN DANGER: UNAIDS Global AIDS Update 2022.
Geneva: Joint United Nations Program on HIV/AIDS; 2022. License: CC BY-NC-SA 3.0 IGO.

HIV epidemic in the WHO European Region and its eastern countries

The European Centre for Disease Prevention and Control (hereinafter — ECDC) and the World Health Organization (hereinafter — WHO) Regional Office for Europe are jointly conducting intensified surveillance of HIV/AIDS cases in 53 countries of the European Region of the WHO (hereinafter — the Region).

The COVID-19 pandemic, which has seriously affected Europe since March 2020, most clearly and directly influenced the situation with HIV/AIDS and related services in the Region, expressed in a significant decrease in the number of new cases of HIV infection diagnosed in the period from 2019 to 2020 years. Despite the potential challenges of declining diagnosis and registration in 2021, 106,508 new cases of HIV infection were reported in 46 out of 53 countries of the Region, corresponding to an overall rate of 12.0 per 100,000 population - that is, a 24 % decrease in the incidence rate. This complicates the interpretation of trends in the diagnosis of HIV infection in 2020 and 2021. **For this reason, WHO recommends that trends be interpreted with caution.**

As for the cases reported in 2021, the same trend observed during the last decade remains: indicators and the total number of people diagnosed with HIV infection are highest in the east of the Region (32.4 per 100,000 population), in particular in Ukraine (37.1) , while the lowest (less than 10.0) are, for example, in Estonia (9.4), Azerbaijan (6.7) and Lithuania (3.9).

In the East of the Region, among the 13 countries that provided data on age distribution, the majority of newly diagnosed patients with HIV infection (40%) were in the age group of 30-39 years, while only 5.2% were young people aged 15- 24 years and 13% were people aged 50 years or older at the time of diagnosis.

The number of new diagnoses in people with reported heterosexual transmission increased by 9% and reached 67% overall. This growth was due to an increase in the number of men with heterosexual transmission (by 41%), while the number of women with heterosexual transmission decreased by 14%.

The main route of transmission still varies by geographic area, reflecting differences in the epidemic characteristics of HIV infection in the WHO European Region: in 2021, the most common route of transmission in the west of the Region was sexual contact between men, while heterosexual transmission and injection drug use were the main reported routes of transmission in the east of the Region.

The number of new diagnoses among people infected by injection drug use decreased by 17%, compared to 2021. Overall, the percentage of all new HIV diagnoses related to injection drug use decreased from 34% in 2012 to 28% in 2021.

The number of new diagnoses among homosexually infected men increased almost 4 times, which is by far the highest relative increase among different transmission modes and subregions. Despite this increase, the percentage of all new HIV diagnoses related to sex between men still remains low - 4.7% in 2021.

The number of children infected by mother-to-child transmission of HIV decreased by 46% compared to 2012, and amounted to 0.7% in 2021.

Among those who were heterosexually infected, the male-to-female ratio was 1.5 or higher, indicating that more men than women were infected through heterosexual contact in these countries. As this pattern differs from other countries, where more heterosexually transmitted cases tend to be among women, it cannot be ruled out that some of these men may have been infected through injection drug use or sex with other men, but were misclassified to the heterosexual category.

In the east of the Region, a total of 67% of new diagnoses with a known route of HIV transmission were found to be heterosexual, making it the main route of HIV transmission recorded in all countries in the east. A total of 29% of people infected by injection drug use were registered, with the highest rate in two countries - Ukraine (35%) and Lithuania (32%).

Late HIV diagnosis remains a problem for most countries in the Region, with the highest rate among people infected through heterosexual transmission (59%) and the lowest among men who have sex with men (45%).

Nine eastern countries provided disaggregated information on the CD4 counts at the time of HIV diagnosis - in 55% of those screened the diagnosis was established late, with the CD4 cells count < 350 cells/mm^3, including 33.8% of them - in the late stage of HIV - infection (CD4 < 200 cells/mm^3).

The rate of new AIDS diagnoses was 1.2 per 100,000 population. In 2019, a downward trend was noted even in the eastern part of the Region. In 2020-2021, the figure dropped even more significantly, although this may have been due to the delay in reporting caused by the COVID -19 pandemic. In 2021, according to data from 13 eastern countries of the Region, the diagnosis of AIDS was established at 5.4 per 100,000 population rate.

The most common AIDS indicator diseases diagnosed in 2021 in the east of the Region were esophageal candidiasis (16%), pulmonary tuberculosis (11%) and HIV wasting syndrome (8%). The AIDS-related mortality in the east remains high. Since 2021, 2,679 AIDS-related deaths have been reported.

Table 1: Epidemiological characteristics of newly diagnosed HIV and AIDS cases reported in the western, central and eastern parts of the WHO European Region, 2021

Indicators	WHO Region	West	Centre	East
HIV cases				
Number of newly diagnosed HIV cases	106,508	17,130	5,940	**83,438**
Number of HIV cases per 100,000 population	12.0	3.9	3.1	**32.4**
Percentage of cases within the age group of 15-24 (%)	6.3	9.3	13.6	**5.2**
Percentage of cases within the age group of 50 and older (%)	14	22.8	14.6	**12.8**
Male to female ratio	1.7	3.2	5.1	**1.5**
Modes of transmission, %				
Sexual contacts between men	10.3	40.7	24.5	**3.1**
Heterosexual transmission (men)	29.0	14.9	17.6	**32.7**
Heterosexual transmission (women)	28.6	16.6	8.1	**32.6**
Injection drug use	22.7	3.1	1.8	**28.1**
Mother-to-child transmission	0.4	0.7	0.6	**0.4**
Unknown	8.9	23.6	48.4	**3.0**
AIDS and late diagnosis of HIV infection				
Percentage of HIV cases with CD4 count < 350 cells/mm^3 (%)	54.2	52.5	52.8	**55.3**
Number of new AIDS cases	8,194	1,615	626	**5,953**
New AIDS cases per 100,000 population rate	1.2	0.5	0.3	**5.4**

Conclusions and recommendations provided by the European Center for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe, based on the results of 2021 for the countries of the Eastern Region

HIV infection continues to affect the health and well-being of millions of people in the WHO European Region.

There is an urgent need for the Region's eastern countries to continue scaling up ambitious, evidence-based interventions and to provide more effective comprehensive services through health care systems that can best address the social determinants of health. The ultimate goal is to reduce HIV incidence and AIDS-related mortality.

1. **Comprehensive combination of prevention and innovative HIV testing strategies** are required, with a particular emphasis on reaching key populations. Such a task can be solved by providing user-friendly prevention and testing services, including partner notification with support, PrEP, HIV testing performed by trained workers without special education, and self-testing according to WHO recommendations. All these services must be integrated into the national policies and programs and then put into practice.

2. In order to increase the rate of new HIV diagnoses and the number of people referred to health care system, who initiated and continued ART, the **community engagement** at the planning stage and in the service delivery is extremely important.

3. Innovative HIV prevention interventions should consider the **risk of heterosexual transmission**, especially among couples in which one partner has behavioral risks (e.g., injection drug use) or long-term overseas employment.

4. The high number of new diagnoses among people who inject drugs highlights that the evidence-based policy, focused on key populations, including high **coverage of harm reduction programs** for people who inject drugs, according to conditions, national legislation and jurisdictional obligations, remains crucial for the success of the HIV response in the eastern part of the Region.

Source: European Centre for Disease Prevention and Control . 2023
https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual_HIV_Report_final.pdf

Section II. RESULTS OF HIV SURVEILLANCE

In Ukraine, the concentrated HIV epidemic has been recorded since 1996. Taking into account the high prevalence of HIV among pregnant women in some regions (> 1%) and the results of biobehavioral surveys among key populations (hereinafter referred to as KPs), regionalization of the epidemic process took place in different territories of the country - with the prevalence of a concentrated epidemic in most regions and with a mixed type epidemic in several regions or territories.

With the full-scale invasion of the russian federation on the territory of Ukraine in 2022 the countdown to the next stage of the development of the epidemic process began, which is characterized by a decrease in access to most HIV-related preventive and medical services, primarily for the population of the southeastern regions of Ukraine.

The complex negative impact of all factors will have the predictable consequences and pose new challenges to the health care system, although the degree of negative consequences will be uneven, taking into account operational changes in the situation in the regions. Just like the restoration of the provision of services (scope and list) to the population in the context of the HIV epidemic will vary in the regions, depending on the activity of hostilities, the consequences of the destruction of medical infrastructure, and migration processes.

12,212 newly diagnosed HIV cases, 3,010 AIDS cases, and 1,293 AIDS-related deaths were officially registered in Ukraine in 2022.

Incidence of HIV infection per 100,000 population varies from the lowest indicators in Luhansk (0.5) and Zakarpattia (6.0) oblasts to the highest in Odesa (153.9) oblast.

Prevalence of HIV infection per 100,000 population (according to data on those linked to care) ranges from 84.2 in Ternopil oblast to 1,164.3 in Odesa oblast.

A decrease in the number of registered deaths and, accordingly, a low level of AIDS-related mortality per 100,000 population in Luhansk (0.3) and Kherson (0.5) regions in 2022 do not reflect the real state of health of the population due to the restricted possibilities of recording cases and generating relevant reports amid the war.

It should be taken into account the lack of current data on the population in the regions of Ukraine, which limits the interpretation of population health indicators. Table 2 below contains the numerical values of the main indicators with the calculated growth rate relative to 2021.

Table 2: Comparison of key indicators on HIV/AIDS in the context of the impact of full-scale military aggression

Indicator	2021	2022	Increase rate (%)
HIV testing:			
Number of persons tested	1,922,018	1,612,348	-16.1
incl. by RTs	832,620	674,786	-19.0
Number of persons with HIV serological markers	19,040	14,937	-21.5
incl. by RTs	13,934	10,727	-23.0
HIV/AIDS cases reporting:			
Number of HIV cases	15,360	12,212	-20.5
Number of AIDS cases	4,151	3,010	-27.5
Number of AIDS-related deaths	1,928	1,293	-32.9
Linkage to care of newly diagnosed persons (%)	90.8	91.3	0.5
Medical care to PLHIV:			
Number of PLHIV linked to care	150,005	157,510	5.0
New patients initiating ART	16,477	12,710	-22.9
Number of PLHIV receiving ART	130,239	121,289	-6.9

A critical reduction in HIV/AIDS services provided in Donetsk, Luhansk, Kharkiv, and Kherson oblasts contributed to the decline of most of the national indicators, in particular the volume of population's screening for HIV infection **(Table 1.1. in the Annex)**. The positive dynamics of the key SEM indicators are observed mainly in the western and central regions of the country.

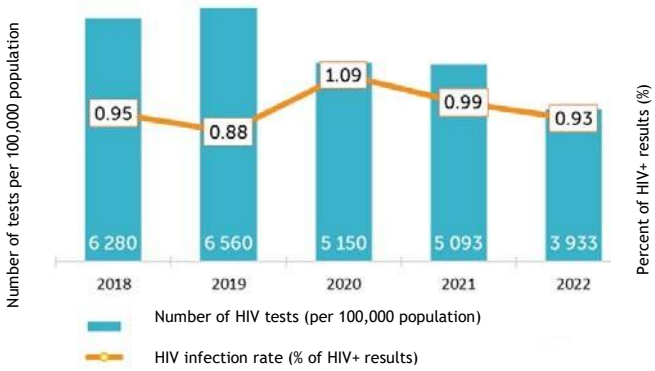
In addition to the above data, there have been significant changes in the demographic indicators of the country, which is characterized by a mass movement of the general population, in particular PLHIV, from the southeastern regions to safer places in the central and western regions of the country, as well as mass migration of the country's population abroad (7,968,510 persons as of 10.01.2023 according to UNHCR Regional Bureau for Europe).

Considering a large number of assumptions, lack of complete and reliable data, as well as the inability to fully ensure data quality control, this year's issue of the Information Bulletin does not contain data on the results of the assessment and forecasting of the development of the HIV epidemic in Ukraine (Spectrum), in particular, on the estimated number of people, living with HIV, in general and among key populations.

2.1. Results of HIV prevalence seroepidemiological monitoring

According to the data of the HIV prevalence seroepidemiological monitoring (hereafter - SEM), the annual number of HIV screening tests in Ukraine until 2019 was relatively stable - at the level of 2.3-2.5 million tests. Against the background of quarantine restrictions due to the COVID-19 epidemic, the number of HIV tests decreased and, as a result of the war against Ukraine in 2022, reached the all-time low level — 1,612,348 people were tested per year, or 3,933 per 100,000 population (Table 1 in the Annex 1). The increase rate compared to the previous year is negative and amounts to (-16.1%).

Fig. 2. Number of HIV tests (per 100,000 population) and percentage of HIV-positive results, 2018-2022.



In 2022, despite the difficult circumstances, the provision of HIV testing services (hereinafter - HTS) was ensured, in particular for the population at high risk of infection. And, despite a 21.5% decrease in the number of HIV+ results compared to 2021 (14,937 versus 19,040), the effectiveness of testing in general and by individual codes almost did not change and amounted to 0.93% among citizens of Ukraine (Fig. 2). The only population category for which the number of tests increased by 12.1% during the war is donors (541,742 vs. 483,364).

In general, the data presented in this issue of the Bulletin indicate significant geographical changes in almost all indicators. However, the limited or absent availability of certain HIV services in certain areas was fully compensated for by changing the location of services provision, logistical changes, redistribution of consumables, informing IDPs, etc.

At the regional level, the differences in the scope and results of testing turned out to be even more contrasting than in the previous years. According to the results of 2022, the highest rates of HIV screening coverage per 100,000 population remain in Kyiv city (7,790), Cherkasy (7,361) and Dnipropetrovsk (6,393) oblasts, although with a slight decrease in the number of tests.

The movement of people from the areas of active hostilities to the central and western regions led to a noticeable increase in testing in Ivano-Frankivsk (+63.3%) and Ternopil (+18.7%) oblasts. There have been also changes in the effectiveness of screening. An increase in the number of detected HIV-positive persons by 63.3% was recorded in Chernivtsi oblast, by 22.5% in Cherkasy and 14.9% in Ternopil oblasts (Table 2 in the Annex 1) .

Until 2022, one of the key indicators used to monitor HIV screening measures in the regions was the indicator "Number of HIV tests per 100,000 population". Although this indicator was also used to visualize the existing changes in HTS for 2022, the obtained results should be interpreted very carefully, taking into account that the number of the population that actually lived in the territory of Ukraine at the end of the reporting year changed significantly after February 24th, 2022, and the updated data is not currently available.

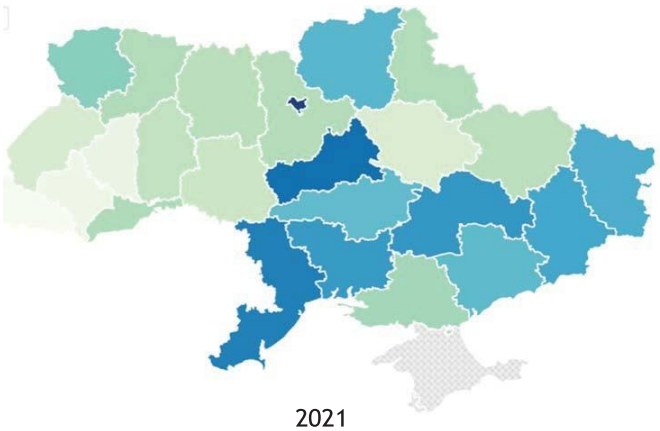
In the previous years, there was a certain constancy of the HIV screening coverage indicator in terms of geography, demonstrating the intensity of measures to increase the number of people who know their HIV status in the regions with a historically higher level of HIV infection prevalence.

In 2022, the geography of the results changed, but it is worth noting that 55% of all detected cases of HIV infection were reported in three regions - Odesa (4,134), Dnipropetrovsk (3,120) oblasts and the city of Kyiv (1,000).

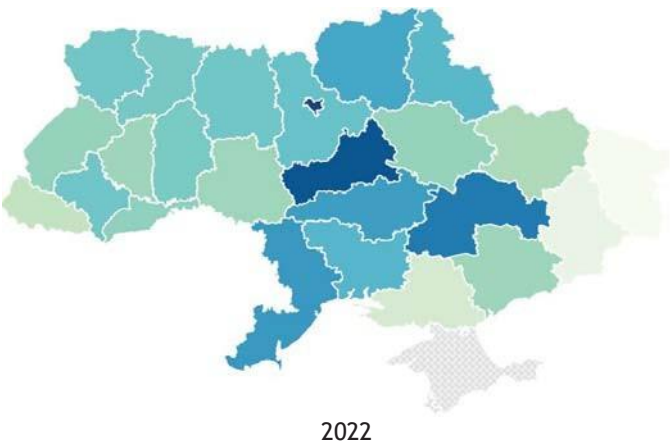
Visual comparison of SEM scope per 2021-2022, represented by the Fig. 3, confirms the expected changes in HTS as a result of military aggression, forced displacement of a large number of people, destruction of housing and infrastructure, restrictions on access to medical services and isolation due to the occupation of territories, etc.

There is a positive fact as well: in the de-occupied territories the population's access to prevention and treatment services is gradually being restored, in particular, population's screening for HIV infection.

Figure 3. Geography of changes in HIV screening coverage in the regions of Ukraine in 2022 compared to 2021, according to SEM data (per 100,000 population)



2021



2022

Table **3.** Main results of HIV prevalence SEM in the regions of Ukraine, 2022

Oblast	Tested	HIV+ (N)	HIV+ (%)
Ukraine	1,612,348	14,937	0.93
Vinnytsia	48,390	283	0.6
Volyn	43,050	33	0.3
Dnipropetrovsk	197,747	3,120	1.6
Donetsk	23,097	359	1.5
Zhytomyr	50,048	342	0.7
Zakarpattia	28,110	122	0.4
Zaporizhzhia	53,656	390	0.7
Ivano-Frankivsk	57,537	135	0.2
Kyiv	79,409	975	1.2
Kirovohrad	49,208	422	0.9
Luhansk	1,839	16	0.9
Lviv	84,902	577	0.7
Mykolaiv	52,779	572	1.1
Odesa	132,074	4,134	3.1
Poltava	46,702	339	0.7
Rivne	46,665	163	0.3
Sumy	49,330	181	0.4
Ternopil	33,149	85	0.3
Kharkiv	74,800	390	0.5
Kherson	15,951	206	1.3
Khmelnytskyi	49,417	206	0.4
Cherkasy	85,178	359	0.4
Chernivtsi	3,760	117	0.4
Chernihiv	49,978	311	0.6
Kyiv city	226,762	1,000	0.4

The key results of HIV prevalence SEM according to the outcomes of 2022 are generally satisfactory (Table 3). In 2022, most regions experienced not only quantitative changes, the effectiveness of screening also changed. The most noticeable changes took place, for example, in Chernivtsi oblast, where the percentage of HIV+ results doubled — from 0.2% to 0.4%; in Donetsk oblast — from 1.0% to 1.5%, in Zaporizhzhia oblast — from 0.5% to 0.7%.

However, taking into account all the known factors influencing performance, it is worth focusing on the final results (linkage to care, prescription of treatment, etc.).

Nevertheless, starting from 2020, the highest result is demonstrated by Odesa oblast, where in 2022, according to SEM data, the largest number and percentage (3.1%) of people diagnosed with HIV infection was 28% among almost 15,000 people with HIV serological markers in Ukraine (Fig. 4). And what is also important for this region is that in 44% of cases, HIV+ result was obtained among people who use injection drugs — 1,702 out of 3,880 (excluding children under monitoring).

Regarding the diagnostic methods, there is the same trend observed as earlier towards an increase in the frequency of the use of RTs for screening the population for HIV infection. In 2022, 42% of all HIV tests were performed by RTs (or 92% - excluding donors, pregnant women and their children).

In 2022, the most frequent practice of using RTs in the HTS package was recorded in Luhansk (99%), Donetsk (74%), Chernihiv (70%) and Odesa (56%) oblasts. The opposite situation, the same as before, is observed in the western regions of the country, in particular in Volyn oblast, where RTs were used to diagnose HIV only in 11%.

Most often, RTs are used for HIV screening of persons from key populations under the testing codes 112 (prisoners) - almost 100%, 102 (PWID) - 92% and 101 (persons who had sexual contact with HIV-infected) - 85%. RTs are also successfully used in medical practice — 81% of people who were tested for HIV when seeking medical care in health care facilities (code 113) and this is 39% among all reported RTs use per year (Tables 3 and 4 in the Annex 1).

Today, there is a strong evidence-based recommendation regarding the feasibility of using RTs to speed up the process of diagnosing and linking people diagnosed with HIV to care. Ukraine also follows these recommendations.

The number and share of RTs use began to increase rapidly, in contrast to instrumental diagnostic methods, starting in 2018. This trend became permanent against the background of the COVID-19 pandemic and in 2022 reached 42% of all HIV tests or 78% in the population's screening structure excluding donors and pregnant women.

According to the results of SEM, in 2022, 94% of all instrumental methods (enzyme-linked immunosorbent assay (ELISA), immunoblotting (IB)) were used for HIV screening of donors and pregnant women. It is important to note that the vast majority (71.8%) of all 14,937 people with HIV serological markers detected was tested by RTs (Fig. 5).

Figure **4.** Percentage of HIV+ test results in the regions of Ukraine, according to SEM data (code 100), 2022.

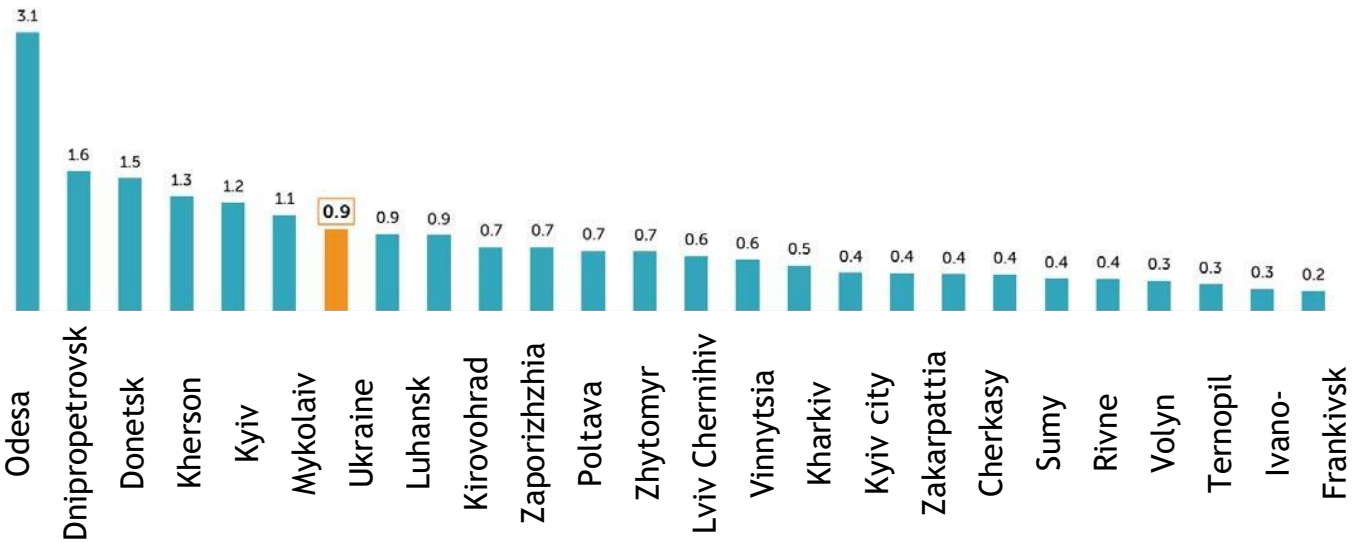
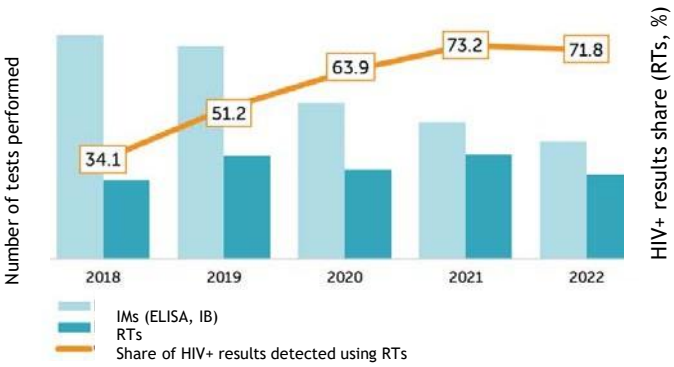


Figure **5.** Scope and effectiveness of RTs use for HIV diagnosis in Ukraine, 2018-2021.



The effectiveness of RTs use in general is 1.6%, with the highest results among KPs: persons who had sexual contact with HIV-infected persons (10.5%), persons who were screened under epidemiological indications (6.4%) and injection drugs users (5.9%).

Donors and pregnant women who are subject to obligatory HIV testing make up 54% of all persons tested in 2022, which is the lowest figure since 2018. In terms of regions, the indicator varies from the lowest values in Zakarpattia (27.3%) and Poltava (28.8%) oblasts to the highest in Donetsk (72.7%) and Chernihiv (70.1%) oblasts.

Usually, the effectiveness of screening the population for HIV infection depends on a combination of many influencing factors, among which reaching the target population takes the first place (testing under the peer-to-peer principle by NGOs or provider-initiated testing in case of identifying risk factors or clinical signs of HIV infection).

KEY POPULATIONS

Despite all existing problems, and in particular thanks to the efforts of NGOs, in 2022 91 thousand of KPs representatives were screened (10.6% of all tested without taking into account donors and pregnant women).

This applies only to those who were screened due to the established behavioral risk factors, but it should be taken into account that a significant number of KPs representatives were screened under other SEM codes, for example, under code 113 while seeking medical care.

Among the total number of screenings, the share of those screened for HIV infection under the KPs codes varies from 0.8% in Rivne oblast to 29.6% in Kharkiv oblast. It should be noted that among the western regions of Ukraine, HIV screening measures are more actively implemented for the KPs representatives in Lviv oblast, where 21.7% - that is, every fifth person among those tested - belong to KPs (Fig. 6; Table 5 in the Annex 1).

In 2022, 3,798 HIV-infected persons among those tested under the KPs codes were determined — this is 27% of the total number of people with HIV detected (14,197). The largest share of KPs representatives from the number of identified HIV-positive persons was recorded in Odesa (43%) and Zaporizhzhia (33%) oblasts, and the smallest - in Khmelnytskyi (3%) and Kirovohrad (5%) oblasts.

In 2022, the average level of HIV infection rate under SEM codes among KPs (or the percentage of HIV+ results) is 4.2%. In terms of regions, this indicator varies from the highest 15.7% in Odesa oblast to 0.6% in Khmelnytskyi oblast. Quite high indicators were also observed in Kyiv (12.5%), Kherson (11.1%), Rivne (9.6%) and Donetsk (9.5%) oblasts (Fig. 7; Table 5 in the Annex 1).

Visual comparison of data on the share of HIV-screened representatives of KPs (Fig. 6) and percentage of HIV+ results (Fig. 7) indicates significant regional differences and the absence of clear patterns between these two indicators, as they depend on the regional context of HIV prevalence, the number of KPs, the quality of HTS, the activity and effectiveness of the interaction of NGOs and health care facilities, etc. But first of all, in order to make decisions, one should pay attention to the effectiveness of screening (the percentage of HIV+ results).

Figure **6.** Share of KPs representatives screened for HIV, according to SEM data (excluding donors and pregnant women), 2022

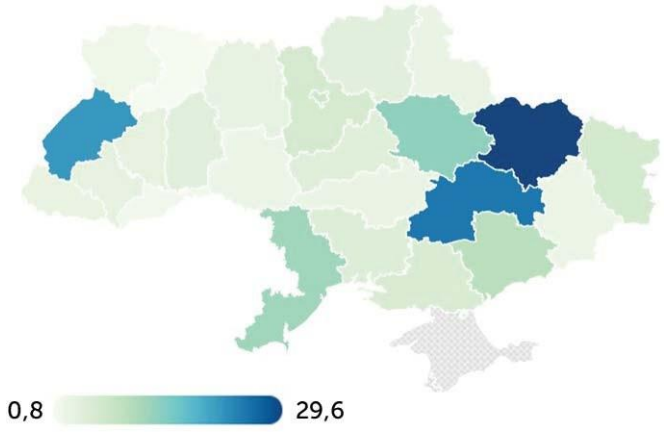
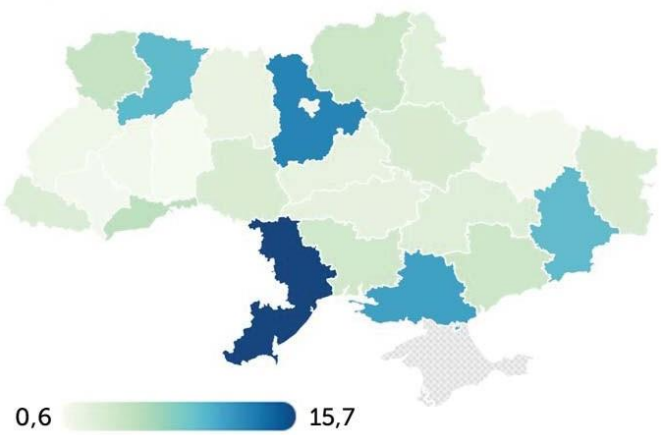


Figure **7.** HIV infection rate among KPs representatives, according to SEM data, 2022



Code **101** "persons who had heterosexual contact with HIV-infected persons"

According to SEM data, 16,044 people who had sexual contact with HIV-infected people were screened in 2022. The infection was detected in 1,544 of those tested (9.6%), of which 42% of cases occurred in two oblasts - Odesa (328) and Dnipropetrovsk (322).

The highest infection rates under the code were reported in Rivne (41.4%), Odesa (24.6%) and Chernivtsi (21.4%) oblasts (Table 1.6).

The majority of persons tested (97%) had heterosexual sexual contact with HIV-positive persons (code 101.1), 1,501 of them were HIV-infected (9.7%).

Significantly fewer people who had homosexual sexual contact with HIV-infected persons were tested (code 101.2). In 2022, 20 out of 25 regions provided information on this population's testing - only 529 were tested, of whom 43 were HIV-infected (8.1%).

It is extremely difficult to draw conclusions based on these data, so we just limit ourselves to the information that positive results were obtained under this code in 12 out of 20 regions that reported the use of code 101.2 within SEM in 2022. Most of the tests (43%) and every third case of HIV infection were reported in Kyiv city (14 out of 43). The second region in terms of the number of tests is Lviv oblast, where 88 people were tested, of whom 5 (5.7%) were diagnosed with HIV.

It should be added that index testing significantly increases the effectiveness of HIV screening among people who had sexual contact with people living with HIV. This allows not only to reach the target population - sexual partners of PLHIV - in the most effective way and engage them in treatment, but also to detect the infection at its early stage.

Code **102** "people who inject drugs (PWID)"

The task of ensuring maximum coverage of people who inject drugs with HTS remains relevant and is one of the priorities in the context of controlling the HIV epidemic in Ukraine. According to bio-behavioral surveys, since 2013, HIV prevalence among PWID has remained virtually unchanged and high at 21%-23%, with a slight decrease to 20.3% in 2020.

According to SEM data, in 2022, a total of 56,629 PWID were tested for HIV, of whom 3,421 (6.0%) were positive. This indicator varies within regions, from the lowest value (1%) in Ivano-Frankivsk, Kharkiv and Khmelnytskyi oblasts to the highest (21.7%) in Kyiv oblast.

The results reported for Odesa oblast should be noted separately, where 9,529 PLWH were screened under the code 102 during a year, and the number of HIV-positive persons among them is half of all reported cases in the country (1,702 out of 3,421) with an infection rate of 17.9%. This may indicate both a high level of HIV prevalence among PWID in Odesa oblast and the success of prevention programs and interventions with the participation of NGOs, providing HIV testing aimed at maximum coverage of PWID by screening.

Dnipropetrovsk oblast ranks first in terms of the number of tests, where in 2022 almost 18 thousand people living with HIV were tested for HIV (one third of all people tested under this code in Ukraine), 758 people were found to be infected with HIV (4.3%), which is one in four cases among those reported in the country.

All available program, statistical data and results of integrated biobehavioral surveys should be used to assess the situation within the SEM regarding the HIV prevalence among PWID at the national or regional level. The war has made its own adjustments to epidemiological surveillance - migration of the population, change of service locations, the need to take prompt measures to respond to challenges, etc. More detailed information by regions can be found in the **Table 7 in the Annex 1.**

As part of the ongoing monitoring of the results of detection of people infected with HIV among PWID, **Table 4** provides the generalized key indicators for the past five years.

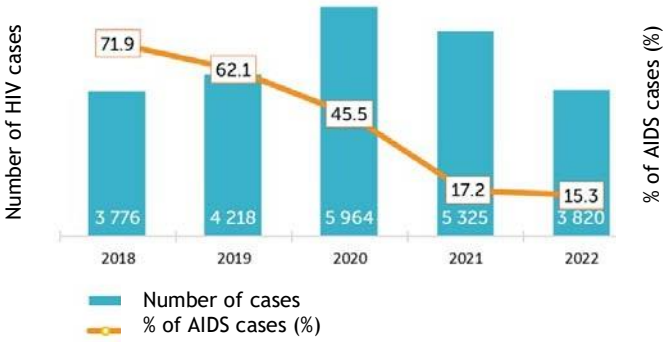
These data demonstrate the sustainability and effectiveness of HIV testing services and linkage of PWID to care by NGOs. Even amid the scaled military aggression by the russian federation, NGOs have certainly achieved success, including nearly 60,000 tested PWID with a high rate of HIV-positive results. Moreover, almost 73% of people who were infected with HIV as a result of injecting drugs were detected and referred to further follow-up by NGOs' social workers.

Table 4: Dynamics of key indicators of HIV epidemiological surveillance among PWID in Ukraine (2018-2022)

Indicators	2018	2019	2020	2021	2022
SEM results among PWID					
Number of people who inject drugs tested for HIV (code 102)	173,305	128,219	107,059	67,491	56,629
of which those with detected HIV serological markers	2,248	2,662	4,759	4,327	3,421
Percentage of HIV+ results (%)	1.3	2.1	4.5	6.4	6.0
HIV cases reporting (linkage to care of those newly diagnosed with HIV, with parenteral route of infection due to the injection drug use)					
Number of persons linked to care during the reporting year	3,776	4,218	5,964	5,325	3,820
PWID percentage of all reported cases (%)	20.9	22.9	33.9	30.8	31.3
Number of PWID referred by NGOs	1,677	1,988	3,633	3,661	2,786
Percentage of PWID referred by NGOs (%)	44.4	47.2	61.0	68.8	72.9
AIDS and late diagnosis of HIV infection					
Number of new AIDS cases	2,343	1,916	1,027	914	583
Percentage of AIDS cases of the total amount of reported cases (%)	62.1	45.5	17.2	17.2	15.3

Another aspect deserving attention is timely HIV diagnosis, which is the key to early ART initiation. Over the past five years, there has been a steady positive trend among PWID to reduced number and frequency of AIDS cases among newly HIV-diagnosed PWID (Fig. 8).

Figure 8. Number of reported HIV infection cases among people who inject drugs as a result of injecting drugs and AIDS cases among them, 2018-2022.



Code 101.2 "persons who had homosexual contacts" and code 103 "persons who had homosexual contacts with persons whose HIV status is unknown"

Epidemiological monitoring of the HIV prevalence among MSM is becoming increasingly important every year and requires innovative approaches to testing and engaging HIV-infected people in health care. MSM are the most closed and stigmatized key population in the society. And although, as noted in the previous section, infection through homosexual contacts between men is more common in countries of the WHO Western Region, Ukraine has also significantly strengthened prevention measures among MSM over the past decade.

According to the latest IBBS data (2021), HIV prevalence among MSM was 3.9%, being lower than in 2017 (7.1%). However, the high risk of infection and rather low level of coverage of this population by prevention programs (25.6% in 2022) emphasize the need to improve prevention measures and strengthen epidemiological surveillance of HIV among MSM.

The number of HIV tests among MSM decreased by 26% in 2022 compared to 2021: a total of 10.8 thousand MSM were tested for HIV (including 529 people under code 101.2 and 10,315 under code 103). HIV infection rate decreased from 2.9% to 2.4%: 255 HIV-positive MSM were determined, which is 41% less than in the previous year (Table 8 in the Annex 1).

The same as before, the infection rate is higher among people who had homosexual contacts with HIV-infected men (8.1%). Among MSM who had sexual contact with persons whose HIV status is unknown, this indicator is almost 4 times lower (2.1%).

The scope and results of HTS provision vary significantly by region. It is worth noting that in 2022, some regions managed to increase the scope of HTS among MSM, which is a positive sign in the context of strengthening epidemiological surveillance. All regions except Luhansk provided information on HIV screening among MSM. The majority of men were tested for HIV in Lviv oblast (40% of the total number of MSM screenings in the country) - 4,380 people. The second place in terms of the number of tests is taken by Kyiv city (2,780). In two regions, the scope of HIV screening among MSM has increased and significantly exceeded the indicator of 2021: Odesa (1,083) and Kharkiv oblasts (818).

Almost all regions reported cases of HIV infection among MSM, with the exception of Donetsk, Ternopil and Khmelnytskyi oblasts. The largest number of HIV-positive MSM was registered in Kyiv city (61), Kyiv (47) and Lviv (35) oblasts.

HIV infection rate ranged from 0.8% in Lviv oblast to 28.6% in Kherson oblast. The small number of tests (< 100) in most regions makes it difficult to assess the results. Among the 8 regions where the number of tests was >100 cases, HIV infection rate ranged from 0.8% to 8.3% in Kyiv oblast (Table 8 in the Annex 1).

Thus, SEM results on HIV prevalence among MSM vary considerably in terms of geography, due to a number of factors, including the size of the population, HIV prevalence among men, stigma, proactive community attitudes, accessibility and responsiveness of prevention services, quality of HTS, etc.

Code **104** "persons having symptoms of or diagnosed with sexually transmitted infections (STIs)"

The frequency of detection of sexually transmitted infections (STIs) may indirectly indicate the prevalence of risky sexual behavior among the population. This fact is a strong argument for HIV screening coverage of people with STIs, especially given the increase in sexually transmitted HIV infection.

The number of tests under code 104 decreased by 10% in 2022 compared to the previous year and amounted to 14 thousand, of which 93 people were diagnosed with HIV (0.7%).

At the regional level, there have been significant changes due to a considerable increase in the number of HTS provided among STI patients in Zakarpattia and Ivano-Frankivsk oblasts and the city of Kyiv. The greatest scope of testing in 2022 was recorded in three regions: Kyiv city (3,610), Dnipropetrovsk (3,220), and Zaporizhzhia (1,626) oblasts - totaling to 61% of all tests under this code. However, this did not result in a significant increase in the number and share of HIV diagnosed among them. The total number of reports on HIV+ test results is three times lower compared to the previous year.

The scope of HTS and HIV infection rates in the regions vary significantly (Table 9 in the Annex 1). For example, compared to 2021, in Poltava region, the scope of HTS increased by 59%, while the number and proportion of HIV+ results increased from 1.5% to 2.3%. At the same time, in Kyiv region, on the contrary, the scope of testing has halved, and the number and share of people with HIV increased from 0.7% to 3.0%.

In most regions, no or single HIV cases have been reported among persons tested under code 104. The same as in the previous year, the largest number of HIV-infected persons among people with STIs was detected in Dnipropetrovsk oblast (31), which is one third of all cases reported in Ukraine during the year.

The second largest number of cases is in Odesa oblast, where 20 out of 350 people screened for STIs were diagnosed with HIV. In total, these two regions account for more than half (55%) of the detected cases of HIV infection among people with STIs.

HIV infection rate under code 104 among the 16 regions that reported HIV+ test results ranges from 0.1% in Zaporizhzhia and Mykolaiv oblasts to 5.7% in Odesa and 3.0% in Kyiv oblasts (Table 9 in the Annex 1).

Code **105** "persons with risky sexual behavior"

The sexual route is becoming more epidemiologically significant in the spread of HIV infection. Therefore, conducting systematic screening among people who have behavioral risks of sexually transmitted HIV is an important component of the strategy to overcome the epidemic.

Code 105 within the SEM is used to record HTS results for the following categories of the population: 105.1 - people who have unprotected sexual contacts with casual sex partners and 105.2 - people who provide sexual services for remuneration (hereinafter referred to as SWs). This is a rather diverse group of people, which is not only difficult to identify, but also difficult in most cases to determine the most likely contact, place and time of HIV infection.

According to the latest estimates (2018), the size of SWs population was about 90 thousand. Thanks to large-scale prevention programs, there is a steady downward trend in HIV prevalence in this KP (3.1% in 2021; 5% in 2017).

Table 5. Results of HIV prevalence SEM among people with risky sexual behavior, 2022

Oblast	Tested	HIV+ (N)	HIV+ (%)
Ukraine	85,904	1,097	1.3
Vinnytsia	1,277	1	0.1
Volyn	29	3	10.3
Dnipropetrovsk	11,751	32	2.7
Donetsk	1,171	36	3.1
Zhytomyr	781	40	5.1
Zakarpattia	267	6	2.2
Zaporizhzhia	1,529	33	2.2
Ivano-Frankivsk	2,411	7	0.3
Kyiv	1,464	37	2.5
Kirovohrad	243	4	1.6
Luhansk	420	0	0.0
Lviv	1,417	28	2.0
Mykolaiv	4,215	79	1.9
Odesa	8,139	253	3.1
Poltava	763	19	2.5
Rivne	72	9	12.5
Sumy	961	5	0.5
Ternopil	23	1	4.3
Kharkiv	84	5	6.0
Kherson	439	4	0.9
Khmelnytskyi	24	0	0.0
Cherkasy	1,727	40	2.3
Chernivtsi	2,000	15	0.8
Chernihiv	7,387	47	0.6
Kyiv city	37,310	103	0.3

Due to the lack of special surveys and monitoring, the results of SEM remain virtually the only source of information on HIV prevalence among the general population with risky sexual behavior.

In 2020-2021, the number of tests under code 105 decreased during the period of COVID-19 anti-epidemic restrictions, but the lowest number of tests was registered in 2022 - 86 thousand, which is 20% less than in 2021. Most of the tests (88%) were performed under code 105.1. About 10 thousand SWs were screened under code 105.2 (500 persons more than in 2021).

A total of 1,097 people were diagnosed with HIV infection (1.3%). Among them, 97% (1,068) are people who had unprotected sexual contact with casual sex partners (code 105.1). The infection rate is 1.4%. Two-thirds of all HIV cases were detected in three regions: Dnipropetrovsk (313), Odesa oblasts (249) and Kyiv city (103).

According to SEM data, out of 10,000 people who provide sexual services for remuneration tested under code 105.2, only 29 HIV-positive persons (0.3%) were determined. Of these, 45% (13) cases were detected in Lviv oblast. Moreover, 78% of all tests were performed in Dnipropetrovsk oblast, while in 9 regions no one was tested under code 105.2.

Due to the typical small number of tests in most regions, a comparative analysis of the results should be done with caution (Table 9). For an in-depth assessment of the results and understanding of such differences in HIV prevalence between these populations, additional studies are needed, in particular on the quality of HTS and HIV prevalence among the general population and SWs, followed by triangulation of the data obtained.

Code **112** "persons detained in penitentiaries, including pre-trial detention facilities"

SEM of HIV prevalence in prisons remains an important component of the national strategy to overcome the HIV/AIDS epidemic. According to the State Criminal and Executive Service of Ukraine (hereinafter - SCESU), in 2022, the HIV prevalence rate among prisoners was 8.2%.

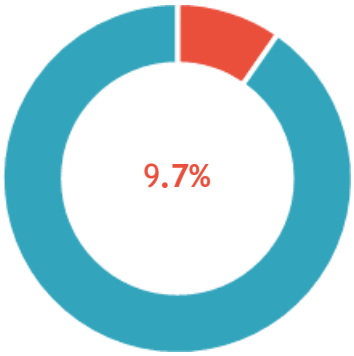
A certain number of people who are admitted to the SCESU facilities have an established HIV-positive status and receive ART. The rest of the people receive HTS to determine their HIV status. Over the past 5 years, the number of HIV tests has almost tripled, but in 2022 it decreased by 28% compared to 2021: 55 thousand people were tested, of whom 320 were diagnosed with HIV (0.6%). For more information, refer to the Table 11 in the Annex 1.

The general data on the results of SEM on HIV prevalence among KPs presented in this section should be analyzed in a comprehensive way, taking into account the regional context, demographic and epidemiological peculiarities, the scope and effectiveness of HTS, targeted prevention activities among KPs, and the results of IBBS, etc.

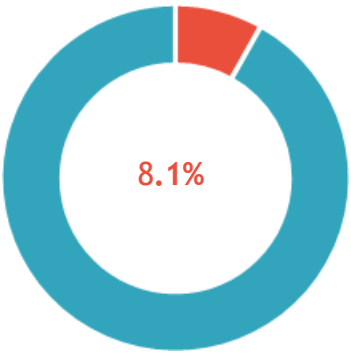
Figure 9 presents generalized data for comparing the scope and results of screening within SEM between individual KPs in 2022. It should also be taken into account that the greatest share of HIV cases detected within the SEM among KPs is the result of regular screening for HIV infection of certain populations as part of prevention activities implemented by NGOs.

Figure 9. Summarized results of HIV testing of people belonging to KPs, according to SEM data, in Ukraine, 2022 (number of tests and percentage of positive results).

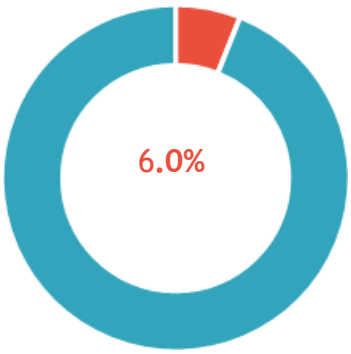
Heterosexual contacts with HIV-infected persons **(code 101.1)** – 15,515 persons tested



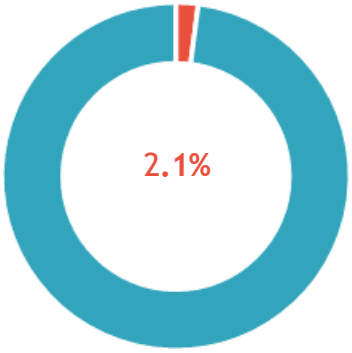
Homosexual contacts with HIV-infected persons **(code 101.2)** - 529 persons tested



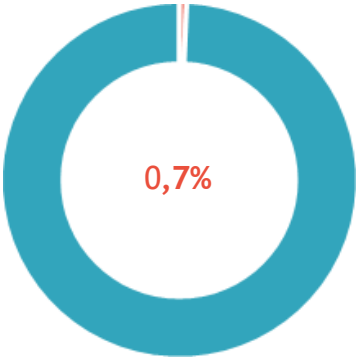
People who inject drugs (code 102) – 56,629 persons tested



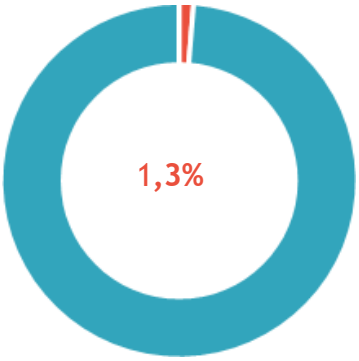
Homosexual contacts with persons whose HIV-status is unknown (code 103) -10,315 persons tested



Persons with symptoms of or diagnosed with STIs (code 104) -13,963 persons tested



Persons with risky sexual behavior **(code 105)** -85,904 persons tested



HIV TESTING AT SEEKING MEDICAL CARE

Today, conditions have been created for unimpeded access to HTS both on own initiative and on the recommendation of a doctor. Reforming the health care system and expanding the use of RTs for HIV screening have contributed to an increase in HTS scope and improved the coverage of people with newly diagnosed HIV by medical care and ART.

According to SEM data, the number of HIV tests at seeking medical care was gradually increasing until 2019. Due to quarantine restrictions during the COVID-19 pandemic, this process has slowed down.

Code **113** "**persons** with diseases, symptoms and syndromes for which counseling and testing services are offered when seeking medical care in health care facilities"

This code is divided into 2 main subcodes - for children under 18 (code 113.1) and adults (113.2). Naturally, this code is mostly used to test the adult population, whose share in 2022 was 98% of all those screened under code 113.

A total of 326 thousand people were screened in health care facilities, which is 25% less than in 2021. Among those tested, 3,903 people with HIV infection (1.2%) were detected, including 31 children.

Coverage of people with provider-initiated HIV screening at seeking medical care is a relevant and extremely important area for ensuring effective epidemiological monitoring of HIV prevalence in the country. Unfortunately, the underestimation by the population of their own risks of infection and the presence of certain moral barriers to determining HIV status often leads to late diagnosis at the stage of clinical manifestations of progressive HIV infection.

RTs are most often used to test citizens in HCFs, on average 81%. In about half of the cases, instrumental diagnostic methods were used to test children (45%), in contrast to the adult population, which in 82% received HTS using RTs. The results are also proportional - 82% of HIV cases among all those screened under code 113 were detected by RTs.

It is important to note that the largest number of people with HIV was detected under the code 113 - 26% of the total number of HIV cases detected in the country in 2022. SEM results are reported according to the profile of the health care facility: TB care; infectious disease; other.

Among the adult population (aged 18+ years), the largest number of tests (80.5%) was performed by "other" facilities. Although the infection rate among 256 thousand people tested for HIV under the code 113.2/other was the lowest (1.0%), it allowed to detect HIV infection in 2.5 thousand people. Most people were tested by RTs (82%).

36 thousand people were screened in infectious diseases facilities under the code 113.2/inf, of which 614 (1.7%) were diagnosed with HIV infection.

In HCFs providing TB care, the fewest people were tested, but the infection rate under code 113.2/tb is the highest and amounts to 2.8% (731 HIV-positive persons among 26 thousand tested).

While the overall number of tests under code 113 decreased in 2022, in some regions their number increased dramatically. For example, in Ivano-Frankivsk oblast, the number of people screened in health care facilities tripled, and in Ternopil oblast it almost doubled. Of course, at the end of the year, the lowest number of tests was reported by the regions most affected by the russian invaders' attack in 2022 - Donetsk, Luhansk, Kharkiv, and Kherson oblasts. The data available in the annual report from these regions mainly includes the results of the SEM conducted in the first quarter.

The largest number of tests in health care facilities was performed in Kyiv city (65 thousand), which is 20% of the total number of HIV tests under code 113 in the country for the year. Moreover, the number of tests in the capital increased by 12% compared to 2021, while the number of people diagnosed with HIV increased by 51% - from 234 to 354 people.

Also, a great scope of HTS provided was observed in Dnipropetrovsk and Odesa oblasts, where more than 40 thousand people were screened. In these very regions the highest number of HIV+ people was detected: 692 people in Dnipropetrovsk oblast and 640 in Odesa oblast.

The average infection rate under testing code 113 is 1.2% and varies within regions from 0.4% in Chernihiv oblast to 4.85% in Kharkiv oblast. High rates are also reported in Kherson (2.85%) and Kyiv (2.48%) oblasts (Table 12 in the Annex 1) .

PREGNANT WOMEN

SEM of HIV prevalence among pregnant women (code 109) is one of the key components of the prevention strategy aimed at eliminating mother-to-child transmission of HIV.

The number of HIV+ pregnant women is decreasing every year in parallel with the decrease in the number of pregnant women who are tested for HIV status. Last year, the number of women tested under code 109 was the all-time low for the entire period of surveillance - 22% less than in 2021 and half as many as in 2016. At the same time, the percentage of HIV+ results has been gradually decreasing since 2017.

Table 6. Results of HIV prevalence SEM among pregnant women, 2021-2022

Testing code and result	2021	2022
109.1 - pregnant women tested for the first time during pregnancy, regardless of gestational age		
Number of women	261,972	205,118
of which HIV-positive	619	450
% of HIV+	0.24	0.22
109.1.1 — pregnant women aged 15 - 17 years		
Number of women	4,789	4,414
of which HIV-positive	13	19
% of HIV+	0.27	0.43
109.1.2 — pregnant women aged 18 - 24 years		
Number of women	50,074	35,092
of which HIV-positive	94	63
% of HIV+	0.19	0.18
Pregnant women aged 15-24 years		
Number of women	54,863	39,506
of which HIV-positive	107	82
% of HIV+	0.20	0.21
109.2 — tested repeatedly during pregnancy with an HIV-negative result under code 109.1		
Number4 of women	247,426	184,307
of which HIV-positive	25	28
% of HIV+	0.01	0.02

The importance of an in-depth analysis of the results of HIV testing among pregnant women requires evaluation of data disaggregated by age and taking into account the stages of testing. While most indicators are relatively stable, the "jump" in the rate among the youngest women (15-17 years old) from 0.27% to 0.43% is noteworthy (Table 6).

There were no cases of HIV infection among pregnant women under the additional code 109.3 (third examination during childbirth in the presence of factors of increased risk of infection in case of a previous negative result) in 2022.

The lowest infection rates among pregnant women under code 109.1 were recorded in Ivano-Frankivsk (0.05%), Volyn (0.8%), and Rivne (0.8%) oblasts. The highest rates among pregnant women tested for the first time during pregnancy were recorded in Chernihiv (0.64%), Zaporizhzhia (0.47%), Kherson (0.46%), and Kharkiv (0.45%) oblasts. A total of 450 HIV-positive women were identified under code 109.1 (619 in 2021).

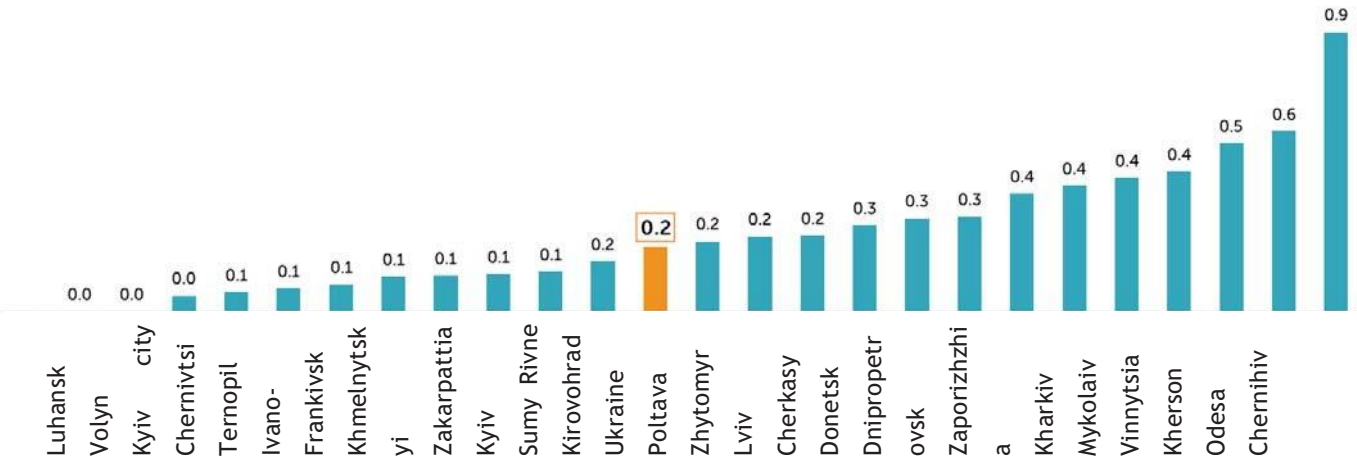
In addition, 28 pregnant women had had HIV-negative result during the first/second test and were found to be HIV-positive during the repeated HIV testing under code 109.2. (Table 14 in the Annex 1). In 2021, there were fewer such cases - 23.

Regarding the impact of the war on the 2022 indicators. The unevenness of changes in some SEM results is noteworthy. In general, the number of pregnant women tested decreased by 22% (mainly in the south-eastern regions). However, in some regions, the number of pregnant women increased: for example, by 43% in Poltava and by 20% in Zhytomyr oblasts. In two regions, against the background of a decrease in the number of pregnant women screened, the number and percentage of HIV-positive women detected doubled: in Chernihiv (from 0.22% to 0.64%) and Zaporizhzhia (from 0.15% to 0.47%) oblasts, respectively.

The HIV infection rate among pregnant women aged 15-24 is used as an element of a comprehensive assessment of HIV prevalence among young people and is an indirect estimate of recent infections (incidence). In recent years, this indicator in Ukraine has had a general downward trend, amounting to 0.21% in 2021, with the highest rate in Poltava oblast, where it reached 1.0%.

In 2022, the situation in the regions changed significantly. In Chernihiv oblast, the infection rate among pregnant women aged 15-24 rose from 0.4% to 0.9%, while in Poltava oblast it fell to 0.22%. The lowest rates are still recorded mainly in the west of the country (Fig. 10; Table 15 in the Annex 1). There are no 2022 data from Luhansk oblast.

Figure 10. HIV infection rate among pregnant women aged 15-24 years, according to SEM data, 2022.

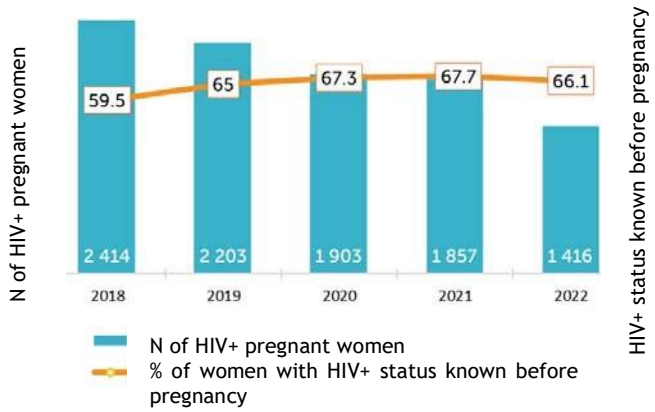


The analysis of trends in HIV prevalence among pregnant women is a proxy indicator for assessing the status of the epidemic in terms of the epidemic's transition to the general population. Exceeding the level of 1% HIV prevalence among pregnant women, along with other important epidemiological indicators, may indicate the generalization of the epidemic process.

In order to use this indicator in assessing the epidemic situation in the country, it is important to achieve a high level of HIV testing coverage among pregnant women.

In 2022, 98.5% of pregnant women knew their HIV status at the time of delivery. This is especially relevant for the current situation, when the number and share of pregnant women in Ukraine whose HIV status was known before the start of the current pregnancy is increasing every year (Fig. 11). Against the background of a decrease in the total number of pregnant women living with HIV, the share of those who were already diagnosed before pregnancy is gradually increasing: from 55% in 2017 to 66% in 2022.

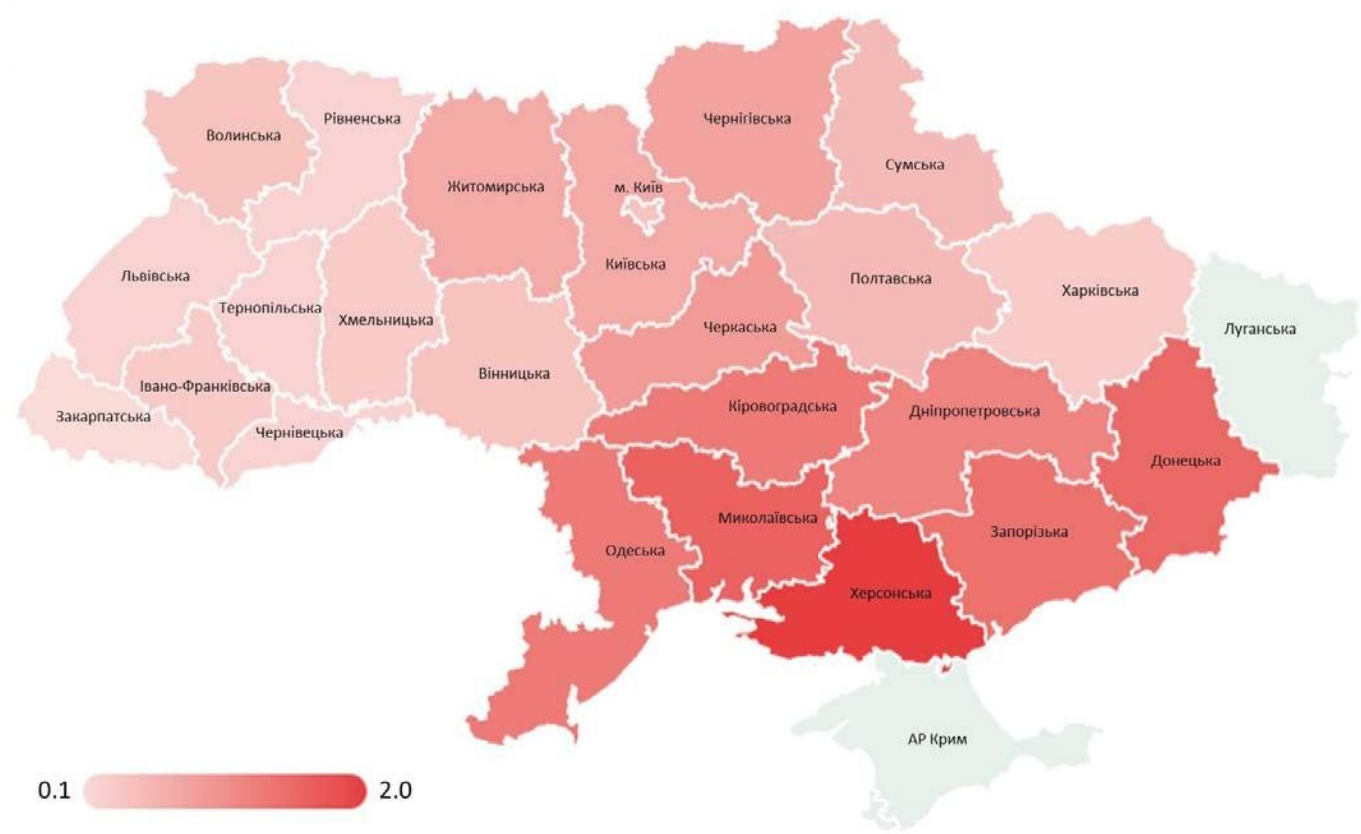
Figure 11. Proportion of the number of HIV-positive women to the time of HIV status determination, 2018-2022.



Over the past 5 years, the average HIV prevalence rate among pregnant women has remained at 0.7% [0.1 - 2.0] and decreased in 2022 to 0.67% [0.1 - 2.0]. However, at the regional level, the situation is significantly different and has specific trends. Thus, in 2020, the highest rate (1.7%) was recorded in Donetsk oblast, in 2021 (1.95%) - in Mykolaiv oblast, in 2022 (2.0%) — in Kherson oblast.

Overall, in 2022, this indicator exceeded the level of ≥ 1% in 7 regions. The highest rates were recorded in the southeastern regions of Ukraine, and the lowest rates were mainly in the west of the country and Kyiv city (Fig. 12).

Figure **12.** HIV prevalence among pregnant women in Ukraine, 2022

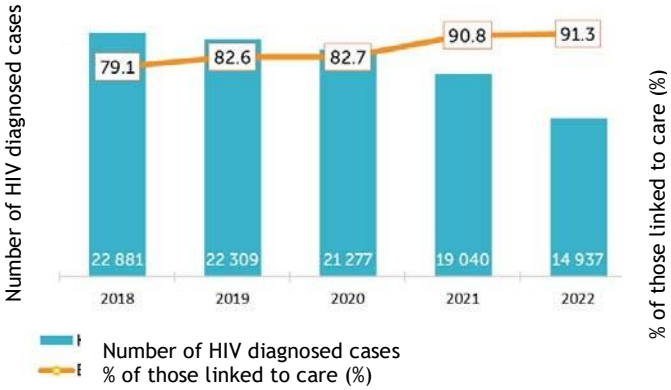


2.2. Registration of HIV cases

Although there were problems in 2022 to collect and generalize data within the framework of the epidemiological surveillance, the reporting form N 2-HIV/AIDS "Report on persons with conditions and diseases caused by the human immunodeficiency virus (HIV) per 2022" was developed, being the main source of data for SEM analysis.

During the year, 15,000 people were diagnosed with HIV (including children without a definitive diagnosis born to HIV-infected mothers), of whom 12,212 sought medical care at specialized health care facilities and were linked to care with a diagnosis of HIV infection, and another 1,424 children were registered for monitoring with the diagnosed HIV to be confirmed yet. Thus, the coverage rate of linkage to care in 2022 was 91.3% (Fig. 13). This is a very high result (the highest for the period of surveillance), given the complexity of the situation in general.

Figure **13.** Proportion of newly diagnosed HIV cases to those linked to care (%), 2018-2022.



In some regions, the indicator has improved significantly (Poltava and Khmelnytskyi oblasts and the city of Kyiv), and in 11 regions it exceeded the national average. The lowest level of linkage of newly diagnosed HIV-positive people to care is in Chernivtsi (68.4%), Zakarpattia (71.3%) and Lviv (72.4%) oblasts (Table 17 in the Annex 1) .

The national incidence rate, which is based on official HIV case reporting data, does not reflect the actual number of newly diagnosed HIV cases (incidence), but measures changes that occur over time and is used to assess the health status of the population. This indicator is extremely important because it is the result of many components, including the organization of HTS provision, intersectoral cooperation and the effectiveness of measures to link HIV-positive people to care, etc. At the national and regional levels, this indicates that Ukraine is moving towards achieving the UNAIDS global target for 95 % HIV status awareness.

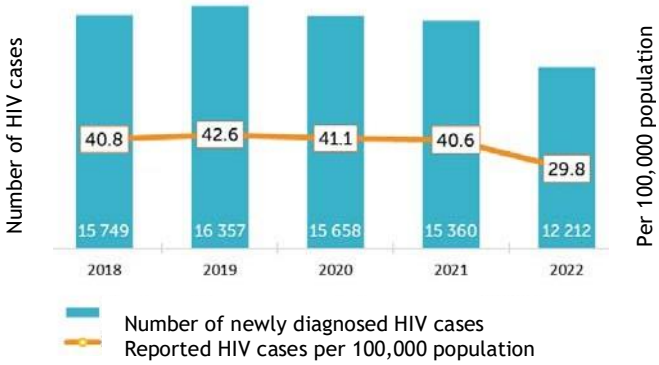
From the point of view of modern approaches to epidemic surveillance, incidence is the number of new cases of a disease that occur in a certain population over a specified period of time. Information on the number of new cases is important for monitoring both epidemic trends and the dynamics of infection among certain populations.

In the framework of global monitoring, this indicator is recognized by the WHO as "Number of new HIV infections per 1,000 uninfected population". Due to the complexity of conducting studies to determine incidence, most countries (including Ukraine) rely on modeled estimates using the UNAIDS-supported Spectrum software.

However, 2022 was a real challenge for determining these extremely important indicators due to the inability to obtain valid demographic and statistical data from all territories of Ukraine. Therefore, the modeling results for 2022, due to the large number of assumptions, are not published.

Given the limitations of data on the actual number of people in the country and in each region, any indicators that use population data as a denominator will not reflect the real health situation, whether it is morbidity, prevalence, or mortality.

Figure 14. Number of people with newly diagnosed HIV infection linked to care and frequency of cases per 100,000 population, 2018-2022.



The number of officially reported cases of HIV infection among people with newly diagnosed HIV decreased by 20% compared to 2021 (12,212 vs. 15,658), amid a decrease in HTS provision. Given that mass migration of the Ukrainian population occurred as a result of the full-scale military aggression, the calculation of the indicator per 100,000 population shows a 27% decrease in 2022 compared to 2021 - from 40.6 to 29.8 (Fig. 14).

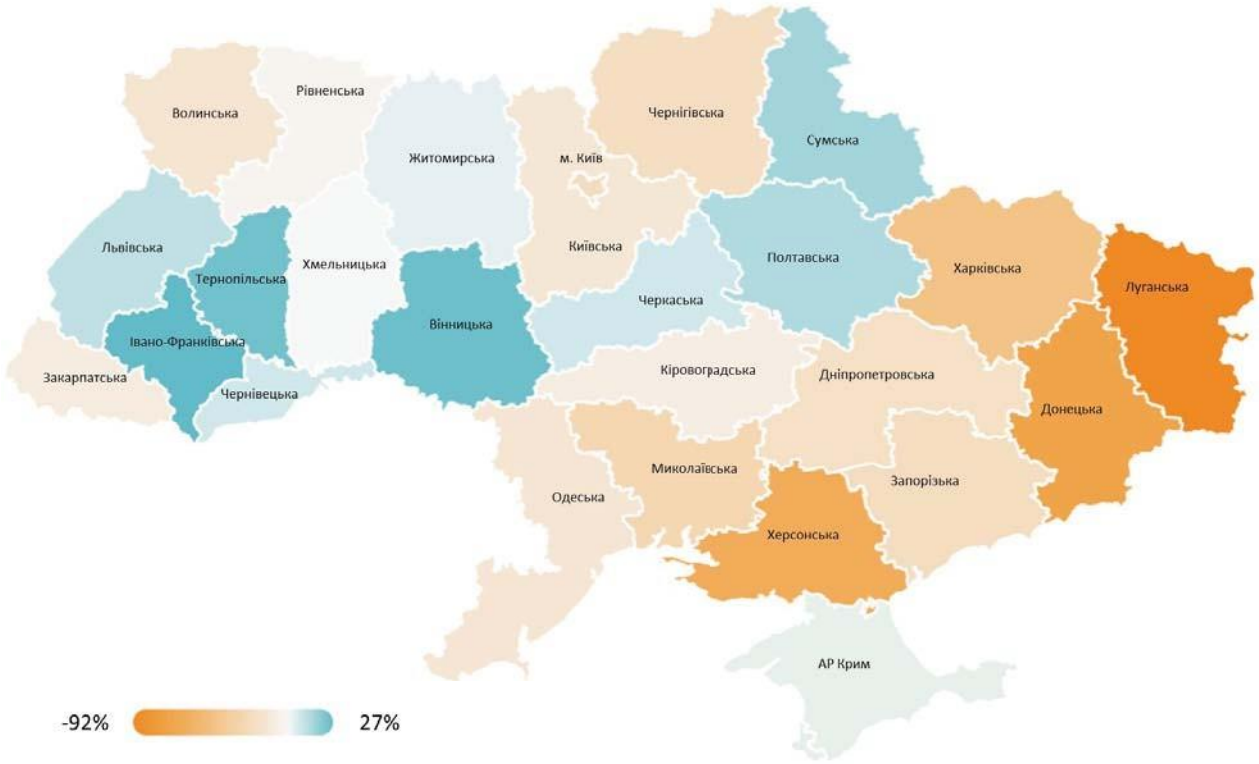
The HIV incidence rate for 2022 was preliminarily calculated based on the average annual resident population for 2021, so its value should be interpreted with caution, given that accurate demographic data are currently unavailable.

Significant geographical differences in the number and frequency of HIV cases reporting remain. For example, 52% of all people registered with HIV in 2022 were reported in Odesa and Dnipropetrovsk oblasts. Although the HIV incidence rate in Odesa oblast decreased by 14% compared to the previous year, it is the highest in the country (153.9 per 100,000 population), which is 5 times higher than the average. The rate in Dnipropetrovsk oblast is almost 3 times higher than the national average (88.4 per 100,000 population). Without taking into account fluctuations in the temporarily occupied Luhansk and Donetsk oblasts, the lowest incidence rates per 100,000 population are still recorded in Zakarpattia (6.0), Chernivtsi (7.3) and Ternopil (7.7) oblasts (Table 16 in the Annex 1) .

If we compare the changes in quantitative indicators, they clearly reflect the link between the results presented and the impact of the war. It should be noted that the overall 63% decrease in the number of people living with HIV in the country in 2022 was due to a decrease in their number in the three most affected regions: Donetsk (-727), Dnipropetrovsk (-658) and Odesa (-609) oblasts.

Compared to 2021, the number of reported cases of HIV infection has decreased sharply in Luhansk (-92%), Donetsk (-70%), Kherson (-63%), and Kharkiv (-44%) oblasts. This result is a consequence of many factors and is evidence of lost opportunities for timely HIV diagnosis in people who do not aware of their status. A slight increase in the number of reported cases of HIV infection occurred in Ivano-Frankivsk (+27%), Vinnytsia (+25%), Ternopil (+24%), Sumy (+15%), Poltava (+13%) and Lviv (+10%) oblasts (Fig. 15).

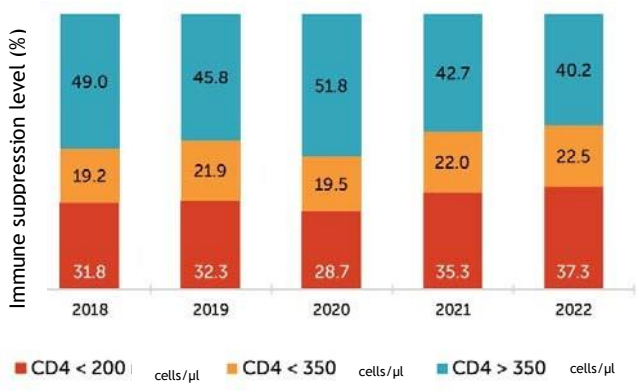
Figure 15. Quantitative changes in HIV cases reporting in Ukraine, 2022



Almost 60% of people newly diagnosed with HIV had a CD4 count < 350 cells/μl.

Timely diagnosis of HIV infection remained an urgent problem for Ukraine in 2022. Increasing the number of PLHIV on ART is the main factor in containment of the spread of HIV, while late diagnosis of HIV or refusal of people with known HIV-positive status to be linked to care leads to an increase in the number of people with transmissible HIV.

Figure 16. Timeliness of HIV diagnosis in Ukraine based on CD4 cell counts in people newly diagnosed with HIV infection (%), 2018-2022.

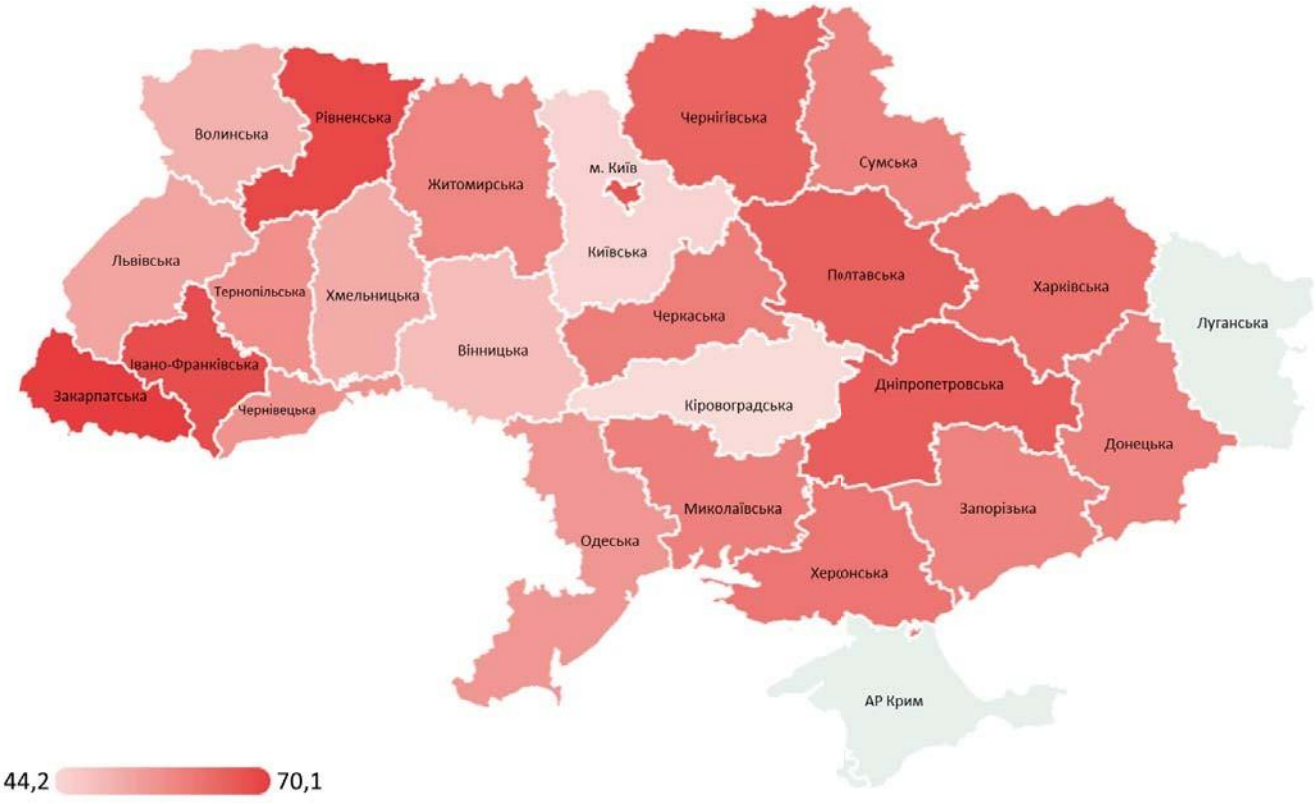


The coverage of CD4 testing of people with a newly diagnosed HIV infection when they are registered for a known reason decreased from 86.2% to 74.4% compared to 2021. The results of their testing allow us to determine the timeliness of HIV diagnosis based on average immunosuppression rates. However, compared to the previous year, the situation has slightly worsened. The majority of patients (59.8%) had CD4 counts < 350 cells/μl, including 37.3% of people with critically low CD4 counts (< 200 cells/μl), which emphasizes the urgency of ensuring early diagnosis of HIV infection (Fig. 16).

There are no geographically clear patterns. The lowest number of PLHIV with CD4 counts < 350 cells/μl was reported among new patients in Kirovohrad (44.2%) and Kyiv (45.5%) oblasts, and the highest rates were in Zakarpattia (70.1%) and Rivne (68.4%) oblasts. Usually, progressive immunosuppression is accompanied by clinical manifestations of AIDS, which is an indication for testing for HIV infection under code 113 when seeking medical care (Fig. 17).

Another important indicator for assessing the timeliness of diagnosis is the proportion of PLHIV with a baseline CD4 count <200 cells/μl, which is a sign of severe immunosuppression and, as a rule, long-standing infection. This indicator increased from 35.3% to 37.3% compared to the previous year, with values ranging from the lowest in Vinnytsia (24.9%) and Kyiv (27.5%) oblasts to the highest in Kyiv city (48.3%), Zakarpattia (49.3%) and Rivne (45.9%) oblasts (Table 17 in the Annex 1).

Figure 17. Indicator of late HIV diagnosis in Ukraine, 2022



Share of people with CD4 < 350 cells/μl at the moment of HIV diagnosis (%)

The incidence of AIDS in the population according to official case reporting data up to and including 2021 had a similar trend to the results of the Spectrum modeling. The number of AIDS cases, both actual and estimated, had a negative growth rate. In 2022, according to SEM, 3,010 AIDS cases were officially reported (27% less than in 2021) - 7.3 per 100,000 population. However, given the limited demographic data, any indicators that use population data as a denominator will not reflect the real situation and may be revised if more accurate data become available. Therefore, the decrease in the indicator should be interpreted with caution, taking into account all the facts of the impact (migration, availability of medical care, difficulties in collecting data, etc.).

The largest number of new AIDS cases was still reported in Odesa oblast (686), accounting for almost a quarter of all cases in 2022. Accordingly, the incidence rate in the region is significantly higher than the national average - 29.3 per 100,000 population. Dnipropetrovsk oblast ranks second in terms of the number of cases (558) and the incidence rate (18.0 per 100,000 population). The lowest rates are traditionally recorded in the western regions of the country. A difficult situation with regard to the accounting of and reporting cases is observed in Donetsk oblast, where very high rates were recorded until 2021, and in 2022 only 90 cases were reported against 417 in the previous year. The incidence rate decreased by 10 times (!) - from 22.4 to 2.2 per 100,000 population, which is by no means a sign of positive changes in the context of combating the epidemic **(Table 18 in the Annex 1).**

Sex and age characteristics of new HIV cases are gradually changing. Sex structure of the reported HIV cases demonstrates an increase in the share of men (from 63% to 66%).The age structure is dominated by the group of 25-49 years old, whose share is almost unchanged and amounted to 82% in 2022.

The epidemic has signs of a certain "aging", as evidenced by gradual changes in the age structure of the incidence with a shift towards older people. While the number and share of people aged 15-24 is gradually decreasing and amounted to 3.2% (384 people) in 2022, the number of people aged 50 and older is increasing, amounting to almost 15%.

The same as in the previous years, most cases of HIV infection among people aged 15+ were registered among the urban population (83%).

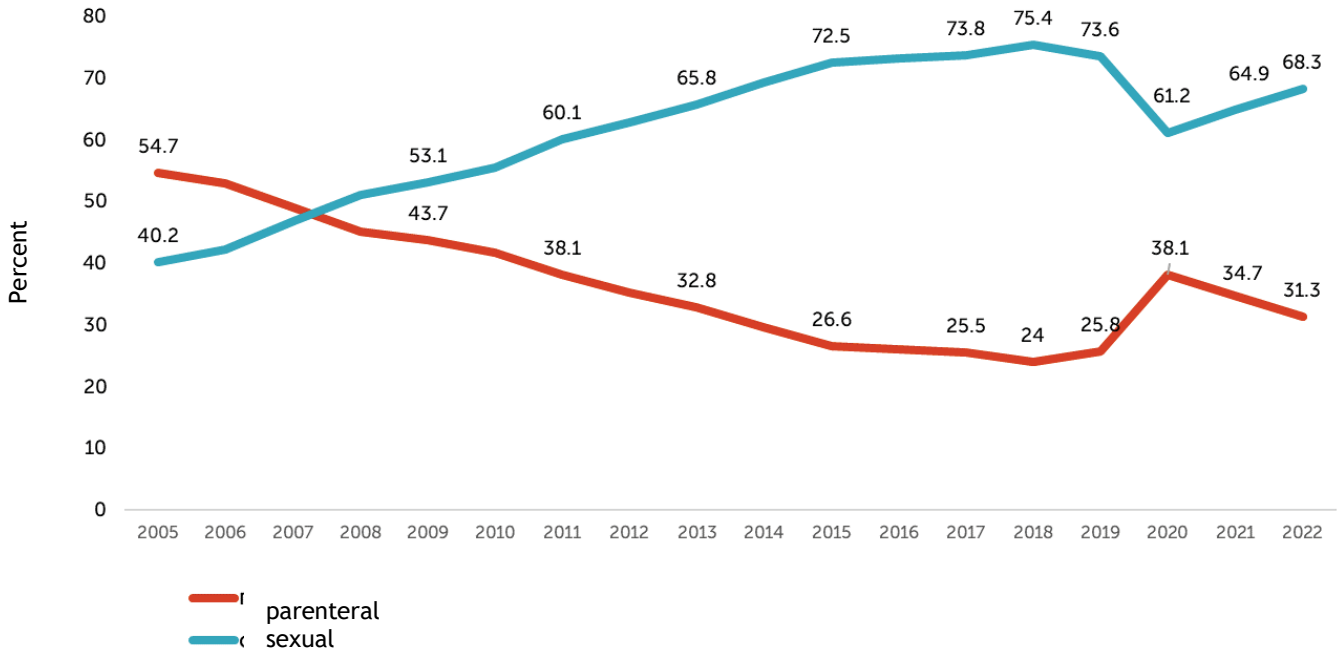
The main modes of HIV infection among officially reported cases of HIV/AIDS remain unchanged **(Table 19 in the Annex 1).** The share of sexual transmission (mainly through heterosexual contact) continues to exceed parenteral transmission while injecting drugs and amounts to 68.3% (2021: 64.9%).

The slight fluctuations in the fairly stable trends of the main routes of infection are noteworthy, when in 2020, due to a significant increase (by 41% compared to 2019) in detected and reported cases of HIV infection among PWID, the statistical "gap" between the routes narrowed, and the share of cases with parenteral transmission increased from 25.8% to 38.1%. **(Fig. 18).**

An additional study of all the important factors influencing the indicators revealed the main reason for the phenomenon - the implementation of projects by NGOs in some regions to strengthen the prevention component of programs, including increasing HIV testing and providing social support for HIV-positive clients to prescribe antiretroviral therapy (ART). In fact, the national figures were influenced by a significant increase in the number of PWID diagnosed with HIV in 2020 in Odesa and Dnipropetrovsk oblasts - 84% of the total increase in cases in the country.

This phenomenon relates exclusively to monitoring the results of prevention activities aimed at increasing the number of people being aware of their HIV status. A more objective assessment of trends in changes in the modes of infection can be tracked by the results of integrated biobehavioral surveys among key populations and modeling (Spectrum).

Figure 18. Dynamics of the main routes of HIV infection among people newly diagnosed with HIV in Ukraine, 2005-2022



In 2022, 73% of reported HIV cases with parental route of transmission were referred to health care facilities by NGO social workers.

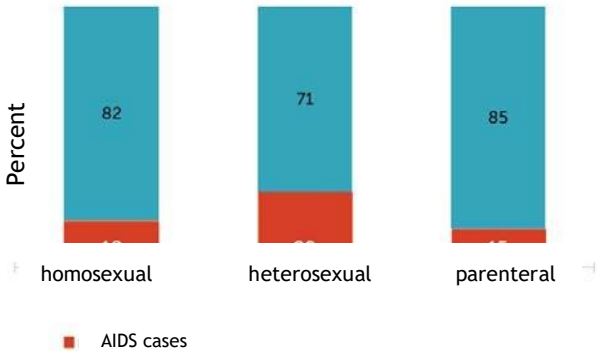
Since infection due to risky injection practices is still relevant and significant for HIV surveillance, annual monitoring of surveillance indicators allows, in combination with other data sources, to assess the formation of certain trends and compare changes in the regions and individual populations.

Despite the difficulty of collecting data in 2022, this report presents the results (excluding the Autonomous Republic of Crimea and Luhansk oblast), which show that significant geographic differences remain (Fig. 19). For example, no cases of parenteral infection were reported in Zakarpattia oblast, 7 cases out of 11 cases (first quarter) in Luhansk oblast; in Kharkiv oblast, although the number of cases is small, their share compared to sexual transmission is the highest and amounts to 53.6% (Table 20 in the Annex 1).

Thus, given the available data and information on prevention activities aimed at increasing the coverage of key populations by HTS, it is advisable to approach the analysis of results from different angles, as it is important to take into account the regional context, availability and quality of HTS, the capacity of NGOs and coherence of intersectoral coordination.

Available data show differences in the incidence of AIDS among people newly diagnosed with HIV depending on the route of infection. The lowest number of such cases in 2022 was among those with parenteral transmission (15%), the highest number (29%) - with heterosexual transmission (Fig. 20).

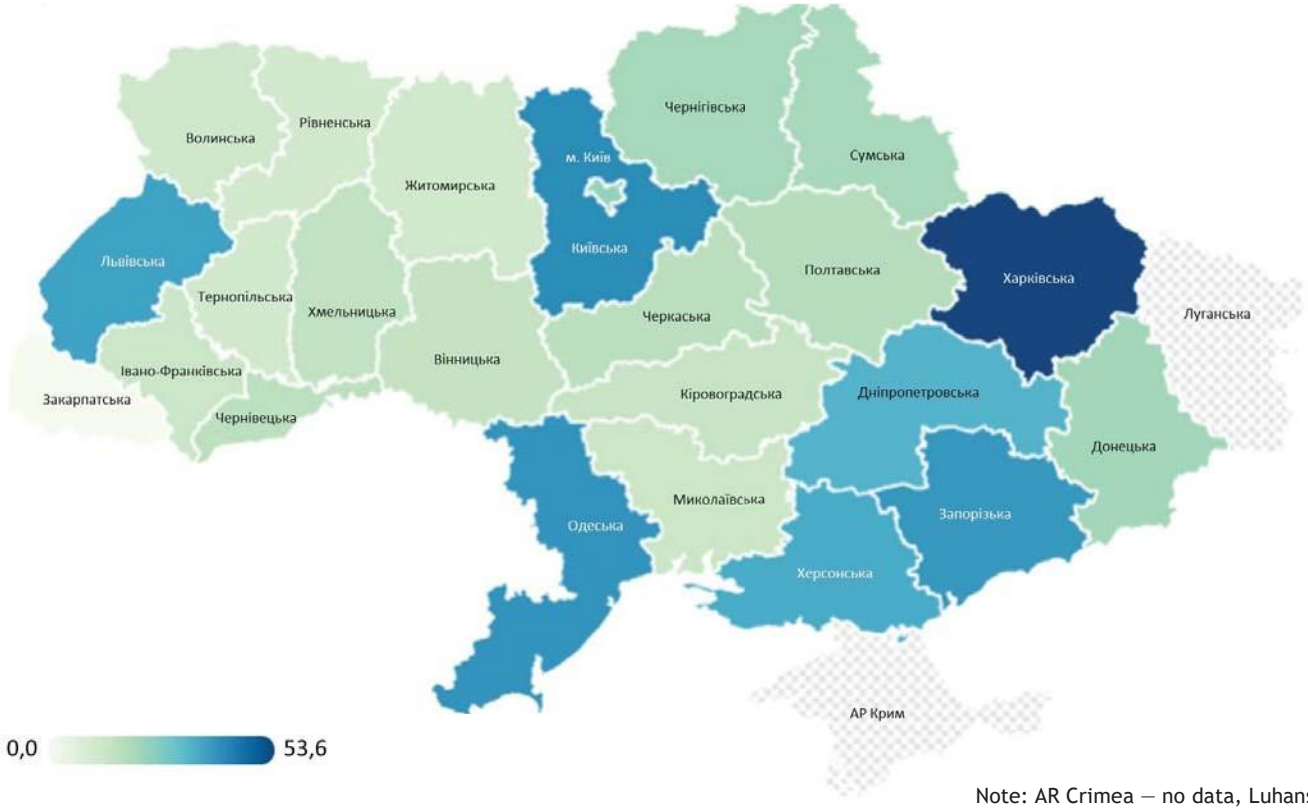
Figure 20. Share of AIDS cases among people newly diagnosed with HIV depending on the route of infection (%), 2022.



As mentioned above, the heterosexual mode is dominant according to 2022 data, but it should be noted that due to fear of judgment or possible discrimination, a certain number of HIV-positive people deliberately conceal the facts of risky behavior (such as unprotected homosexual sex or injection drug use, etc.), due to which they are likely to have become infected.

The number and share of people infected through homosexual contact decreased and accounted for only 2.4% (289) of the reported cases with a definite route of infection. The same as before, there is a pronounced geographical disparity in case reporting. Almost half of the persons with homosexual transmission route (47%) were registered in Kyiv city (102), Kyiv (48) and Lviv (30) oblasts. For example, in Kyiv oblast, in 100% of cases, all MSM diagnosed with HIV were referred to health care facilities by NGO workers, in Lviv oblast - 83%, and in Kyiv city - 1 out of 102 men.

Figure 19. Percentage of people with established parenteral route of infection among reported HIV cases in Ukraine in 2022



Note: AR Crimea — no data, Luhansk oblast — incomplete data

2.3. Linkage to HIV care and provision of health care to people living with HIV

As of the end of 2022, 161,847 people are under follow-up, of whom 157,746 are HIV-infected and 4,101 are HIV-exposed children under monitoring until the final determination of their HIV status. The number of PLHIV under follow-up increased by 7.5 thousand compared to 2021.

Due to the war and temporary occupation, information on the number of PLHIV linked to care is not available from all territories of the country (no data from the Autonomous Republic of Crimea, parts of Donetsk, Luhansk, Zaporizhzhia, Kherson oblasts, etc.) Therefore, if we take into account the information about 157,510 PLHIV aware of their status and being the citizens of Ukraine, it is impossible to determine how complete this data is and what percentage does it make of the estimated number of PLHIV.

HIV prevalence in terms of epidemiology reflects the total number of all active (new and existing) cases of the disease in a given population at a given time. Every year, the PHC reports the value of this indicator relative to the average annual number of the permanent population, which is based on information about detected and officially registered cases of the disease. However, given the peculiarities of HIV infection, a certain number of people either do not aware of their HIV status or, having a positive test result, do not seek medical care. Therefore, for the purposes of strategic planning, the prevalence rate is used, which is based on the estimated number of people living with HIV, which, in turn, is the result of studies or modeling using the UNAIDS-supported Spectrum software. Due to the large number of assumptions, modeling results for 2022 are not published.

According to official registration data, as of the end of 2022, 157,746 people living with HIV were under follow-up (157,510 citizens of Ukraine and 236 foreigners), as well as 4,101 HIV-exposed children.

Based on the available data on PLHIV linked to care, as of the end of 2022, the HIV prevalence rate was 384.2 per 100,000 population. Geographical patterns remained unchanged: the highest rates were recorded in Odesa (1164.3), Dnipropetrovsk (947.0) and Mykolaiv (742.3) oblasts; the lowest rates were traditionally recorded in Ternopil (84.2) and Zakarpattia (88.0) oblasts **(Fig. 21).** The largest number of PLHIV under the follow-up is registered in health care facilities of Dnipropetrovsk oblast (29,293), which is almost 20% of the total number of PLHIV **(Table 21 in the Annex 1).**

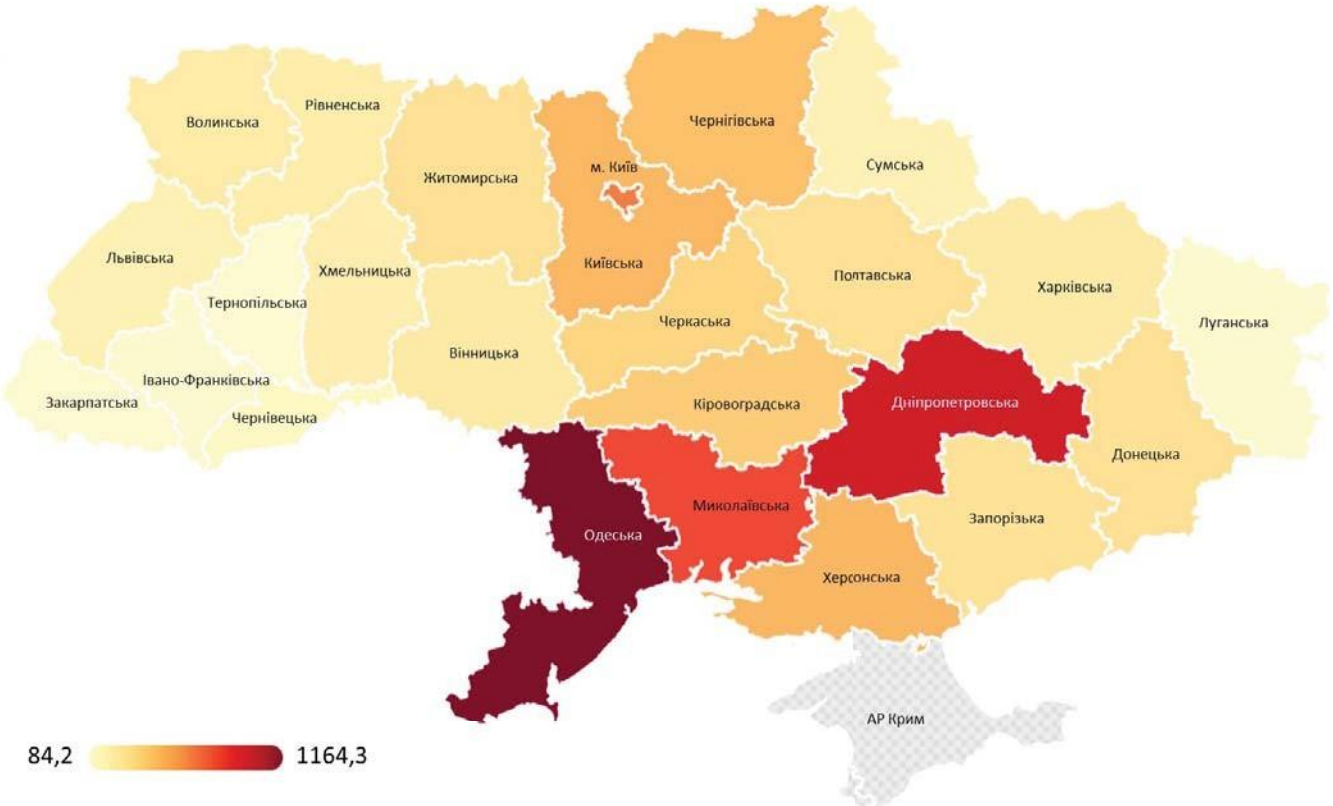
In all oblasts, the majority of PLHIV under the follow-up are urban residents (78.9%). The gender and age structure of PLHIV aged 15+ being under the follow-up in HCFs has remained almost unchanged compared to 2021 and is characterized as follows:

- the majority are male (55.2%)
- the largest age group - 25-49 years (79%)

PLHIV under the follow-up (excluding HIV-exposed children under monitoring) are distributed by the routes of infection as follows:

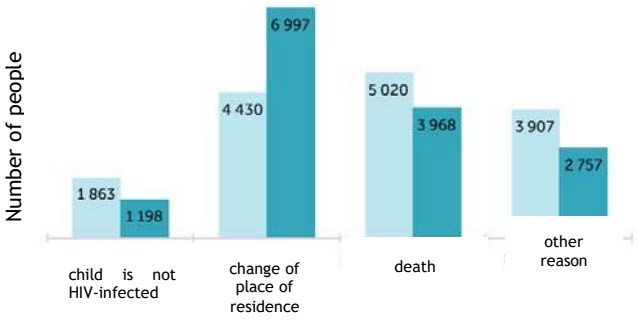
- homosexual — 2.7%
- heterosexual — 63.8%
- parenteral — 31.0%
- vertical — 2.1%
- undetermined — 0.3%

Figure 21. Number of HIV cases per 100,000 population according to the data on PLHIV under the follow-up as of January 01, 2022



In 2022, complex migration processes complicated the annual movement of PLHIV due to change of residence. Although the total number of the deregistered PLHIV remained almost unchanged, but the reasons differed.

Figure 22. Structure of the main reasons for deregistration of PLHIV, 2021-2022



The increase in cases of deregistration of PLHIV due to forced displacement from 4.4 thousand to 7 thousand seems quite natural and is explained by the need to redirect medical care (in particular, to prevent interruption of ART). This fact is confirmed by a significant increase of almost 5 thousand compared to 2021 in the number of PLHIV who were re-linked to care (from 3,806 to 8,671). In most cases, these are IDPs transferred to another health care facility or PLHIV who were re-linked to care.

The prevalence of AIDS in 2022, according to official registration data, is 119.7 per 100,000 population and ranges from 11.8 in Ternopil oblast to 389.2 in Odesa oblast (Table 21 in the Annex 1). As of January 01, 2023, 49,074 people diagnosed with AIDS (31% of all PLHIV registered) were under follow-up at health care facilities. In 2022, the incidence of AIDS had a low increase rate (increase rate - 33.0%) and amounted to 7.3 per 100,000 population.

The significant decrease in the number of AIDS cases was due to many factors, including limited or no medical services in the area of active hostilities. A total of 3,010 people were diagnosed with HIV/AIDS, of which 41% were in Odesa and Dnipropetrovsk oblasts (Table 22 in the Annex 1).

In 2022, the AIDS mortality rate in Ukraine decreased to 3.1 per 100,000 population. Among those who died, 83% were on ART. (Table 23 in the Annex 1). A total of 3,968 deaths were reported, the majority (53%) of which were not related to HIV infection. Among patients whose deaths were directly related to HIV infection, 86% were in clinical stage IV of HIV infection. Due to the lack of complete data on deaths among PLHIV, it is difficult to conduct a comparative analysis for the south-eastern regions of Ukraine, but the highest rate, as in the previous year, was recorded in Odesa oblast (10.6 per 100,000 population) (Table 24 in the Annex 1).

2.4. Assessment of the epidemic stage in Ukraine

Since 1996, Ukraine has had a concentrated stage of the HIV epidemic according to WHO/UNAIDS criteria[1]. Given the data on the epidemic process from various sources, the thresholds for HIV prevalence according to the RES among pregnant women (≥ 1%) and the results of IBBS among KPs (≥ 5%), and the migration processes among PLHIV as a result of the war, it can be assumed that a concentrated stage of the epidemic persists in most regions of Ukraine (Fig. 23). There are signs of a mixed epidemic in 6 regions: Dnipropetrovsk, Donetsk, Zaporizhzhia, Kirovohrad, Mykolaiv, Odesa and Kherson oblasts. In Zakarpattia region there are signs low-level epidemic. Until 2021, there was a mixed stage of the epidemic in Luhansk oblast, but data limitations for 2022 do not allow us to clarify the current state of the epidemic in the region (Table 7).

Figure 23. Stages of HIV epidemic in Ukraine, according to WHO/UNAIDS criteria, 2022

Table **7.** Stages of HIV epidemic by regions of Ukraine, 2022

Oblast	RES (2022)			IBBS - PWID (2020), SWs, MSM (2021)				HIV epidemic stage (UNAIDS)
	Pregnant	PWID	PLHIV partners	Survey cites	PWID	SWs	MSM	
Ukraine	0.6	6.0	9.6		20.3	3.1	3.9	concentrated
Vinnytsia	0.4	4.4	9.2	Vinnytsia	5.6*	6.0*	6.0	concentrated
Volyn	0.4	7.3	7.1	Lutsk	20.2*	3.5*	3.3*	concentrated
Dnipropetrovska	1.2	4.2	12.2	Dnipro	23.0	2.4	6.0	mixed
				Kryvyi Rih	23.7	-	-	
Donetsk	1.5	11.5	9.9	Mariupol	29.4	13.0	-	mixed
Zhytomyr	0.7	2.0	14.7	Zhytomyr	18.1*	-	5.0	concentrated
Zakarpattia	0.1	1.3	8.6	Uzhgorod	0.8*	0.5*	0.9*	low-level
Zaporizhzhia	1.4	10.3	6.6	Zaporizhzhia	6.0*	1.5*	5.0	concentrated
Ivano-Frankivsk	0.3	1.0	4.7	Ivano-Frankivsk	1.8	4.0*	4.0	concentrated
Kyiv	0.7	21.7	14.2	Bila Tserkva	15.9	12.8*	1.2*	concentrated
Kirovohrad	1.1	3.6	11.3	Kropyvnytskyi	11.9	4.6	2.0	mixed
Luhansk	1.3	4.3	-	Severodonetsk	25.0*	-	-	-
Lviv	0.2	2.1	3.7	Lviv	22.5*	0.3	2.0	concentrated
Mykolaiv	1.6	6.2	11.2	Mykolaiv	27.3	3.0*	5.0	mixed
Odesa	1.3	17.9	24.6	Odesa	20.4	3.2	5.0	mixed
Poltava	0.5	4.1	4.7	Poltava	24.8*	9.5*	0.0	concentrated
Rivne	0.2	11.5	41.4	Rivne	19.5*	3.1*	2.8*	concentrated
Sumy	0.5	3.2	9.9	Sumy	6.2*	1.0*	0.3*	concentrated
Ternopil	0.2	1.3	10.9	Ternopil	6.3*	2.0*	1.1*	concentrated
Kharkiv	0.3	1.0	3.5	Kharkiv	7.1	1.0	6.0	concentrated
Kherson	2.0	13.9	5.6	Kherson	24.7*	11.5*	4.0	mixed
Khmelnytskyi	0.3	1.0	13.9	Khmelnytskyi	27.3	4.5*	0.5	concentrated
Cherkasy	0.9	3.1	9.8	Cherkasy	34.6	5.0	10.0	concentrated
Chernivtsi	0.2	5.9	21.4	Chernivtsi	13.2*	0.5*	2.4*	concentrated
Chernihiv	0.8	6.2	3.4	Chernihiv	43.7*	7.0*	4.0	concentrated
Kyiv city	0.4	1.8	4.7	Kyiv city	16.6	1.3	2.0	concentrated

* results of the previous IBBS round, 2017

[1] WHO/UNAIDS criteria to determine HIV epidemic stage

Concentrated epidemic: HIV infection has spread rapidly in one or more specific populations but is not yet widespread in the general population. Quantitative equivalent: HIV prevalence rates are consistently above 5% in at least one population, but below 1% among pregnant women living in urban areas.

Generalized epidemic: HIV infection has become widespread among the general population. Quantitative equivalent: HIV prevalence rates among pregnant women consistently exceed 1%. As a rule, generalized HIV epidemics are of a mixed nature, as they affect more certain (key) populations.

Mixed epidemic: there are HIV-infected people in one or more populations as well as among the general population. Mixed epidemics are one or more concentrated epidemics within a generalized epidemic.

Low-level epidemic: epidemic in which HIV prevalence rates are steadily maintained at a level that does not exceed 1% in the general population or 5% in any population.

Section III. KEY POPULATIONS IN THE CONTEXT OF HIV EPIDEMIC

Total number of KPs in Ukraine is — 630,000

According to the latest available data, the prevalence of HIV infection in KPs is gradually decreasing, but still exceeds the average values among the general population:

- PWID — **20.9% (IBBS, 2020)**
- MSM — **3.9% (IBBS, 2021)**
- SWs — **3.1% (IBBS, 2021)**
- TP — **1.7% (IBBS, 2020)**
- prisoners — **8.2% (SCESU, 2022)**

Prevention of HIV infection among key populations is an important component of the HIV/AIDS response strategy in Ukraine. This area includes a wide range of services, from large-scale harm reduction programs and HIV testing to prevention and diagnosis of viral hepatitis, STIs, TB, etc. As of today, prevention programs are being implemented by NGOs on the Ukrainian government-controlled territories, both with the state budget funds and with the financial support from the Global Fund, CDC, and the U.S. Department of Health and Human Services.

In 2017-2019, Ukraine was one of the first countries in the EECA region to successfully transited to the state-funded HIV-related services, and since 2019, state budget funds have been used to cover the cost of providing prevention "basic package of services" for three key populations and care and support services for PLHIV, including needle and syringe distribution/exchange programs, counseling/provision of information products, HTS, TB screening, condoms and lubricants distribution; care and support services aimed at facilitating linkage to care, motivating early initiation of HIV treatment, promoting adherence to ART and receiving medical services, preventing HIV transmission.

The full-scale russian military invasion of Ukraine, which is a devastating phenomenon, also significantly affected the human rights to HIV care, especially for key and most vulnerable populations. However, the consolidation of efforts of the state and civil society organizations with international support and donor funding became the main lever to mitigate the consequences of the invasion in 2022. First of all, we managed to prevent mass interruption of treatment. The incredible efforts of civil society, donor organizations and volunteers ensured that KPs from among the IDPs and in the most affected areas were provided with assistance. Thanks to the prompt redistribution of medicines and logistical solutions of the PHC, it was possible to prevent mass interruption of ART, harm reduction programs, PrEP, treatment of hepatitis C and tuberculosis.

As noted above, the HIV epidemic in Ukraine is concentrated in key populations with the highest prevalence rate of 20.9% among PWID. According to the results of the IBBS, the country's long-term efforts have had a positive effect of prevention programs, as evidenced by the reduction in HIV prevalence among almost all KPs (except for prisoners).

The overall success of 2022 includes high rates of coverage of key populations with prevention services and HIV testing by NGOs. In general, even in the context of war, 43% of people belonging to KPs received the minimum package of preventive services, about 51% were tested for HIV, and more than 7 thousand HIV-positive people were linked to care to get HIV treatment.

These results are due to the implementation of potent projects aimed at key populations by NGOs. In particular, the Alliance, within the framework of the project "Accelerating Progress in Reducing the Burden of Tuberculosis and HIV in Ukraine" with the financial support of the GF, successfully implemented activities in 2022 under the following components: 1) optimized detection of new HIV cases among PWID, SWs, MSM and their partners, based on the strategy of testing social networks and involving HIV-positive people in testing their social environment; 2) medical and social support for the purposes of linkage to care and initiation of ART, promotion of adherence to HIV treatment; 3) referral of project clients to harm reduction programs with provision of a minimum package of services. The Alliance engaged 17 community-based partner NGOs in 14 regions of Ukraine to implement these tasks, allowing representatives of vulnerable groups to receive services conveniently, free of charge and anonymously. In 2022, 20,222 people received HTS with the use of RTs, of whom 958 (4.7%) HIV-positive persons were from the social network. Of these, 459 people who tested positive for HIV by RTs and self-declared that they were not receiving ART sought treatment at health care facilities; 416 (91%) of them started receiving treatment and adherence promotion services. It should be noted that 373 people were newly diagnosed with HIV.

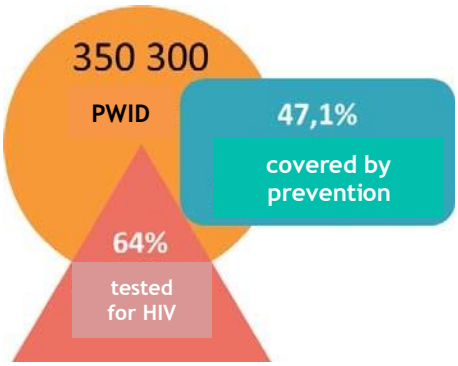
Thus, the consolidation of the efforts of the state and non-governmental organizations allowed for the successful implementation of measures under the HIV response strategy in 2022 and the implementation and achievement of certain successes.

3.1. People who inject drugs

A wide network of NGOs is involved in implementing prevention programs among KPs in Ukraine. The minimum package of prevention services for PWID includes a syringe and/or needle, condom, and a specialist's consultation.

One of the most important components of HIV prevention among PWID and their sexual partners is the implementation of harm reduction strategies, aimed at reducing the negative health, social and economic harms associated with drug use, without requiring people to stop using drugs.

Figure 24. Key indicators of prevention services for PWID (NGOs), 2022.



The estimated number of PWID in Ukraine is 350,300 people. According to the IS Syrex data, in 2022, 266,244 unique clients from among PWID were registered in the prevention programs of 22 NGOs (Fig. 24). Of these, 164,835 PWID received the minimum package of preventive services, which is 14% less than in 2021. The service coverage rate is 47.1% of the estimated number, or 62% of registered clients.

HIV testing is one of the key services in prevention programs for PWID. According to program monitoring data, in 2022, HTS were provided to 223,561 PWID, which is 64% of the estimated number, or 84% of registered NGO clients.

However, it is important to monitor not only the quantitative indicators of HTS, but also the overall results of the implementation of measures aimed at increasing the number of PWID living with HIV and being aware of their status. To objectify the assessment of results, it is necessary to compare data from different sources. In this issue, we present a comparison of data obtained through program monitoring (2022), integrated biobehavioral surveys (2020) and service quality assessment studies (2022).

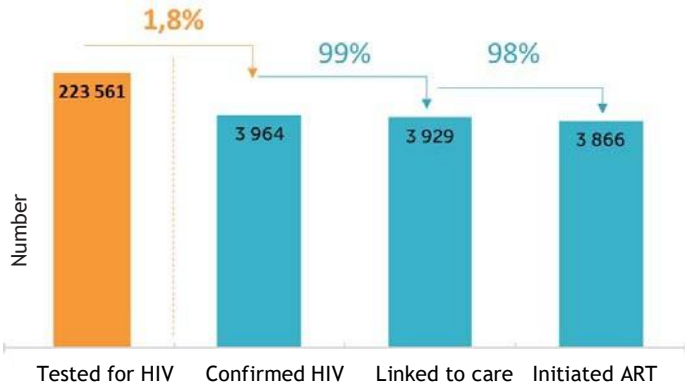
According to the latest round of the IBBS (2020), the share of PWID who received at least one of the prevention services through NGO decreased from 48% to 37.1% compared to the previous IBBS (2017). This decline is likely due to the restrictions imposed by the COVID-19 pandemic on the work of organizations and the mobility of the population. 82.9% of respondents from among PWID reported having been tested and knowing their HIV status, while 64.4% of HIV-positive respondents reported knowing their HIV status. In terms of the cities where the survey was conducted, this figure ranges from the lowest in Kryvyi Rih (25.4%) to the highest in Mykolaiv (83.4%). More details: Results of IBBS_PWID 2020_ukr_online.pdf (phc.org.ua)

According to the study "Assessment of the Quality and Accessibility of Prevention Services for People Most at Risk of HIV Infection and Care and Support Services for PLHIV in the Context of the Transition from Donor to State Funding" (2022), 65% of respondents from among PWID reported receiving HIV testing counseling services (2021 - 78%).

More details: https://www.phc.org.ua/sites/default/files/users/user90/2021_2022_Ocinka_poslugh_VIL_report.pdf

Among the 223.5 thousand PWID who received HTS, 3,964 HIV-positive individuals (1.8%) were determined, of whom 3,929 (99%) were linked to care, which is a great success for the country, given the extremely difficult conditions for implementing prevention programs in 2022.

Figure 25. Cascade of medical services for PWID within the implementation of prevention programs by NGOs, 2022.



The HIV treatment cascade looks quite effective (Fig. 24). In fact, among the HIV-positive PWID identified by the RTs, 97.5% started ART in 2022. The results achieved are due to a combination of several effective projects implemented by NGOs.

Alliance for Public Health ICF within the project "Improving the HIV Treatment Cascade for Key Populations through Differentiated Detection of New Cases and Linkage to Care, Capacity Building of the Public Health Center of the Ministry of Health of Ukraine and Strategic Information in Ukraine" with the financial support of the U.S. Centers for Disease Control and Prevention (CDC), in accordance with the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), implements the following components: 1) optimized detection of new HIV cases among PWID and their partners, based on the strategy of social network testing and involving HIV-positive people in testing their social environment; 2) medical and social support to HIV-positive PWID for the purpose of linkage to care and initiation of ART, promotion of adherence to HIV treatment; 3) support and referral of project clients to substitution maintenance therapy and pre-exposure prophylaxis (PrEP) services.

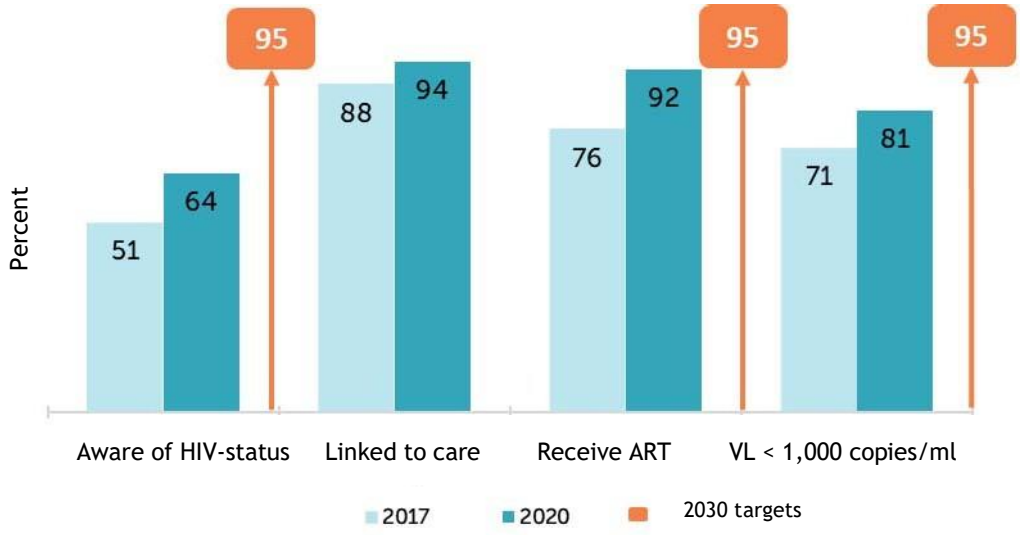
To implement these tasks, the Alliance engaged 15 partner community-based NGOs, allowing representatives of vulnerable groups to receive services conveniently, free of charge and anonymously, and 15 mobile rapid response teams, which made these services available to previously unreached groups. In 2022, 75,753 PWID were tested with RTs, 4,393 people (6%) were newly diagnosed with HIV, and 4,359 of them (99%) started receiving treatment and adherence promotion services within the project. Another 589 PLHIV, who had previously been lost to follow-up, were returned into treatment.

According to the updated UNAIDS global 95-95-95 targets, the following results should be achieved to end the HIV epidemic by 2030: 95% of HIV-positive key populations should be aware of their HIV status, 95% of them should be on ART, and 95% of them should have undetectable viral loads. Progress towards these goals is assessed in the treatment cascade. Since it is impossible to obtain complete information for PWID from medical information systems, an informative source of data is the IBBS.

The results of the latest 2020 IBBS show some progress compared to the 2017 survey, but outline existing gaps that should be addressed by targeted measures at the country level.

The same as before, the "bottleneck" in the HIV treatment cascade remains the level of awareness of PWID about their HIV status, and the most successful is the implementation of tasks to increase the number of PLHIV among PWID receiving ART (Fig. 26).

Figure 26. Progress in HIV treatment cascade among PWID according to the IBBS data, % (2017, 2020)



Interpretation of the results shows that with an estimated HIV prevalence of 20.3% as of the end of 2020, about 71 thousand PWID living with HIV lived in Ukraine, and only 45% of them were on ART and had undetectable levels of viral load.

Targeted prevention programs of a comprehensive nature which are aimed at addressing all existing gaps to maximize the detection and engagement of HIV-positive PWID in treatment are designated to address this problem.

One of the proofs of a comprehensive approach to improving the HIV treatment cascade for PWID is the increase in 2022 in the number of PWID with known HIV-positive status who did not seek medical care to confirm their diagnosis (221 people), as well as those who did not receive ART (910 people).

As a result, last year, thanks to the efforts of NGOs, a total of 4,776 HIV-positive PWID started ART, which significantly reduced the gap in treatment coverage for the target group.

Harm reduction programs are an integral part of prevention programs among PWID. The Global Harm Reduction Report 2022 tracks the extraordinary efforts of communities and civil society organizations since russia's invasion of Ukraine in February 2022. More details: https://hri.global/wp-content/uploads/2022/11/HRI_GSHR-2022_Full-Report_Final-1.pdf

Main components of harm reduction program:

- syringes and needles programs
- substitution maintenance therapy
- overdose prevention

Needles and syringes programs in Ukraine, as in most countries in the EECA region, are run by civil society organizations that integrate HIV and hepatitis C testing services, mental health counseling, legal aid, support from social workers, and referrals to other health and social services. As part of this program, 14.4 million sterile needles and syringes were distributed to PWID in 2022 to reduce the risk of HIV and viral hepatitis infection - 41 per person among PWID, which is the lowest rate in the past 8 years.

Substitution maintenance therapy (SMT) programs have been shown to be effective in reducing injection drug use by restricting the risk of HIV transmission, improving access to and adherence to ART for HIV-positive PWID, reducing overdose and related deaths, decreasing criminal activity, and improving physical and mental health overall.

Since April 1, 2020, the SMT program has been included in the program of state guarantees of medical care for the population as a service "Treatment of persons with mental and behavioral disorders due to opioid use with substitution maintenance therapy". Despite the difficult period of 2022, the SMT program continued to develop at the regional level in accordance with the approved national targets - 25,886 patients.

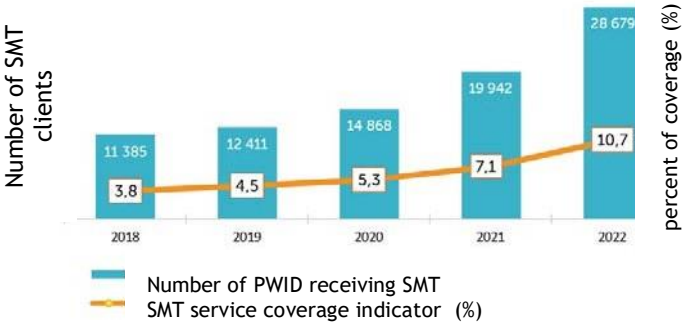
According to program monitoring data, the coverage rate for PWID was 10.7% as of the end of 2022. For comparison: according to the IBBS (2020), among those who stated that they had injected only opioids in the past 30 days, 22.1% were participants in the SMT program, and among those who practiced mixed use - 14.3% (Fig. 27).

As of January 01, 2023, a total of 28,679 people with mental and behavioral disorders due to opioid use were receiving SMT services in Ukraine, including:

- in state HCFs — 19,919
- in private HCFs — 8,604
- in SCESU facilities — 156

The increase in patients in 2022 was uneven. The highest rates among municipal health care facilities were observed in Kharkiv, Chernihiv, Odesa oblasts and the city of Kyiv. The number of patients undergoing treatment decreased in Luhansk, Kherson, Donetsk, and Zakarpattia oblasts. At the end of the reporting period, we can note the renewal of SMT provision in Kherson, where 119 patients were receiving treatment as of the end of December 2022.

Figure 27. Expansion of SMT program in Ukraine, 2018-2022



The increase in patients in certain regions of the country may be caused primarily by internal migration of patients from regions affected by the hostilities, as well as changes in the pharmaceutical market (reduced supply, closure of pharmacies, reduced production, reduced stocks of drugs in warehouses, distribution problems, etc.), which forced patients who received drugs in private medical facilities to turn to municipal facilities.

Due to the full-scale invasion of the russian federation and the temporary occupation of some regions of Ukraine, there has been a suspension of SMT program in a number of regions and certain territories where active hostilities are taking place. In particular, this happened in Luhansk oblast, where the SMT program was completely stopped, some towns of Kharkiv region (Chuhuiv, Kupiansk, Balakliia), some towns of Donetsk oblast (Mariupol, Bakhmut), some towns of Zaporizhzhia oblast (Melitopol and Berdiansk), and Kherson oblast (Henichesk, Hola Prystan, Kakhovka, Nova Kakhovka, Oleshky, Skadovsk). Eight facilities have ceased to operate, with a total of 432 patients receiving SMT by February 2022. According to available information, some patients were provided with treatment by transferring to other sites in the region. The situation with patients in the temporarily occupied territories of Zaporizhzhia, Luhansk, Donetsk and Kherson oblasts remains difficult.

Of all people in SMT program as of the end of 2022, 30.9% were HIV-positive, 96% of whom were on ART.

The dispense of SMT medications to patients for self-administration outside the HCF, which was significantly increased in previous periods amid the COVID-19 pandemic, also expanded significantly in the year of russia's full-scale aggression.

As of January 01, 2023, the total number of people who received SMT medications for self-administration in municipal health care facilities off-site was 17,910 (90%). The number of patients who received self-administered medications through pharmacies decreased to 140 people.

In 2022, the total number of private health care facilities reporting to the PHC increased to 26 in 10 regions of Ukraine, and the number of patients reached 8,604, which is an absolute success.

Since December 2019, SMT services have become available to prisoners. Due to amendments to the regulations in 2021, SMT services are already available in 7 colonies of the SCES of Ukraine. A total of 331 people received SMT services during the year.

Despite the widespread invasion, military operations that affect every region of the country, and power outages, the PHC specialists continue to be actively involved in many processes and respond promptly to issues related to the implementation of SMT, in particular to maintain the stability of services based on the actual situation:

Logistics for providing health care facilities with medications. In accordance with the updated procedure for the supply of medications to HCFs, verification and coordination of applications submitted by regions for the supply of SMT medications was ensured.

Ensuring continuity of treatment. Immediately after the de-occupation of the city of Kherson, communication was established with the management of the DoH of Kherson Regional State (military) Administration and the Municipal non-Commercial Enterprise "Kherson regional institution for the provision of psychiatric care" of Kherson Regional Council. The management of the institution arranged a need for SMT medications, which were quickly delivered to the institution, where 119 patients received SMT by the end of the year. In order to prevent the interruption of treatment in the medical units of the "Health Care Center of the State Criminal and Executive Service", methadone (syrup) from Dnipropetrovsk oblast was redistributed.

Migration of patients. In the second half of 2022, the patients' migration due to the war decreased somewhat. Some of the patients returned to settlements where they lived until February 24 when they were de-occupied or in which the intensity of hostilities decreased. There is also more coordinated communication between the HCFs of the country, in particular in matters of patients' referral.

Medical workers and persons who, as a result of the war, have migrated outside the country or are planning to move, are regularly provided with advisory support by specialists of the PHC on the provision of SMT continuity. If necessary, communication with representatives of health care facilities in European countries is ensured. Doctors also report on patients who returned to the country.

Operative monitoring and communication regarding the implementation of the SMT program is carried out by specialists of the PHC with the participation of partner organizations. The created chat-bot for searching the nearest SMT site received 397 requests from 107 users during the year. Most often, requests were received regarding treatment in the city of Kyiv, Lviv and Odesa oblasts.

At the beginning of March 2022, a week after the start of a new phase of the war of the russian aggressor against Ukraine, the Alliance developed and launched a unique service to support PLHIV and KPs who face difficulties in accessing treatment and other necessary services.

#HelpNow Service made it possible to facilitate communication with people who need help in various areas and direct them to the necessary service at a new (temporary) place of residence.

Ensuring access to new forms of SMT drugs. In 2022, the PHC agreed with the HCFs on the final distribution of courses of the injectable form of the drug containing the active substance buprenorphine of prolonged action Buvidal®. According to the approved distribution, the drugs should be handed over to HCFs already in January 2023. In partnership with the international organization PATH (Program for Appropriate Technology in Health) and with the participation of representatives of the manufacturer Camurus AB, training was held for the representatives of HCFs who will be involved in the implementation of treatment with the drug Buvidal®.

The normative and legal regulation of the SMT program in 2022 included the initiative of the PHC on the possibility of increasing the volume of drugs that are allowed to be stored in HCFs during the period of martial law in an amount not exceeding the three-month need.

At the present time, the specialists of the PHC, together with the stakeholders, are working out the procedure for the interaction of the HCFs, territorial units and temporary detention centers of the National Police of Ukraine, the National Guard of Ukraine, penal facilities and investigative centers of the State Criminal and Executive Service of Ukraine, on the issues of ensuring the implementation of SMT for persons with mental and behavioral disorders due to the use of opioids.

There have been changes in the definition of the diagnosis. According to the Oder of the Ministry of Health of Ukraine of December 27, 2022 No. 2348 "On Amendments to the Procedure for Substitution Maintenance Therapy for Persons with Mental and Behavioral Disorders Due to the Use of Opioids". Now the diagnosis of opioid addiction according to ICD-10 is indicated as F11.2 Dependence syndrome, not F11 Psychological and behavioral disorders due to opioid use, which was used previously.

Active work has begun on the development of an algorithm for the functioning of an electronic prescription for the dispensing of narcotic drugs, psychotropic substances and precursors, in particular drugs used for SMT.

Despite all Ukraine's efforts to implement the harm reduction strategy, there are risks due to the war for the provision for further expansion of the SMT program.

3.2. Men who have sex with men

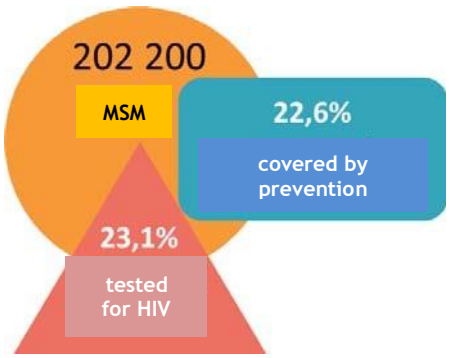
It is known that men who have sex with men are disproportionately vulnerable to HIV and have a 26 times higher risk of infection than the rest of the adult male population.

A wide network of NGOs is involved in implementing prevention programs among MSM in Ukraine. Minimal package of prevention services for this target group includes a condom and a specialist's consultation.

The estimated number of MSM in Ukraine has been updated to 202,200 people. According to the IS Syrex, in 2022, 68,292 unique MSM clients were registered in the prevention programs of 17 NGOs (Fig. 28). Of these, 45,780 MSM (22.6% of the estimated number, or 67% of registered clients) received the minimal package of services. In 2021, this figure was 26.3%.

The high risk of infection among MSM requires HIV testing as part of the package of prevention services. According to program monitoring data, in 2022, 46,661 MSM received HTS, which is 23.1% of the estimated number, or 68% of NGOs clients.

Figure 28. Key indicators of prevention services for MSM (NGOs), 2022



Comparison of program monitoring data with data from an integrated biobehavioral survey (2021) and the study "Assessment of the quality and availability of specialized services for people at high risk of HIV infection and care and support services for PLHIV in the context of the transition from donor to state funding" (2022) allows for a more objective and comprehensive assessment of the results of prevention programs among MSM.

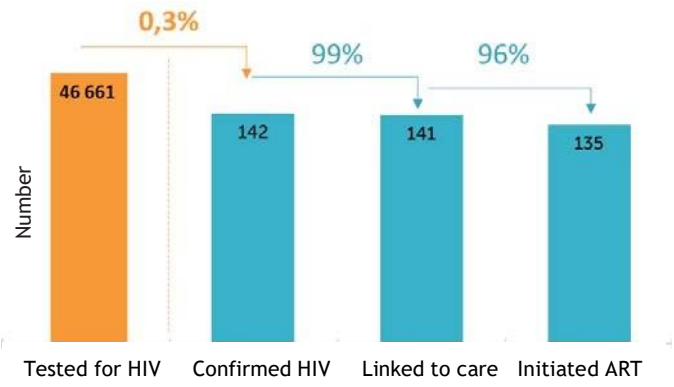
According to the latest round of the IBBS (2021), the share of MSM who received at least one of the prevention services through NGOs remained almost unchanged compared to the previous IBBS (2017) data and amounted to 28.2%. The majority of survey participants (83%) indicated that they had experience of HIV testing. At the same time, 40% had experience of testing in the last six months, and 20% - from six months to a year. Among HIV-positive respondents, 47% reported knowing their HIV status. More details: https://phc.org.ua/sites/default/files/users/user90/BBS%20MSM%202021_Report_ukr_2023-05-29_fin_clear.pdf

According to the study "Assessment of the quality and availability of specialized services for people at increased risk of HIV infection and care and support services for PLHIV in the context of the transition from donor to state funding" (2022), there was a certain decline in demand for the most consumed services among MSM, namely motivational counseling for HIV testing (80% before and 71% after February 24, 2022). However, the share of people who reported receiving condoms and lubricants remained virtually unchanged after the start of the full-scale invasion and amounted to 94.2%.

More details: https://www.phc.org.ua/sites/default/files/users/user90/2021_2022_Ocinka_poslugh_VIL_report.pdf

According to program monitoring data, among 46,661 MSM who received HTS in 2022, 142 HIV-positive individuals (0.3%) were identified, of whom almost all were linked to care (141 - 99.3%). This result is mainly due to the contribution of NGOs implementing the Alliance projects under the project "Accelerating Progress in Reducing the Burden of Tuberculosis and HIV in Ukraine". Taking into account HIV-positive MSM who were previously lost to follow up at the referral stage, a total of 150 men were linked to care and 151 started ART (including 135 newly HIV diagnosed MSM).

Figure 29. Cascade of medical services for MSM within the implementation of prevention programs by NGOs, 2022

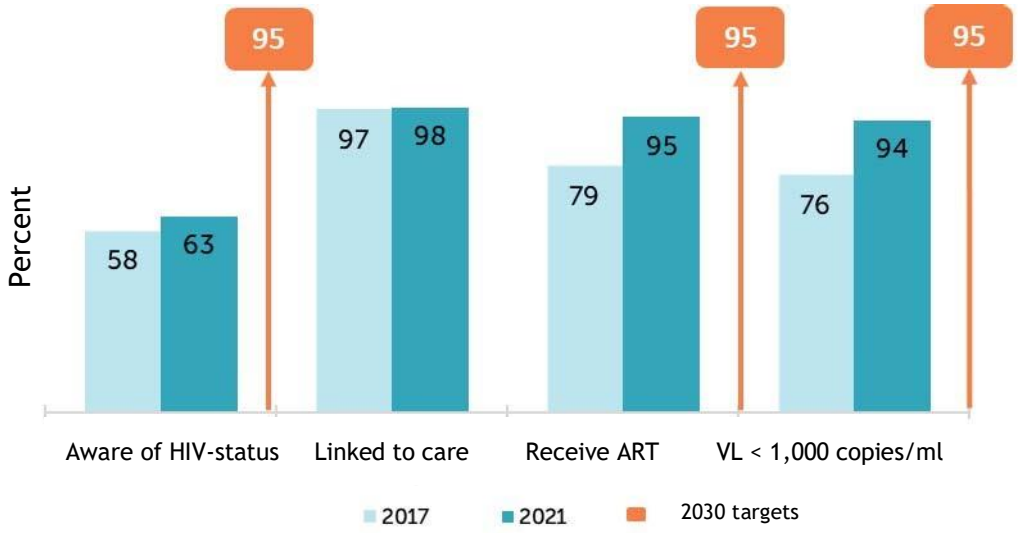


The cascade of HIV treatment demonstrates good results of applying an integrated approach in NGO prevention programs for MSM (Fig. 29). In fact, among the identified HIV-positive MSM with a diagnosis of HIV infection in 2022, 95.1% started ART.

According to the updated UNAIDS 95-95-95 global targets, to end the HIV epidemic by 2030, the following results must be achieved: 95% of HIV-positive MSM should know their HIV status, among them 95% should receive ART and 95% of them should have undetectable viral load.

Progress in achieving these targets is assessed in terms of treatment cascade. Since it is not possible to obtain complete information for MSM from medical information systems, the IBBS is an informative source of data. The results of the latest 2021 IBBS show some progress compared to the 2017 survey, but outline the existing gaps that should be addressed by targeted measures at the country level. The targets of the HIV treatment cascade for MSM who participated in the survey have been achieved or almost achieved (94-95%) under all indicators, except for awareness of their HIV status (63%), which thus remains the largest gap in the cascade and indicates which area requires the most attention when planning prevention programs (Fig. 30).

Figure 30. Progress in HIV treatment cascade among MSM according to the IBBS data, % (2017, 2020)



According to IBBS data, there is a large gap in awareness of their HIV status between clients and non-clients of specialized NGOs: while almost three quarters (73%) of the former know their HIV status, only a little more than half (54%) of the latter know it.

Interpretation of the results shows that with an estimated HIV prevalence of 3.9% as of the end of 2021, about 8,000 PLHIV among MSM lived in Ukraine, and only 35% of them were on ART and reached undetectable levels of viral load.

Pre-exposure prophylaxis (PrEP)

It is known that pre-exposure prophylaxis of HIV infection (PrEP) is one of the progressive strategies with proven effectiveness as an additional method of prevention to barrier contraception. The target groups for PrEP are KPs, including partners of PLHIV, MSM, SWs and PWID.

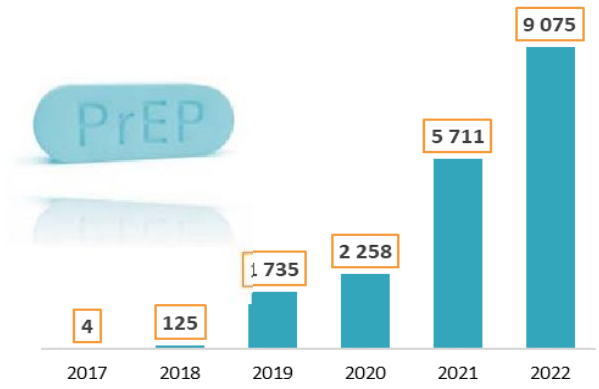
PrEP was introduced in Ukraine in 2017 as part of a pilot project for MSM and transgender people. The project is implemented by the Alliance and funded by PEPFAR.

To ensure the availability of services, decentralization continued - in 2022, 33 health care facilities in different regions of Ukraine joined the provision of PrEP services, and internally displaced persons were covered by preventive measures in those hospitals where it was convenient for them to go.

An extremely important component of prevention programs for MSM, including PrEP, is the involvement of the public sector. For example, the NGO Alliance.GLOBAL, which most actively supports national prevention activities among MSM, including PrEP programs, has created a Ukrainian web resource www.prep.com.ua that shares information with the general public about current important researches on the effectiveness of PrEP. Now one of the main tasks in this area is to prevent the disruption of all prevention programs amid the devastating war.

As a result of the war, migration processes also affected PrEP clients, most of whom moved from the south-eastern regions to the west of the country. However, IDPs were provided with PrEP services at the place of their actual residence. Despite the hostilities, the number of new PrEP clients increased in the frontline areas.

Figure 31. Expansion of PrEP program in Ukraine, 2017-2022



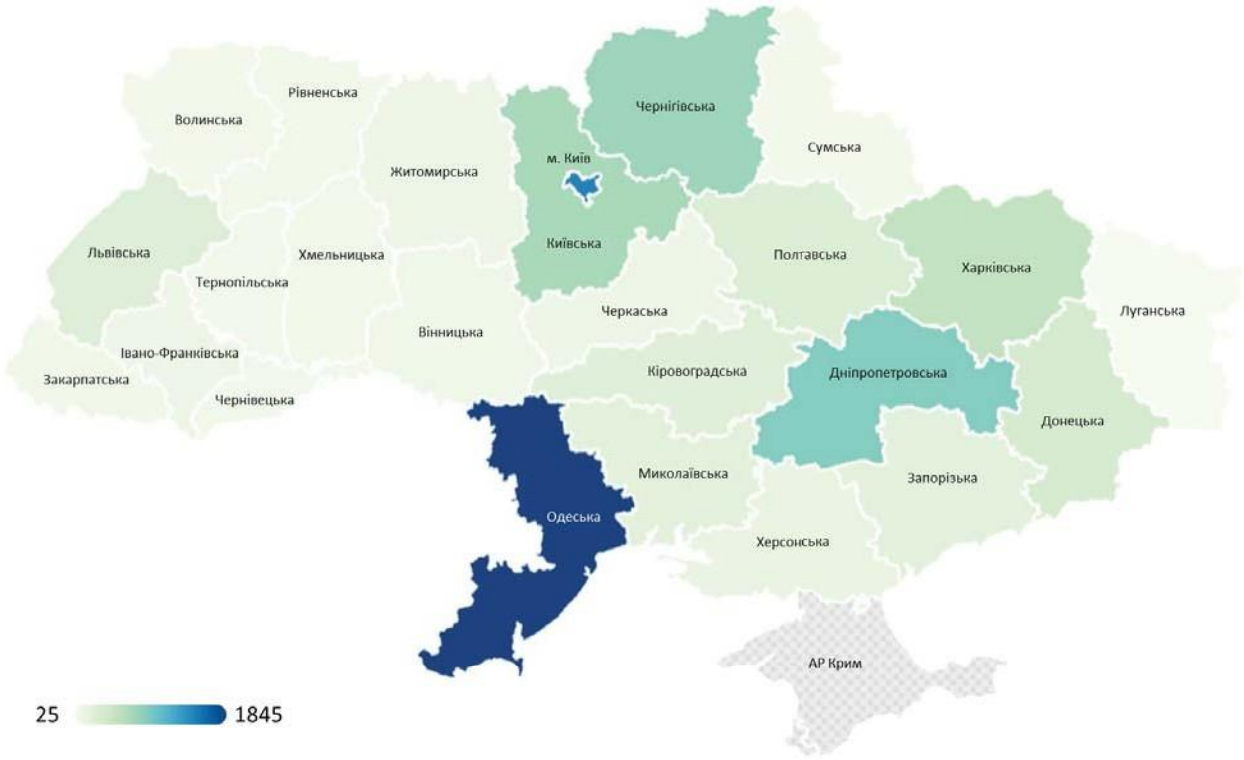
In 2022, despite all the challenges, significant results were achieved. The number of PrEP clients actually doubled during the year, and thus, by the end of the year, 9,075 people were receiving PrEP services (Fig. 31).

Since the beginning of PrEP program implementation, the geography of PrEP has expanded from the pilot project in the capital to all regions. Currently, PrEP has significant potential for implementation in Ukraine, as a significant share of MSM are willing to take PrEP and agree to the conditions of its implementation.

The social profile of program participants has also changed. The same as before, men are more likely to receive PrEP than women, accounting for 75%. Although the majority (42%) are MSM, in 2022, 1,734 PWID, 220 SWs, 2 TP, 43 prisoners and 1,999 other people from other categories of the population received PrEP at least once a year.

The largest expansion of the PrEP program since 2017 was observed in 2022. 6,380 people received the drug for the first time, which is a third more than those who started PrEP in 2021. Odesa oblast dominates in terms of the number of people involved in PrEP program, with 1,845 people participating in the PrEP program during the year (Fig. 32).

Figure 32. Number of people who received PrEP at least once in 2022

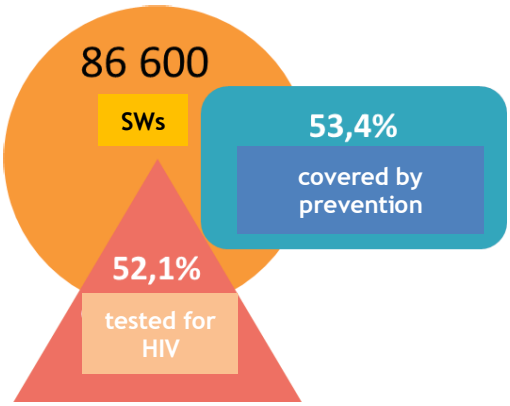


3.3. Sex workers

Implementation of prevention programs among sex workers has significantly influenced the spread of HIV among this KP. According to the results of the latest integrated biobehavioral survey (2021), the HIV prevalence rate among SWs has a steady downward trend and is 3.1%, being slightly higher among men (3.8%).

The estimated number of SWs in Ukraine is 86,600 people. According to the IS Syrex, in 2022, 51,858 unique clients from among SWs were registered in the prevention programs of 17 NGOs. Of these, 46,273 SWs (53.4% of the estimated number, or 89% of registered clients) received the minimum package of prevention services, which is 11% less than in 2021 (coverage rate - 59.8%) (Fig. 33).

Figure 33. Key indicators of prevention services for SWs (NGOs), 2022



The package of prevention services for sex workers includes HIV testing with RTs. According to program monitoring data, in 2022, 45,090 SWs received HTS, which is 52.1% of the estimated number, or 87% of registered NGO clients.

Comparison of program monitoring data with the data from the integrated biobehavioral study (2021) and the study "Assessment of the quality and availability of specialized services for people at high risk of HIV infection and care and support services for PLHIV in the context of the transition from donor to state funding" (2022) allows for a more objective and comprehensive assessment of the results of prevention programs among SWs.

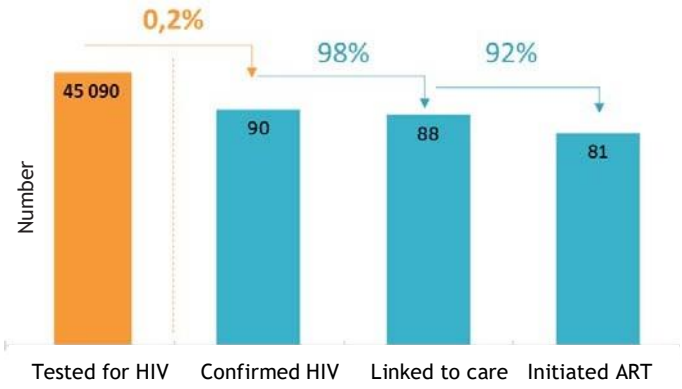
According to the latest round of the IBBS (2021), the share of SWs who reported being clients of HIV services at NGOs and having a card of the organization exceeds the figure for 2017 (37.2%) and amounts to 40.9%. The share of those who have been tested for HIV in the last 12 months and received results remained almost unchanged - 62.8% compared to 59.8% in 2017. More details: https:// aph.org.ua/wp-content/uploads/2023/06/SW-IBBS_Report_UA_25.05.2023_New_Red.pdf

According to the study "Assessment of the quality and availability of specialized services for people at increased risk of HIV infection and care and support services for PLHIV in the context of the transition from donor to state funding" (2022), the most frequently used services by SWs are motivational counseling for HIV testing (77% before and 55% after February 24). Receiving condoms and lubricants fell from 91% to 85% (2019 - 90%). More details: https://www.phc.org.ua/sites/default/files/users/user90/2021_2022_Ocinka_poslugh_VIL_report.pdf

According to program monitoring data, among 45,090 SWs who received HTS in 2022, 90 HIV-positive individuals (0.2%) were identified, of whom almost all were linked to care (88 - 97.8%). This result is mainly due to the implementation of prevention projects by NGOs. Taking into account HIV-positive SWs who were lost to follow up at the referral stage, a total of 104 people were linked to care, and 116 SWs started ART (81 were newly HIV diagnosed).

The cascade of HIV treatment demonstrates the results of an integrated approach in NGO prevention programs for SWs (Fig. 34). In fact, among the identified HIV-positive SWs, diagnosed (confirmed) with HIV in 2022, 90% started ART in the same year.

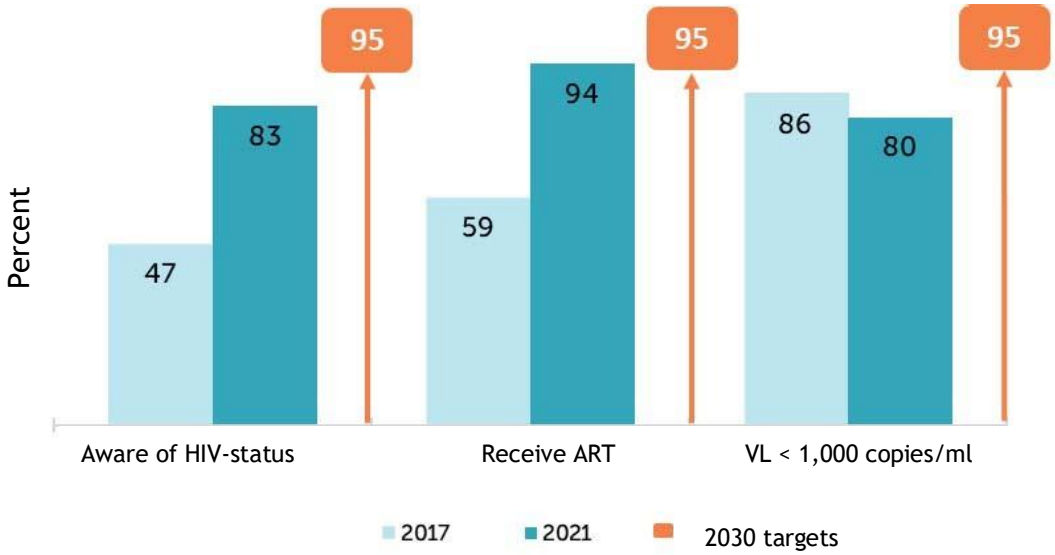
Figure 34. Cascade of medical services for SWs within the implementation of prevention programs by NGOs, 2022.



According to the updated UNAIDS 95-95-95 global targets, to end the HIV epidemic by 2030, the following results must be achieved: 95% of HIV-positive SWs should know their HIV status, among them 95% should receive ART and 95% of them should have undetectable viral load.

Progress in achieving these targets is assessed in terms of treatment cascade. Since it is not possible to obtain complete information for the SWs from medical information systems, the only informative source of data is the IBBS. The results of the latest 2021 IBBS demonstrate significant progress compared to the 2017 survey, but outline the existing gaps that should be addressed by targeted measures at the country level. Targets for the HIV treatment cascade for SWs who participated in the survey were achieved only in the indicator of ART coverage (94%). There has been progress in the share of commercial sex workers being aware of their HIV status (from 47% to 83%) and in ART coverage (from 59% to 94%), while the ART effectiveness indicator decreased from 86% to 80% (Fig. 35).

Figure 35. Progress in HIV treatment cascade among SWs according to the IBBS data, % (2017, 2020)

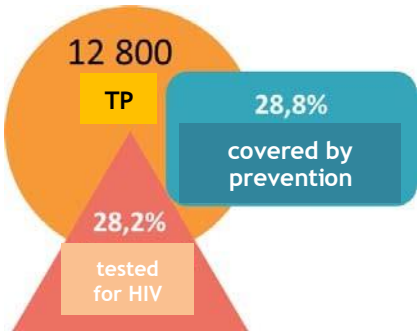


3.4. Transgender people

A transgender person (hereinafter - TP) is someone whose gender identity differs from that typically associated with the sex they were assigned at birth. At the international level, this social group is included in the five main key populations that are particularly vulnerable to HIV, but often do not have adequate access to the necessary services. The updated estimated number of transgender people in Ukraine is 12,800.

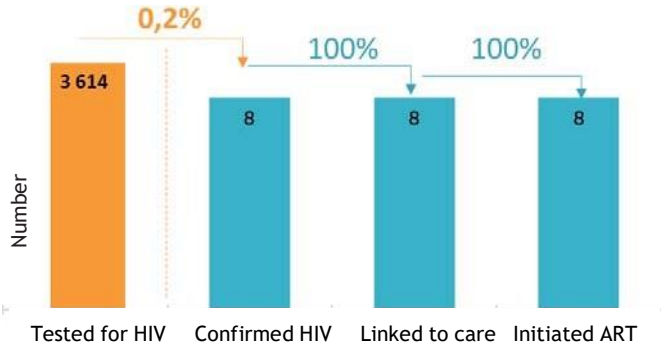
According to the IS Syrex data, in 2022, 3,899 unique clients from among TP were registered in NGO prevention programs. Of them, 3,699 TP received the minimal package of prevention services (28.8% of the estimated number, or 95% of the registered NGOs clients) - 2% more than in 2021. The package of prevention services includes HIV testing with the use of RTs. According to program monitoring data, in 2022, HTS were received by 3,614 TP, which is 28.2% of the estimated number, or 93% of NGO clients (Fig. 36).

Figure 36. Key indicators of prevention services for TP (NGOs), 2022



Among the TP screened in 2022, 8 (0.2%) were found to be HIV-positive. All of them were linked to care and received ART. This result is due to the implementation of prevention projects by NGOs.

Figure 37. Cascade of medical services for TP within the implementation of prevention programs by NGOs, 2022



In 2020, Ukraine conducted the 2020 IBBS, which allowed us to assess the most important indicators for TP in the context of the HIV epidemic. Among the 973 respondents, the majority were women (873). It was found that one in five women (21%) and 15% of men were clients of NGOs.

Preventive services coverage, i.e. the percentage of those who received two or more types of preventive services in the last three months, is 21%.

More than half of all TP in all survey cities reported that they had received HTS. The survey found that the prevalence of HIV infection among TP is low (1.7%), in particular, there were no HIV+ results among male TP, and among female TP this indicator was 1.9%. Among the 17 transgender women who tested positive for HIV, 7 people reported knowing their positive status (41%) and receiving ART. More details: https://www.phc.org.ua/sites/default/files/users/user90/trans-IBBS-Ukraine_2020_all.pdf

3.5. Prisoners

According to the Health Care Center of the SCES of Ukraine, as of the end of 2022, the population of the Ukrainian penitentiary system amounted to 41,810 people. Virtually all prisoners who have indications are tested for HIV and have a high level of awareness of their HIV status. Prevention activities in the SCESU facilities are constantly being developed and improved.

In 2022, 1.03 million condoms and lubricants were distributed to convicted and detained persons. SMT services, which became available only at the end of 2019, were provided to 156 people. HIV testing is provided to all those who have indications for testing, and the total number of people tested for the year is 62,533 (taking into account the constant movement of prisoners and detainees). PrEP services, which were not available before, were provided to 43 people.

In 2022, 320 people were newly diagnosed with HIV. The prevalence of HIV infection, taking into account newly diagnosed persons and those who already knew their HIV status, was 8.2% (8.5%; 2021). The Health Care Center of the SCESU has established the ongoing monitoring of ART coverage of persons with newly diagnosed HIV infection (at least 90%). As of January 01, 2023, 3,415 PLHIV were linked to care, of whom 3,224 (94%) were receiving ART. The coverage rate for VL testing is 77% among PLHIV who have been on ART for more than 6 months. Viral suppression was achieved in 90% of people.

During 2004-2019, sociological and biobehavioral surveys were conducted in prisons to determine the level of HIV prevalence and the dependence of infection rates on risky behavioral practices of prisoners. Compared to the 2009 and 2011 surveys, in 2019 there was a decrease in the percentage of HIV-infected prisoners. For comparison, in 2009, HIV-infected prisoners accounted for 15% of the total number of prisoners (2011 - 14%; 2019 - 8.9%). The percentage of prisoners who were tested for HIV was 71.9%. The level of awareness of HIV-positive detainees about their own HIV status was low - only 53%. Among those who knew their HIV status, 86% were receiving ART.

Section IV. ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

The triple elimination of mother-to-child transmission of HIV (hereinafter referred to as EMTCT) increases the feasibility and benefits of an integrated approach in maternal and child health programs to achieve the Sustainable Development Goals. In the context of the war, Ukraine continues to maintain the target indicators of validation of EMTCT of HIV achieved by 2022 and strives to achieve validation indicators on the way to EMTCT of congenital syphilis and viral hepatitis B (Table 8).

In order to further improve the organization of preventive and medical care, as well as to ensure timely receipt of quality services for pregnant women and children with HIV, syphilis and viral hepatitis, in 2022, the following standards of medical care were approved "Prevention of mother-to-child transmission of HIV", "HIV infection", "Syphilis", "Normal pregnancy".

By the end of 2022, 25 regional committees were responsible for organizing the implementation of measures to eliminate mother-to-child transmission of HIV infection, which were established in accordance with the Order of the Ministry of Health of Ukraine No. 1887 of 06.09.2021 "On the organization of measures to eliminate mother-to-child transmission of HIV infection". Throughout the year, the work of these committees to address problematic issues was carried out mainly remotely and was suspended only in the event of an aggravation of the military situation.

The PMTCT measures were implemented taking into account the objective situation in the country and personnel changes. Despite all the difficulties, the national PMTCT system has demonstrated sustainability, controllability and flexibility, maintaining control and coordination of activities even in the temporarily occupied territories.

The issue of EMTCT validation remains the responsibility of Ukraine within the framework of international obligations, but given the difficult political circumstances, the Interagency Working Group on EMTCT Validation decided to postpone the submission of the National Report to the Regional Secretariat for EMTCT Validation (WHO) and continue the process of preparing the country for validation.

Table 8. Obligatory indicators for validation of the elimination of mother-to-child transmission of HIV, syphilis and HBV in Ukraine, 2021-2022

EMTCT validation indicators	Target value	2021	2022
Mother-to-child transmission of HIV			
1. Rate of mother-to-child transmission of HIV in non-breastfeeding populations (%, based on PCR data)	< 2	1.3	1.6
2. Number of new HIV cases due to MTCT (per 100,000 live births)	≤ 50	8.8	10.7
3. Antenatal care coverage of pregnant women (at least one visit), %	≥ 95	99.7	99.8
4. Coverage of pregnant women with HIV testing (%)	≥ 95	98.7	98.5
5. ART coverage in pregnant women (%)	≥ 95	95.7	94.4
Mother-to-child transmission of syphilis			
1. Number of new cases of congenital syphilis due to MTCT per 100,000 live births	≤ 50	0.4 (1 case)	0.2 (3 cases)
2. Antenatal care coverage of pregnant women (at least one visit), %	≥ 95	99.7	99.8
3. Coverage of syphilis markers testing of pregnant women (%)	≥ 95	95.4	95.3
4. Treatment coverage of syphilis-seropositive pregnant women (%)	≥ 90	100 (165 pregnant women)	100 (134 pregnant women)
Mother-to-child transmission of HIV of hepatitis B			
1. Hepatitis B immunization coverage among 1-year-olds (3 vaccine doses) (%)	≥ 90	78.8	62.4
2. Antenatal care coverage of pregnant women (at least one visit), %	≥ 95	99.7	99.8
3. Coverage of HBsAg testing of pregnant women (%)	≥ 95	52.5	61.2

The vast majority (99.2%) of children in Ukraine under the age of 18 under follow-up are born to HIV-positive women. As of January 1, 2023, their number was 6,535 children, of whom 3,334 with confirmed HIV diagnosis. There are 1,025 children with AIDS.

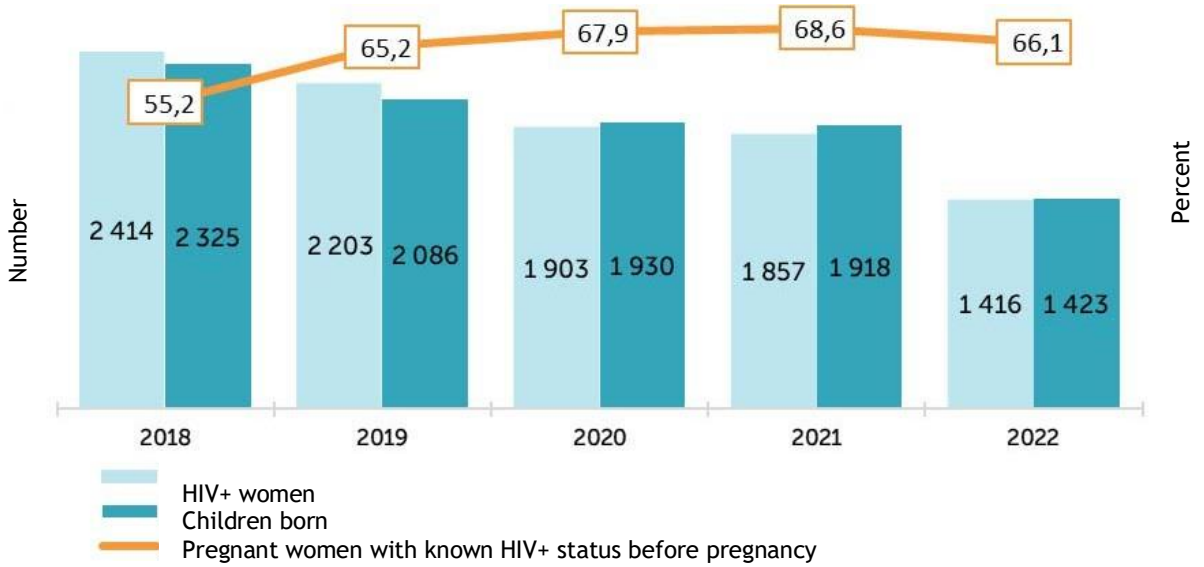
According to SEM data, in 2022, a total of 1,483 children under the age of 18 were linked to care, including 1,459 children born to HIV-positive women (including 35 with a confirmed diagnosis of HIV infection). During the year, 1,198 children were deregistered due to the absence of HIV infection.

The number of HIV-positive pregnant women is decreasing annually against the background of almost one hundred percent coverage of pregnant women with HTS and amounted to 1,416 women in 2022, of whom 29.9% were newly diagnosed with HIV during pregnancy (Fig. 38). The majority of pregnant women were diagnosed before pregnancy and received HIV-related medical services (66.1%).

The prevalence of HIV infection among pregnant women was 0.6%. Among women who became aware of their HIV+ status during pregnancy and childbirth, 24.8% were diagnosed in the first trimester of pregnancy, 40.7% in the second trimester, 23.2% in the third trimester, and 11.4% during and after childbirth. That is, 34.6% of women did not receive a set of PMTCT services in a timely manner. Accordingly, they had a higher risk of infecting their child with HIV.

In 2022, 1,410 HIV-positive women ended their pregnancies with delivery (2021 - 1,904), and 69 HIV-positive women ended their pregnancies with abortion (2021 - 106). 27.7% of HIV-positive pregnant women gave birth by planned cesarean section (2021 - 40.0%). 58.6% of HIV-positive pregnant women were taken to an obstetric hospital for delivery (2021 - 52.2%). Due to effective linkage to care and retention of HIV-positive pregnant women on ART, 94.4% of pregnant women received ART in 2022. The proportion of women who continued ART after childbirth reached 94.0% (Table 25 in the Annex 1).

Figure 38. Number of HIV-positive pregnant women and HIV-exposed children in Ukraine, 2017-2022



Almost all HIV-exposed children in Ukraine receive antiretroviral prophylaxis (98.5%) and are exclusively artificially fed (99.8%), of whom 53.3% received formula milk in 2022 funded by the local budget (Tables 26-27 in the Annex 1).

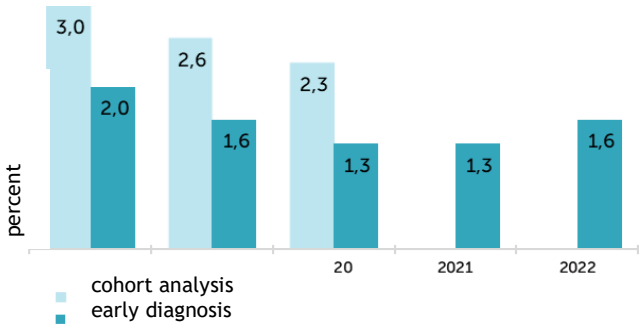
The rate of early diagnosis coverage of HIV-exposed children in 2022 was 91.6% (2021 - 87.4%). After the introduction of the dried blood spot testing in 2016, the average coverage of early diagnosis of children under two months of age also improved significantly from 60.9% in 2018 to 89.7% in 2022. In 17 regions, this indicator exceeded the national average. The lowest rates were recorded in Kharkiv (32%) and Odesa (69%) oblasts.

According to early diagnosis of HIV infection in newborns, the incidence of mother-to-child transmission (MTCT) decreased from 2.6% in 2016 (57 children) to 1.6% (21 children) in 2022.

Almost all regions reached the target indicator of EMTCT validation (2-0%), except for Sumy (4.3%), Zaporizhzhia (3.7%), Zhytomyr (3.2%), Cherkasy (2.9%), Kherson (2.8%), and Donetsk (2.6%) oblasts (Table 28 in the Annex 1).

Based on the results of a cohort analysis conducted 18 months after the birth of a child, the incidence of mother-to-child transmission (MTCT) of HIV is 2.25%. This indicator takes into account the data of serological testing for HIV in a cohort of 29 children born in 2020 who have already reached the age of 18 months in 2022.

Figure 39. Incidence of mother-to-child transmission of HIV in Ukraine in 2016-2022



MTCT - *percentage of HIV-exposed children with HIV-positive status out of the total number of live births of HIV-exposed children with established HIV status (negative, positive) during the reporting period.*

Section V. PROVISION OF HEALTH CARE TO PEOPLE LIVING WITH HIV

This year the data are somehow limited due to the full-scale russian invasion (primarily for the occupied territories and areas where large-scale hostilities are ongoing), thus, it was decided not to use updated estimates of the number of PLHIV at the national level. For the rest of the elements of the 95-95-95 cascade for 2022, limited data are available only for the Ukrainian government-controlled territories, in particular: 157,746 PLHIV are aware of their HIV status (are under follow-up), 121,289 people (77%) are on ART, of whom 115,234 people (95%) reached a suppressed viral load (< 1,000 copies/ml[3]).

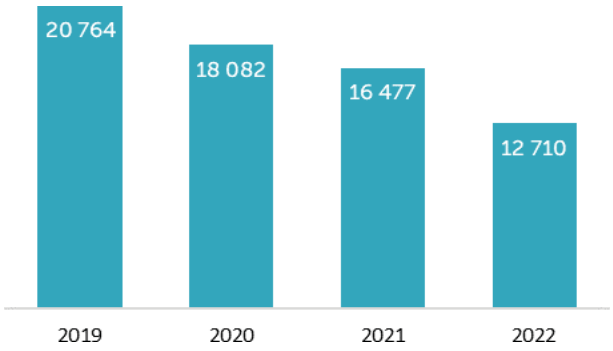
Due to the terrorist actions of the occupiers, the planned supply of antiretroviral drugs (ARVs), which was scheduled for February 2022, did not take place. The logistics of the remaining drugs to the regions where active hostilities are taking place has become significantly more complicated. This has led to difficulties with timely replenishment of drugs supplies and threatened to interrupt the treatment of 130,000 patients.

Despite the limited access to information, we managed to develop a system for the rapid exchange of data on the current situation in the regions, which allowed us to redistribute medicines among them. Taking into account the new realities, a new algorithm for dispensing ARVs was developed: now patients can receive medicines not only at the place of registration, but also at the place of application. And to facilitate access to treatment, the possibility of dispensing ARVs for 6 months was provided, unlike the previous scheme, when medicines could be obtained only for the next month. This has reduced the burden on health care facilities and doctors, as well as reduced the movement of people and increased the likelihood of continuous treatment.

To further monitor the situation, clinical patient pathways were updated in accordance with the movements of IDPs, and hospital schedules were adapted to meet the needs of the society in wartime. A separate area of activity was the provision of ARVs to patients in the temporarily occupied territories, thanks to the coordinated interaction of the PHC, volunteers and NGOs.

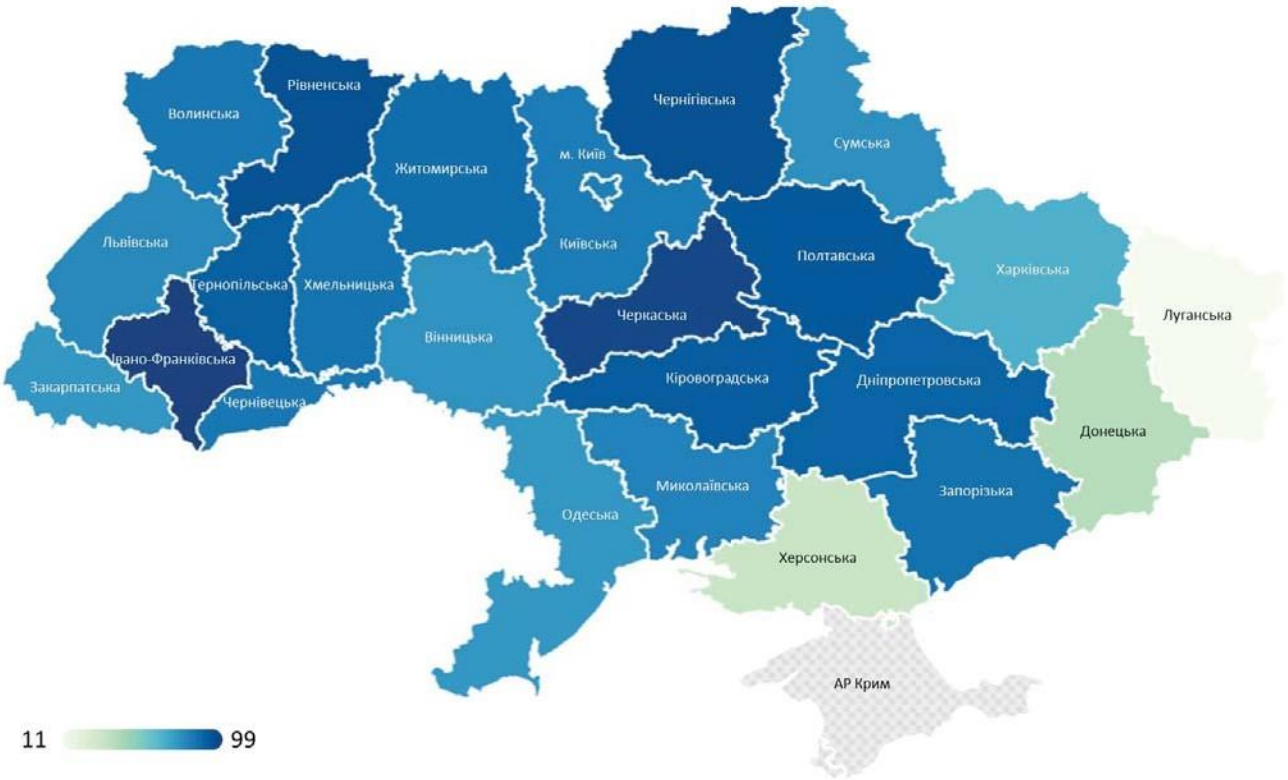
Starting in 2019, the number of new patients on ART has been decreasing every year and reached the all-time low in 2022 (Fig. 40). The number of new patients on ART decreased by 23% compared to 2021. This corresponds to a 21% decrease in the number of PLHIV identified and linked to care.

Figure 40. Expansion of ART in Ukraine, 2019-2022



In order to resume the supply of ARVs due to the war, the PHC of the MoH of Ukraine held a set of negotiations with donor organizations, which resulted in an agreement on urgent procurement of drugs with the support of the PEPFAR program. A stock of ARVs was also created at the central warehouse until the end of 2024. This made it possible to respond promptly to the needs of patients, including requests from internally displaced persons.

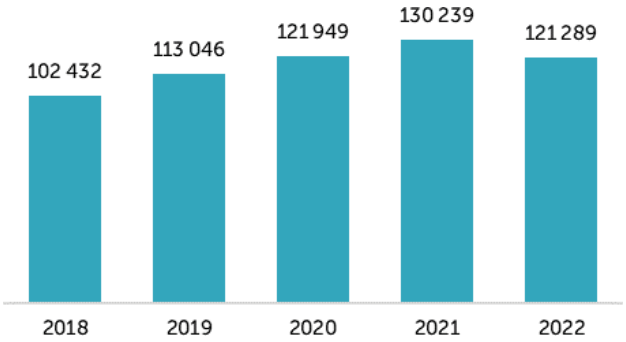
Figure 41. ART coverage of PLHIV under follow-up as of January 01, 2023 (%)



Regional ART indicators by funding sources are provided in the Table 32 in the Annex 1.

ART coverage rates for PLHIV under follow-up have changed. (Fig. 41). While in 2021, the highest rates were in Cherkasy, Zaporizhzhia, and Donetsk oblasts, in 2022 - in Ivano-Frankivsk (99%), Cherkasy (97%), Rivne (94%), and Chernihiv (94%) oblasts (Table 31 in the Annex 1).

Figure 42. Number of PLHIV receiving ART in Ukraine, 2018-2022



The total number of patients on ART decreased by 6.9% compared to 2021 (Fig. 42). This decrease is due to many factors as a result of the negative impact of military aggression against Ukraine, including a decrease in the identification and linkage of PLHIV to care, migration, and loss of patients to follow up. At the same time, according to official data, 4,999 Ukrainians who migrated as a result of the war received ART in European countries at their place of actual residence (Table 9).

Table 9. Receiving ART by internally displaced persons according to the MIS MSSD as of 01.01.2023

Oblast	Females	Males	Total
Ukraine	3 189	1 810	4 999
Vinnytsia	18	9	27
Volyn	16	16	32
Dnipropetrovsk	879	344	1 223
Donetsk	279	145	424
Zhytomyr	47	18	65
Zakarpattia	2	3	5
Zaporizhzhia	107	68	175
Ivano-Frankivsk	9	11	20
Kyiv	123	244	367
Kirovohrad	56	23	79
Luhansk	1	6	7
Lviv	30	30	60
Mykolaiv	301	103	404
Odesa	735	382	1 117
Poltava	58	34	92
Rivne	35	48	83
Sumy	40	15	55
Ternopil	9	8	17
Kharkiv	69	39	108
Kherson	119	77	196
Khmelnytskyi	16	5	21
Cherkasy	81	36	117
Chernivtsi	5	8	13
Chernihiv	28	20	25
L.V. Gromashevsky Institute of the NAMS of Ukraine SI	15	10	25
Kyiv city	111	108	219

The tragic events of 2022 posed an extremely difficult task for the country to prevent ART interruption for PLHIV who were already receiving treatment and to ensure timely prescription of ART to people who were newly diagnosed with HIV. However, as noted, thanks to the coordinated efforts of the PHC, Alliance ICF, 100% LIFE CO, NGOs and the support of international donor organizations the following was achieved:

Due to the coordinated efforts of the 100% LIFE team and international partners, all patients were provided with ART for the coming year, 53 million doses of drugs were delivered to all regions of the country with the funds allocated by PEPFAR in the amount of ~$13 million.

In April 2022, the Alliance launched the project "War-Related Emergency to Support Internally Displaced Persons within Ukraine and Ukrainian Refugees Abroad among Key Populations and PLHIV". This project is implemented by the Alliance with the financial support of the GF in partnership with the PHC and provides, in particular, access to information resources, referral of people to relevant therapeutic services that provide appropriate treatment (ART, SMT, anti-tuberculosis drugs, treatment of hepatitis, hormonal therapy, etc.) or social services (psychological, legal and social support).

According to the Alliance's survey (April-June 2023) "Receiving and Providing HIV Services during the War in Ukraine", 92% of PLHIV respondents reported that they continue to take ART without changes. There were isolated cases when ARVs were received through local volunteers, by mail, or using supplies provided before the war for three months. Respondents from the newly temporarily occupied territories, as well as NGO specialists informed on the situation in those areas, reported running out of drugs. In some regions, there were problems with access to ART due to logistical difficulties, in the western regions there were interruptions in supplies and an increase in the number of HIV-positive IDPs, but at the time of the survey those problems had been already resolved. More details: https://aph.org.ua/wp-content/uploads/2022/09/Report_War_5.09.2022_Red_Red.pdf

HIV/TB

Tuberculosis is one of the leading causes of morbidity and mortality among PLHIV, including those on ART. Timely treatment of tuberculosis (TB) and early initiation of ART are crucial for reducing mortality in people co-infected with TB and HIV. Therefore, monitoring the implementation of HIV/TB activities is an extremely important tool for evaluating the national target program as a whole.

The indicator of the number of PLHIV who were diagnosed with active TB is extremely important for assessing the quality of care among PLHIV who were first enrolled in the HIV care program during the reporting period. In particular, it indirectly indicates the effectiveness of efforts to detect HIV-associated TB early.

In recent years, Ukraine has seen a steady decline in the number and proportion of patients diagnosed with TB among newly linked to care PLHIV: from 20.3% in 2019 to 11.5% in 2021, with a slight increase to 12.1% in 2022 (Fig. 43).

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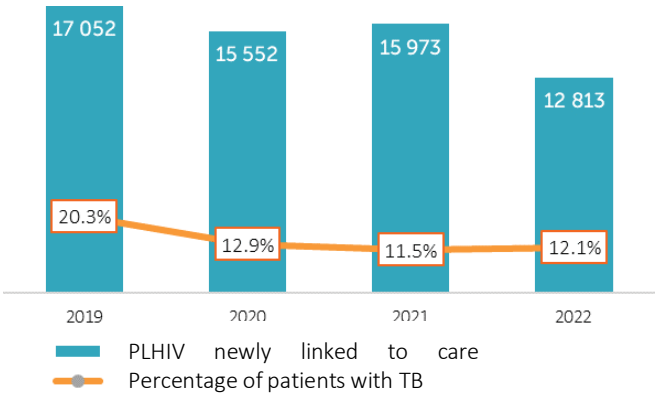
Figure 43. Percentage of people diagnosed with TB among newly linked to care PLHIV, 2019-2022.



According to the 2022 Form 58 report, the incidence of TB among people newly diagnosed with HIV infection is characterized by significant geographic heterogeneity between regions: from the highest rates in Zakarpattia (28.4%), Kherson (25.8%) and Khmelnytskyi (24.3%) oblasts to no cases in Sumy oblast (Table 10).

Table 10. Percentage of people with HIV/TB co-infection in Ukraine, 2022

Oblast	Newly linked to care PLHIV	N of TB cases	HIV/TB, %
Ukraine	12 813	1 547	12,1
Vinnytsia	255	80	31,4
Volyn	133	29	12,8
Dnipropetrovsk	2 734	157	5,7
Donetsk	312	30	9,6
Zhytomyr	253	48	19,0
Zakarpattia	74	21	28,4
Zaporizhzhia	334	35	10,5
Ivano-Frankivsk	115	20	17,4
Kyiv	714	64	9,0
Kirovohrad	315	62	19,7
Luhansk	11	2	18,2
Lviv	418	86	20,6
Mykolaiv	329	35	10,6
Odesa	3 601	433	12,0
Poltava	255	33	13,8
Rivne	145	20	13,8
Sumy	165	0	0,0
Ternopil	77	10	13,0
Kharkiv	644	90	14,0
Kherson	151	39	25,8
Khmelnytskyi	136	33	24,3
Cherkasy	256	22	8,6
Chernivtsi	83	18	21,7
Chernihiv	303	48	15,8
L.V. Gromashevsky Institute of the NAMS of Ukraine SI	208	50	24,0
NSCH Ohmatdyt	24	3	12,5
Kyiv city	768	79	10,3

To interpret these indicators correctly, it is important to take into account many factors and the regional context. In particular, this applies to the prevalence of TB in the region and individual districts, the effectiveness of TB screening and HIV testing programs, etc.

People with TB/HIV co-infection whose immune system is significantly compromised should start ART within the first two weeks of starting TB treatment.

TB and HIV concurrent treatment indicator measures the extent to which collaboration between national TB and HIV programs ensures access to treatment of both diseases for PLHIV with TB.

The results of the program monitoring indicate an improvement in the results up to and including 2021. As for the results for 2022, the current situation should be assessed with caution due to certain war-related data limitations and barriers to receiving the full range of treatment and diagnostic services. The total number of people with co-infection decreased from 3,456 in 2021 to 3,328, while the rate of concurrent treatment coverage remained unchanged at 92.2%.

Preventive use of anti-TB drugs (IPT) reduces the risk of developing active TB and, if it does, increases survival for all people living with HIV. According to the international estimates, treatment of latent TB in PLHIV reduces the risk of TB by 62% and the risk of death by 26%. In 2022, the national IPT coverage rate increased from 67.7% to 70.5% compared to 2021, with significant variations within the country (Table 11)

Table 11. Coverage by TB preventive treatment among PLHIV in Ukraine, 2022

Oblast	Started IPT	IPT among all PLHIV, %	IPT among PLHIV without TB, %
Ukraine	9 028	70,5	80,1
Vinnytsia	144	70,8	82,3
Volyn	64	53,8	61,5
Dnipropetrovsk	2 402	93,1	93,2
Donetsk	173	52,5	61,3
Zhytomyr	14	81,9	69,3
Zakarpattia	51	37,7	96,2
Zaporizhzhia	289	57,6	96,7
Ivano-Frankivsk	75	78,9	78,9
Kyiv	478	66,6	73,5
Kirovohrad	251	74,4	99,2
Luhansk	0	0,0	0,0
Lviv	126	38,0	38,0
Mykolaiv	24	96,5	96,6
Odesa	2 437	56,4	76,9
Poltava	163	55,2	73,4
Rivne	125	69,3	100,0
Sumy	99	53,3	60,0
Ternopil	59	66,7	88,1
Kharkiv	200	70,3	36,1
Kherson	37	27,6	33,0
Khmelnytskyi	56	61,8	54,4
Cherkasy	208	84,6	88,9
Chernivtsi	255	90,4	100,0
Chernihiv	42	73,7	64,6
Kyiv city	868	83,8	100,0

Ukraine reports at the global level on the indicator of IPT coverage among all patients newly linked to HIV health care system. However, given the regional context, the evaluation of measures to ensure IPT should be conducted in comparison of data: 1) among all newly linked to care PLHIV and 2) among PLHIV who were diagnosed with TB and, accordingly, did not require IPT. In the second case, IPT coverage in 2022 was 80.1%, which is a more objective assessment of the results (Table 11).

Section VI. Fulfillment of commitments and global targets under the Political Declaration on HIV and AIDS

In order to evaluate the measures taken to combat HIV/AIDS at the global and national levels, the indicators integrated by Ukraine into the monitoring process are used to measure progress in achieving national HIV-related targets and the Sustainable Development Goals.

The UNAIDS unified approach contributes to an in-depth understanding of the global HIV response, including progress made in fulfilling the commitments and global targets set out in the new Political Declaration on HIV and AIDS: Ending Inequalities and Getting on Track to End AIDS by 2030, adopted by the UN General Assembly in June, 2021.

The Global HIV/AIDS Monitoring (GAM) indicators are designed to ensure that standardized data on the HIV epidemic situation is collected and optimally used at the national level, taking into account the country's social and political context.

Public Health Center of the MoH of Ukraine SI annually, with the involvement of key partners, provides a national report as part of the fulfillment of commitments and global goals, within the framework of the Political Declaration on HIV/AIDS. The report includes data on indicators, data from the interim National Commitments and Policies Instrument (NCPI) survey, data from the AIDS Medicines and Diagnostics Survey, and data on the implementation of the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia.

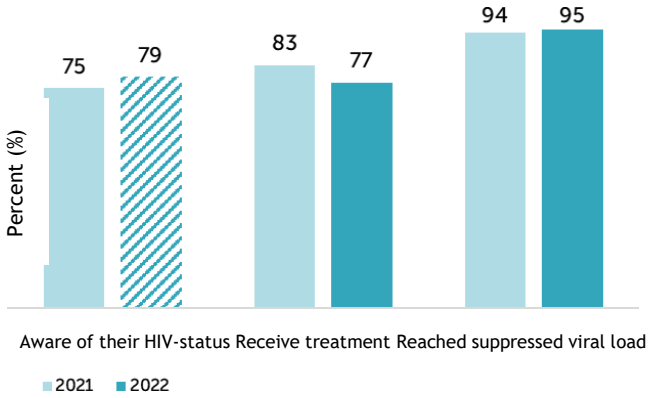
The national report was presented by the PHC experts at the Stakeholder Forum on March 30, 2023. One of the most controversial topics of the Forum was the presentation of data on the assessment of Ukraine's progress in achieving the updated global targets 95-95-95.

The basic indicator for presenting the HIV treatment cascade is the estimate of the number of PLHIV, which is updated annually according to the UNAIDS methodology using the Spectrum modeling program. However, this year, due to some limited data in result of the full-scale russian invasion (primarily for the occupied territories and areas where large-scale hostilities are ongoing), a consensus decision was made at the national level not to use updated estimates of the number of PLHIV and the burden of the epidemic.

Based on the results of the previous round of estimates, before the full-scale russian aggression, the HIV epidemic in Ukraine was estimated to be the second largest in Eastern Europe and Central Asia: at the beginning of 2022, the number of PLHIV was estimated at 245,000 people with a prevalence rate among adults (aged 15-49) of 0.9%. In the Ukrainian government-controlled territories as of February 24, 2022, the estimated number of PLHIV was about 200,000.

According to available data, as of the end of 2022, 157,746 PLHIV were officially registered in Ukraine (including 157,510 Ukrainian citizens and 236 foreigners). Based (conditionally) on the preliminary estimates of the number of PLHIV, the HIV treatment cascade 95-95-95 for 2022 looks like 79-77-95. That is, 157,746 PLHIV (79%) are aware of their HIV status (officially registered and under follow-up), of whom 121,289 are on ART (77%), of whom 115,234 (95%) reached a suppressed viral load (Fig. 44).

Figure 44. Medical care cascade for PLHIV in Ukraine, 2021-2022



The current HIV epidemic in Ukraine is of a mixed nature, with a prevalence of 0.9-1% in the general population and significantly higher prevalence in certain population groups. The HIV epidemic in Ukraine before the war had clear geographical features and was concentrated in five administrative regions, four of which are located in the south and east of Ukraine. This fact is particularly important and alarming in the context of the war. After all, the provision of preventive services and treatment there has virtually ceased.

The epidemic is concentrated in key populations with a prevalence of 20.9% among PWID (IBBS, 2020); 3.1% among SWs (IBBS, 2021); 3.9% among MSM (IBBS, 2021); 17% - among TP (IBBS, 2020) and 8.2% among prisoners (program data, 2022). Over time, the results of the IBBS demonstrate a tangible effect of the implemented prevention programs and increased access to ART for key populations, which is primarily characterized by a gradual decrease in HIV prevalence among all key populations (except for prisoners). These results have been achieved largely due to the activities of NGOs and the long-term support of international donors for Ukraine's desire to make progress in the fight against HIV/AIDS.

The same positive trend is demonstrated by the results of the SEM, according to which the prevalence of HIV infection among people aged 15-24 continues to decline, the performance indicators of the program for the prevention of mother-to-child transmission of HIV are improving, the number of PLHIV covered by treatment is increasing, and HIV/AIDS incidence and mortality are decreasing.

The same as before the war, combined prevention among key populations, elimination of vertical transmission of HIV, access to testing for early diagnosis of HIV infection, improved support of HIV-positive people at referral to health care facilities, rapid initiation of ART, and provision of affordable quality health care services - all of these remain the national priorities in achieving the Sustainable Development Goals, including HIV/AIDS.

Currently, Ukraine is making every effort to prevent a humanitarian catastrophe for people living with HIV as a result of the war against Ukraine. Consolidation of efforts of the state and public organizations with international support has become the main lever that has helped to mitigate the consequences of the war. First of all, mass interruptions of treatment were prevented. The incredible efforts of civil society, donor organizations and volunteers have ensured the provision of services to help KPs, HIV testing, and the prompt redistribution of drugs for ART, SMT, treatment of hepatitis C and tuberculosis. Ukraine will survive despite all the challenges and continue its success in the fight against the HIV epidemic.

Community leadership. Ukraine is confidently moving towards global goals in the context of strengthening and supporting community leadership, in particular, by 2025 to ensure:

- 30% of testing and treatment services provided by community-based organizations, with a focus on HIV testing, linkage to care, adherence and retention, and treatment literacy;
- 80% of HIV prevention services provided by community-based organizations to populations at the increased risk, including women from these populations;
- 60% of programs aimed at supporting the achievement of favorable conditions in the society implemented by community-based organizations.

The progress is evidenced by the continuous improvement of models and quality of prevention programs, the annual increase in the scope of HTS implemented by NGOs, as well as the number and share of PLHIV from KPs being aware of their HIV-positive status and starting ART.

An example of community participation in achieving favorable conditions in the society is the proactive position of two powerful leaders of this movement - Alliance for Public Health ICF and the 100% LIFE CO, as well as the activities of the National Council on Tuberculosis and HIV/AIDS with a wide representation of NGOs, which are thus involved in the management of targeted national programs.

The Fight for Health Expert Platform, which was created and operates on the basis of 100% LIFE CO, has already made significant achievements in developing and promoting regulatory changes necessary to overcome the HIV and TB epidemics and to respect the rights of vulnerable communities in Ukraine. This Platform brings together legal experts, lawmakers and leaders of communities vulnerable to HIV. In particular, the Platform's experts have joined the working groups of the 2022-2023 Post-War Recovery Plan for Ukraine, where they will work in key areas such as human rights, gender equality, public health, etc. The platform has established partnerships with key state institutions, established cooperation with parliamentarians, and developed a number of packages of documents that were submitted for further promotion and amendments to legislation, including decriminalization of unintentional HIV infection, provision of sexual services, possession of drugs without the intent to sell, and expansion of the practice of using rehabilitative rather than punitive methods of influence on PWID.

The Alliance, which has been actively implementing large-scale prevention programs for KPs for more than 20 years, including harm reduction strategies, is implementing the project Integrated Humanitarian Response in War and Post-War Recovery with the financial support of the Disasters Emergency Committee (UK) and with the technical support of Christian Aid. The main goal of the activity is to support communities to meet urgent humanitarian, social and medical needs and to ensure a decent life in crisis conditions.

Realization of human rights and elimination of stigma and discrimination. An important achievement for the country is the introduction in early 2023 of amendments to the Law of Ukraine "On Prevention of the Spread of Diseases Caused by the Human Immunodeficiency Virus (HIV) and Legal and Social Protection of People Living with HIV" to apply modern approaches to the prevention, testing and treatment of HIV infection in accordance with the World Health Organization's guidelines. This specialized law was last revised 11 years ago. The new law abolishes the archaic concept of “at-risk groups” that previously existed in Ukrainian legislation. Human rights advocates emphasize that there are no at-risk groups, but more or less risky practices. There are also key populations to which the state should direct its efforts to prevent the spread of HIV. The law establishes mechanisms for the realization of the right to health of every person on the territory of Ukraine, expands and consolidates state guarantees in the field of combating the spread of HIV, and explicitly prohibits the violation of people's dignity on the basis of belonging to various key populations, including men who have sex with men.

In the National Human Rights Strategy, Ukraine has long stated its intention to introduce civil partnerships for different-sex and same-sex couples, which was enshrined in Government Resolution No. 1393-p in 2015. However, it was only in 2022 that a draft law on registered civil partnerships was developed, which was worked on for a long time by MPs together with a team of civil society organizations LGBT Military for Equal Rights and Fulcrum UA.

In order to identify cases of violations of the rights of key populations in the context of access to HIV/AIDS and tuberculosis treatment, Ukraine launched the REAct (Rights-Evidence-Action) project in the fall of 2019 with the financial support of the Global Fund. This project envisages the introduction of a system of monitoring and rapid response to human rights violations in Ukraine, which allows to record and respond to violations of the rights of representatives of key populations vulnerable to HIV and TB.

Approaches to monitoring human rights and eliminating stigma and discrimination in Ukraine are constantly being improved, which includes cooperation with community representatives and development of sensitive M&E indicators.

Detailed results are presented in the materials of this Bulletin and indicators of the National Global AIDS Response Progress Report in 2017-2022 **(Annex 2).**

Annex 1

Table 1. Results of SEM of HIV prevalence by testing code in Ukraine 2020-2022

Code	Populations tested for HIV	2020			2021			2022		
		Persons tested	HIV+ results		Persons tested	HIV+ results		Persons tested	HIV+ results	
			persons	%		persons	%		persons	%
100	Citizens of Ukraine, total, including by specific code	1,95, 243	21,277	1.1	1,923,468	19,040	1.0	1,612,348	14,937	0.9
101	Persons who had sexual contacts with HIV-positive persons	22,049	2,400	10.9	26,075	2,475	9.5	16,044	1,544	9.6
102	People who inject drugs	107,059	4,759	4.4	67,491	4,327	6.4	56,629	3,421	6.0
103	Persons who had homosexual contacts with persons whose HIV status is unknown	21,373	267	1.2	14,353	373	2.6	10,315	212	2.1
104	Persons having symptoms of or diagnosed with STIs	22,122	229	1.0	15,592	151	1.0	13,963	93	0.7
105	Persons with risky sexual behaviors	94,179	1,212	1.3	106,374	1,420	1.3	85,904	1,097	1.3
106	Recruits, prospective students of military educational institutions	68,888	135	0.2	63,285	82	0.1	41,597	105	0.3
107	Persons from other groups at risk of HIV acquisition tested based on epidemiological criteria	38,554	509	1.3	23,773	885	4.1	18,289	890	4.9
108	Donors	441,163	303	0.1	483,364	243	0.1	541,742	290	0.1
109.1	Pregnant women	306,351	653	0.2	261,972	619	0.2	205,118	450	0.2
111	Children born to HIV-positive mothers tested for the purposes of final diagnosis of HIV infection at the age of 18 months and older	1,949	7	0.4	1,919	6	0.3	1,207	4	0.3
112	People detained in penitentiaries	52,973	883	1.7	76,796	595	0.8	54,976	320	0.6
113	Persons with diseases and conditions in the presence of which the patients are offered HTS when seeking medical care at HCFs	394,099	5,542	1.4	433,035	4,354	1.0	326,389	3,903	1.2
114	Persons tested anonymously	16,096	87	0.5	9,702	32	0.3	2,123	18	0.8
115	Persons at risk of HIV acquisition resulting from medical manipulations	1,481	1	0.1	1,419	0	0.0	1,339	1	0.1
116	Persons tested upon their own initiative	368,097	1,847	0.5	334,125	1,358	0.4	235,157	1,099	0.5
119	Deceased persons	632	241	38.1	801	75	9.4	140	46	32.9

Table 2. Results of SEM of HIV prevalence in the regions of Ukraine, 2021-2022								
Region (oblast, city)	Code 100 (citizens of Ukraine, total)							
	Persons tested				HIV+ results			
	N of persons		per 100 000 population		N of persons		percent (%)	
	2021	2022	2021	2022	2021	2022	2021	2022
Ukraine	1,922,018	1,612,348	5,093	3,933	19,040	14,937	0.99	0.93
Vinnytsia	56,766	48,390	3,730	3,221	262	283	0.5	0.6
Volyn	51,723	43,050	5,048	4,226	152	133	0.3	0.3
Dnipropetrovsk	205,089	197,747	6,534	6,393	3,719	3,120	1.8	1.6
Donetsk	115,489	23,907	6,214	591	1,165	359	1.0	1.5
Zhytomyr	49,943	50,048	4,175	4,242	379	342	0.8	0.7
Zakarpattia	28,763	28,110	2,306	2,264	148	122	0.5	0.4
Zaporizhzhia	95,872	53,656	5,756	3,276	497	390	0.5	0.7
Ivano-Frankivsk	35,237	57,537	2,594	4,265	118	135	0.3	0.2
Kyiv	76,650	79,409	4,300	4,438	1,187	975	1.5	1.2
Kirovohrad	52,200	49,208	5,713	5,484	398	422	0.8	0.9
Luhansk	40,323	1,839	6,047	88	169	16	0.4	0.9
Lviv	83,289	84,902	3,359	3,452	565	577	0.7	0.7
Mykolaiv	71,595	52,779	6,464	4,837	744	572	1.0	1.1
Odesa	164,571	132,074	6,982	5,643	4,992	4,134	3.0	3.1
Poltava	44,710	46,702	3,279	3,474	389	339	0.9	0.7
Rivne	49,854	46,665	4,345	4,091	180	163	0.4	0.3
Sumy	45,694	49,330	4,347	4,773	181	181	0.4	0.4
Ternopil	27,919	33,149	2,718	3,255	74	85	0.3	0.3
Kharkiv	108,412	74,800	4,141	2,895	787	390	0.7	0.5
Kherson	46,586	15,951	4,589	1,595	501	206	1.1	1.3
Khmelnytskyi	49,678	49,417	4,004	4,032	266	206	0.5	0.4
Cherkasy	85,665	85,178	7,293	7,361	293	359	0.3	0.4
Chernivtsi	39,130	31,760	4,379	3,579	73	117	0.2	0.4
Chernihiv	56,595	49,978	5,846	5,257	332	311	0.6	0.6
Kyiv city	240,265	226,762	8,226	7,790	1,469	1,000	0.6	0.4

Table 3. Results of SEM in Ukraine: HIV testing using rapid tests, 2020-2022									
Code	2020			2021			2022		
	Persons tested using RTs	% of all persons tested using RTs (code 100)	% of all persons tested under the code	Persons tested using RTs	% of all persons tested using RTs (code 100)	% of all persons tested under the code	Persons tested using RTs	% of all persons tested using RTs (code 100)	% of all persons tested under the code
100	713,027	-	36.4	832,620	-	43.3	674,786	-	41.9
101	1, 643	2.3	75.5	20,788	2.5	79.7	13,694	2.0	85.4
102	99,499	14.0	92.9	60,555	7.3	89.7	52,347	7.8	92.4
103	20,054	2.8	93.8	14,085	1.7	98.1	8,182	1.2	79.3
104	12,014	1.7	54.3	11,814	1.4	75.8	10,051	1.5	72.0
105	70,696	9.9	75.1	71,355	8.6	67.1	53,916	8.0	62.8
107	21,217	3.0	55.0	14,662	1.8	61.7	12,709	1.9	69.5
109.1	7,359	1.0	2.4	13,640	1.6	5.2	18,458	2.7	9.0
109.2	8,835	1.2	3.1	11,584	1.4	4.7	12,515	1.9	6.8
112	52,692	7.4	99.5	74,451	8.9	96.9	54,755	8.1	99.6
113	271,665	38.1	68.9	344,603	41.4	79.6	265,152	39.3	81.2
113 tb	20,609	2.9	73.7	25,765	3.1	91.8	21,301	3.2	80.1
113 inf	20,121	2.8	61.6	30,790	3.7	70.8	28,122	4.2	75.5
113 other	230,935	32.4	69.3	288,048	34.6	79.7	215,729	32.0	82.2
114	5,104	0.7	31.7	3,730	0.4	38.4	1,647	0.2	77.6
116	119,623	16.8	32.5	171,792	20.6	51.4	134,342	19.9	57.1

Table 4. Results of SEM in Ukraine, performance of HTS using rapid tests, 2020-2022									
Code	2020			2021			2022		
	HIV+ persons detected using RTs	% of all HIV+ persons (code 100)	% of all HIV+ persons under the code	HIV+ persons detected using RTs	% of all HIV+ persons (code 100)	% of all HIV+ persons under the code	HIV+ persons detected using RTs	% of all HIV+ persons (code 100)	% of all HIV+ persons under the code
100	13,600	-	63.9	13,934	-	73.2	10,727	-	71.8
101	2,036	15.0	84.8	2,301	16.5	93.0	1,441	13.4	93.3
102	3,953	29.1	83.1	4,206	30.2	97.2	3,078	28.7	90.0
103	229	1.7	85.8	342	2.5	91.7	194	1.8	91.5
104	166	1.2	0.8	122	0.9	80.8	74	0.7	79.6
105	1,016	7.5	83.8	1,236	8.9	87.0	996	9.3	90.8
107	391	2.9	76.8	885	6.4	91.9	809	7.5	90.9
109.1	54	0.4	8.3	71	0.5	11.5	57	0.5	12.7
112	819	6.0	92.8	565	4.1	95.0	310	2.9	96.9
113	4,125	30.3	74.4	3,512	25.2	80.7	3,194	29.8	81.8
113 tb	30	0.2	34.5	685	4.9	80.7	628	5.9	85.2
113 inf	747	5.5	40.4	404	2.9	72.8	476	4.4	77.0
113 other	13,600	100	63.9	2,423	17.4	82.1	2,090	19.5	82.0
114	2,036	15.0	84.8	7	0.1	21.9	6	0.1	33.3
116	3,953	29.1	83.1	643	4.6	47.3	494	4.6	44.9

Table 5. Results of SEM in key populations at the increased risk of HIV (KPs) under codes 101.2, 102, 103, 104 and 105.2 in the regions of Ukraine, 2022

Region (oblast, city)	Persons tested, total	Persons from KPs tested		HIV+ persons detected, total	HIV+ persons from KPs		
		Persons tested	% of all persons tested		HIV+ persons detected	% of all detected persons	% of HIV+ persons
Ukraine	865,488	91,388	10.6%	14,197	3,798	27%	4.2
Vinnytsia	21,877	556	2.5%	248	18	7%	3.2
Volyn	15,825	316	2.0%	123	15	12%	4.7
Dnipropetrovsk	116,910	28,956	24.8%	3,021	818	27%	2.8
Donetsk	17,371	442	2.5%	349	42	12%	9.5
Zhytomyr	29,349	1,065	3.6%	311	21	7%	2.0
Zakarpattia	7,686	259	3.4%	112	8	7%	3.1
Zaporizhzhia	28,846	2,842	9.9%	363	120	33%	4.2
Ivano-Frankivsk	32,396	1,200	3.7%	128	11	9%	0.9
Kyiv	30,712	1,995	6.5%	901	249	28%	12.5
Kirovohrad	29,467	893	3.0%	397	20	5%	2.2
Luhansk	1,838	122	6.6%	15	4	27%	3.3
Lviv	43,651	9,494	21.7%	543	124	23%	1.3
Mykolaiv	29,784	1,559	5.2%	541	62	11%	4.0
Odesa	88,644	11,095	12.5%	4,051	1,746	43%	15.7
Poltava	13,452	1,863	13.8%	301	61	20%	3.3
Rivne	20,782	157	0.8%	150	15	10%	9.6
Sumy	26,989	873	3.2%	154	24	16%	2.7
Ternopil	14,387	543	3.8%	71	6	8%	1.1
Kharkiv	36,790	10,873	29.6%	360	111	31%	1.0
Kherson	6,423	378	5.9%	186	42	23%	11.1
Khmelnytskyi	17,585	812	4.6%	184	5	3%	0.6
Cherkasy	30,574	1,459	4.8%	322	30	9%	2.1
Chernivtsi	12,610	243	1.9%	113	13	12%	5.3
Chernihiv	35,043	1,516	4.3%	290	67	23%	4.4
Kyiv city	156,497	11,877	7.6%	963	166	17%	1.4

Table 6. Results of SEM in persons who had heterosexual contacts with HIV-positive persons, 2022

Region (oblast, city)	Testing code 101		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	16,044	1,544	9.6
Vinnytsia	273	25	9.2
Volyn	154	11	7.1
Dnipropetrovsk	2,646	322	12.2
Donetsk	707	70	9.9
Zhytomyr	252	37	14.7
Zakarpattia	116	10	8.6
Zaporizhzhia	485	32	6.6
Ivano-Frankivsk	236	11	4.7
Kyiv	754	107	14.2
Kirovohrad	627	71	11.3
Luhansk	7	0	0.0
Lviv	815	30	3.7
Mykolaiv	703	79	11.2
Odesa	1,331	328	24.6
Poltava	1,083	51	4.7
Rivne	29	12	41.4
Sumy	191	19	9.9
Ternopil	55	6	10.9
Kharkiv	456	16	3.5
Kherson	270	15	5.6
Khmelnytskyi	72	10	13.9
Cherkasy	450	44	9.8
Chernivtsi	42	9	21.4
Chernihiv	1,745	60	3.4
Kyiv city	2,545	169	6.6

Table 7. Results of SEM in people who inject drugs (PWID), 2022

Region (oblast, city)	Testing code 102		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	56,629	3,421	6.0
Vinnytsia	225	10	4.4
Volyn	164	12	7.3
Dnipropetrovsk	17,810	758	4.3
Donetsk	358	41	11.5
Zhytomyr	695	14	2.0
Zakarpattia	79	1	1.3
Zaporizhzhia	1,105	114	10.3
Ivano-Frankivsk	594	6	1.0
Kyiv	894	194	21.7
Kirovohrad	498	18	3.6
Luhansk	92	4	4.3
Lviv	3,649	76	2.1
Mykolaiv	824	51	6.2
Odesa	9,529	1,702	17.9
Poltava	1,169	48	4.1
Rivne	104	12	11.5
Sumy	569	18	3.2
Ternopil	456	6	1.3
Kharkiv	9,975	102	1.0
Kherson	288	40	13.9
Khmelnytskyi	102	1	1.0
Cherkasy	780	24	3.1
Chernivtsi	203	12	5.91
Chernihiv	932	58	6.2
Kyiv city	5,535	99	1.8

Table 8. Results of SEM in persons who had homosexual contacts (MSM), 2022

Region (oblast, city)	Testing codes 101.2 + 103		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	10,844	255	2.4
Vinnytsia	72	7	9.7
Volyn	46	3	6.5
Dnipropetrovsk	194	20	10.3
Donetsk	34	0	0.0
Zhytomyr	64	6	9.4
Zakarpattia	41	7	17.1
Zaporizhzhia	97	4	4.1
Ivano-Frankivsk	209	4	1.9
Kyiv	565	47	8.3
Kirovohrad	73	1	1.4
Luhansk	0	0	-
Lviv	4,380	35	0.8
Mykolaiv	40	10	25.0
Odesa	1,083	20	1.8
Poltava	158	4	2.5
Rivne	17	3	17.6
Sumy	21	4	19.0
Ternopil	12	0	0.0
Kharkiv	818	9	1.1
Kherson	7	2	28.6
Khmelnytskyi	16	0	0.0
Cherkasy	81	2	2.5
Chernivtsi	18	1	5.6
Chernihiv	90	5	5.6
Kyiv city	2,708	61	2.3

Table 9. Results of SEM in people with symptoms or infected with sexually transmitted infections, 2022

Region (oblast, city)	Testing code 104		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	13,963	93	0.7
Vinnytsia	248	1	0.4
Volyn	106	0	0.0
Dnipropetrovsk	3,220	31	1.0
Donetsk	48	1	2.1
Zhytomyr	306	1	0.3
Zakarpattia	66	0	0.0
Zaporizhzhia	1,626	2	0.1
Ivano-Frankivsk	397	1	0.3
Kyiv	265	8	3.0
Kirovohrad	303	1	0.3
Luhansk	30	0	0.0
Lviv	118	0	0.0
Mykolaiv	671	1	0.1
Odesa	350	20	5.7
Poltava	399	9	2.3
Rivne	36	0	0.0
Sumy	261	2	0.8
Ternopil	75	0	0.0
Kharkiv	80	0	0.0
Kherson	83	0	0.0
Khmelnytskyi	694	4	0.6
Cherkasy	481	2	0.4
Chernivtsi	21	0	0.0
Chernihiv	469	3	0.6
Kyiv city	3,610	6	0.2

Table 10. Results of SEM in people with risky sexual behavior, 2022

Region (oblast, city)	Testing code 105		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	85,904	1,097	1.3
Vinnytsia	1,277	1	0.1
Volyn	29	3	10.3
Dnipropetrovsk	11,751	322	2.7
Donetsk	1,171	36	3.1
Zhytomyr	781	40	5.1
Zakarpattia	267	6	2.2
Zaporizhzhia	1,529	33	2.2
Ivano-Frankivsk	2,411	7	0.3
Kyiv	1,464	37	2.5
Kirovohrad	243	4	1.6
Luhansk	420	0	0.0
Lviv	1,417	28	2.0
Mykolaiv	4,215	79	1.9
Odesa	8,139	253	3.1
Poltava	763	19	2.5
Rivne	72	9	12.5
Sumy	961	5	0.5
Ternopil	23	1	4.3
Kharkiv	84	5	6.0
Kherson	439	4	0.9
Khmelnytskyi	24	0	0.0
Cherkasy	1,727	40	2.3
Chernivtsi	2,000	15	0.8
Chernihiv	7,387	47	0.6
Kyiv city	37,310	103	0.3

Table 11. Results of SEM in persons detained in penitentiaries, including pre-trial detention facilities, 2022

Region (oblast, city)	Testing code 112		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	54,976	320	0.6
Vinnytsia	3,876	14	0.4
Volyn	1,309	2	0.2
Dnipropetrovsk	4,888	70	1.4
Donetsk	380	6	1.6
Zhytomyr	4,300	15	0.3
Zakarpattia	636	2	0.3
Zaporizhzhia	2,247	9	0.4
Ivano-Frankivsk	497	1	0.2
Kyiv	1,058	2	0.0
Kirovohrad	1,502	13	0.9
Luhansk	1	1	100.0
Lviv	3,578	44	1.2
Mykolaiv	1,911	6	0.3
Odesa	3,753	28	0.7
Poltava	2,464	19	0.8
Rivne	2,069	5	0.2
Sumy	1,284	8	0.6
Ternopil	1,084	2	0.2
Kharkiv	6,421	28	0.4
Kherson	170	1	0.6
Khmelnytskyi	2,495	7	0.3
Cherkasy	1,868	12	0.6
Chernivtsi	361	0	0.0
Chernihiv	1,628	6	0.4
Kyiv city	5,196	19	0.4

Table 12. Results of SEM in people received HTS when seeking medical care in HCFs, 2022

Region (oblast, city)	Testing code 113		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	326,389	3,903	1.20
Vinnytsia	7,510	123	1.64
Volyn	3,853	28	0.73
Dnipropetrovsk	43,463	692	1.59
Donetsk	11,083	140	1.26
Zhytomyr	6,553	92	1.40
Zakarpattia	2,728	35	1.28
Zaporizhzhia	18,471	114	0.62
Ivano-Frankivsk	14,834	64	0.43
Kyiv	11,342	281	2.48
Kirovohrad	16,814	204	1.21
Luhansk	594	6	1.01
Lviv	10,761	205	1.91
Mykolaiv	10,530	209	1.98
Odesa	40,671	640	1.57
Poltava	3,899	83	2.13
Rivne	5,385	65	1.21
Sumy	11,969	63	0.53
Ternopil	5,167	36	0.70
Kharkiv	2,848	138	4.85
Kherson	2,733	78	2.85
Khmelnytskyi	5,214	95	1.82
Cherkasy	15,327	102	0.67
Chernivtsi	3,468	32	0.92
Chernihiv	5,943	24	0.40
Kyiv city	65,229	354	0.54

Table 13. Results of SEM in donors of blood, its components, organs, tissues and other cells and biological fluids in the regions of Ukraine, 2022

Region (oblast, city)	Testing code 108		
	persons tested	HIV+ persons detected	
		N	%
Ukraine	541,742	290	0.05
Vinnytsia	19,319	10	0.05
Volyn	18,625	3	0.02
Dnipropetrovsk	66,921	49	0.07
Donetsk	3,802	1	0.03
Zhytomyr	12,898	11	0.09
Zakarpattia	13,996	3	0.02
Zaporizhzhia	20,094	5	0.02
Ivano-Frankivsk	16,021	2	0.01
Kyiv	31,606	20	0.06
Kirovohrad	14,730	11	0.07
Luhansk	1	1	1 з 1
Lviv	23,235	10	0.04
Mykolaiv	18,204	15	0.08
Odesa	28,640	29	0.10
Poltava	23,943	23	0.10
Rivne	14,940	4	0.03
Sumy	16,081	19	0.12
Ternopil	12,606	7	0.06
Kharkiv	34,017	12	0.04
Kherson	6,696	7	0.10
Khmelnytskyi	22,905	12	0.05
Cherkasy	47,376	17	0.04
Chernivtsi	11,887	2	0.02
Chernihiv	12,128	3	0.02
Kyiv city	51,071	14	0.03

Table 14. Results of SEM in pregnant women in Ukraine, 2022

Region (oblast, city)	Testing code 109.1 (pregnant women tested for the first time during pregnancy, regardless of gestational age)			Testing code 109.2	Testing code 109.3
	persons tested	HIV+ detected		HIV+ detected	HIV+ detected
		N	%		
Ukraine	205,118	450	0.22	28	0
Vinnytsia	7,194	25	0.35	4	0
Volyn	8,600	7	0.08	2	0
Dnipropetrovsk	13,916	50	0.36	3	0
Donetsk	2,734	9	0.33	0	0
Zhytomyr	7,801	20	0.26	1	0
Zakarpattia	6,428	7	0.11	1	0
Zaporizhzhia	4,716	22	0.47	0	0
Ivano-Frankivsk	9,120	5	0.05	1	0
Kyiv	17,091	54	0.32	2	0
Kirovohrad	5,011	14	0.28	0	0
Luhansk	0	0	-	0	0
Lviv	18,016	24	0.13	0	0
Mykolaiv	4,791	16	0.33	3	0
Odesa	14,790	54	0.37	0	0
Poltava	9,307	15	0.16	4	0
Rivne	10,943	9	0.08	0	0
Sumy	6,260	8	0.13	1	0
Ternopil	6,156	7	0.11	0	0
Kharkiv	3,993	18	0.45	0	0
Kherson	2,832	13	0.46	3	0
Khmelnytskyi	8,927	10	0.11	0	0
Cherkasy	7,228	20	0.28	1	0
Chernivtsi	7,263	2	0.03	0	0
Chernihiv	2,807	18	0.64	1	0
Kyiv city	19,194	23	0.12	1	0

Table 15. Results of SEM in pregnant women aged 15-24 years, 2022

Region (oblast, city)	Testing codes 109.1.1 + 109.1.2		
	persons tested	HIV+ detected	
		N	%
Ukraine	39,506	82	0.21
Vinnytsia	2,075	9	0.43
Volyn	713	0	0.00
Dnipropetrovsk	3,076	9	0.29
Donetsk	347	1	0.29
Zhytomyr	1,728	4	0.23
Zakarpattia	1,838	2	0.11
Zaporizhzhia	274	1	0.36
Ivano-Frankivsk	1,378	1	0.07
Kyiv	3,617	4	0.11
Kirovohrad	1,298	2	0.15
Luhansk	0	0	-
Lviv	6,358	15	0.24
Mykolaiv	726	3	0.41
Odesa	1,256	7	0.56
Poltava	1,380	3	0.22
Rivne	1,617	2	0.12
Sumy	1,720	2	0.12
Ternopil	1,664	1	0.06
Kharkiv	771	3	0.39
Kherson	576	3	0.52
Khmelnytskyi	2,419	2	0.08
Cherkasy	1,126	3	0.27
Chernivtsi	2,042	1	0.05
Chernihiv	463	4	0.86
Kyiv city	1,044	0	0.00

Table 16. HIV incidence in Ukraine according to official case reporting data, 2020-2022 [1]

Region (oblast, city)	2020			2021			2022 [2]		
	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %
Ukraine	15,658	41.1	-3.7	15,360	40.6	-1.2	12,212	29.8	-26.6
Vinnytsia	217	14.0	-27.2	172	11.2	-19.9	215	14.3	27.3
Volyn	139	13.5	-10.6	116	11.3	-16.2	99	9.7	-14.0
Dnipropetrovsk	3,611	113.3	0.1	3,392	107.5	-5.1	2,734	88.4	-17.8
Donetsk	1,220	64.8	-17.9	1,045	56.2	-13.2	318	7.9	-86.0
Zhytomyr	275	22.6	-28.1	245	20.4	-10.0	253	21.4	5.3
Zakarpattia	85	6.8	-8.4	81	6.5	-4.5	74	6.0	-8.1
Zaporizhzhia	455	26.8	-15.8	429	25.6	-4.6	334	20.4	-20.3
Ivano-Frankivsk	65	4.8	-50.2	90	6.6	39.1	114	8.5	27.9
Kyiv	786	44.4	0.4	844	47.4	6.8	736	41.1	-13.3
Kirovohrad	407	43.6	-29.1	343	37.3	-14.6	315	35.1	-5.8
Luhansk	123	18.2	-32.3	136	20.4	12.1	11	0.5	-97.4
Lviv	260	10,4	-36.2	327	13.2	26.4	360	14.6	11.3
Mykolaiv	571	50.8	-14.6	501	45.0	-11.4	368	33.7	-25.0
Odesa	3,574	150.9	54.1	4,210	178.3	18.1	3,601	153.9	-13.7
Poltava	240	17.3	-33.6	225	16.4	-5.3	255	19.0	15.6
Rivne	130	11,3	-16.9	149	13.0	15.1	145	12.7	-1.9
Sumy	127	11.8	-23.0	124	11.7	-1.1	143	13.8	18.1
Ternopil	78	7.5	-9.8	63	6.1	-18.6	78	7.7	25.4
Kharkiv	650	24.5	10.0	575	21.9	-10.8	323	12.5	-42.8
Kherson	478	46.3	-16.2	410	40.2	-13.3	151	15.1	-62.4
Khmelnytskyi	155	12.3	-26.0	136	10.9	-11.5	136	11.1	1.7
Cherkasy	310	25.9	-34.4	239	20.2	-22.0	256	22.1	9.4
Chernivtsi	52	5.8	-37.2	61	6.8	17.8	65	7.3	7.6
Chernihiv	398	40.2	-9.1	343	35.2	-12.5	270	28.4	-19.2
Kyiv city	1,252	42.9	-16.4	1,104	37.8	-12.0	858	29.5	-21.9

[1] Reported incidence rate; does not include children born to HIV-positive mothers whose HIV status has not been established

[2] Data are calculated according to the average annual permanent population for 2021. The data may be updated.

Table 17. Timeliness of linking HIV-positive persons to care in Ukraine, 2022

Region (oblast, city)	Percentage of HIV-positive persons linked to care at HCFs of the total number of those detected based on SEM data [1], %	CD4 count testing coverage of HIV+ persons, %	Percentage of PLHIV linked to care (%)	
			with immunosuppression < 200 CD4 cells/μl (of those tested)	with immunosuppression < 350 CD4 cells/μl (of those tested)
Ukraine	91.3	74.4	37.3	59.8
Vinnytsia	90.1	93.5	24.9	49.3
Volyn	100.0	76.8	36.8	51.3
Dnipropetrovsk	94.4	84.9	42.5	65.2
Donetsk	100.3	50.6	42.2	59.6
Zhytomyr	92.1	80.6	41.2	58.8
Zakarpattia	71.3	90.5	49.3	70.1
Zaporizhzhia	99.5	68.3	36.4	59.2
Ivano-Frankivsk	99.3	68.4	38.5	67.9
Kyiv	84.7	66.3	27.5	45.5
Kirovohrad	90.8	43.8	29.0	44.2
Luhansk [2]	87.5	54.5	16.7	16.7
Lviv	72.4	99.7	35.4	53.5
Mykolaiv	76.7	98.1	43.5	59.6
Odesa	93.3	53.1	28.6	55.8
Poltava	87.0	89.0	42.3	64.8
Rivne	107.4	91.7	45.9	68.4
Sumy	91.2	90.9	36.9	59.2
Ternopil	101.2	62.8	32.7	57.1
Kharkiv	89.2	99.7	33.9	62.4
Kherson	90.8	70.2	37.7	61.3
Khmelnytskyi	78.2	100.0	31.6	52.2
Cherkasy	90.5	92.6	32.9	59.9
Chernivtsi	68.4	95.4	37.1	56.5
Chernihiv	99.4	99.6	40.9	64.3
Kyiv city	95.4	94.6	48.3	66.7

[1] including children born to HIV-positive mothers whose HIV status has not been established

[2] the number of people linked to care (n=11) and tested for CD4 counts (n=6) is insufficient to analyze the indicator

Table 18. AIDS incidence in Ukraine, 2020-2022 [1]

Region (oblast, city)	2020			2021			2022		
	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %
Ukraine	4,139	10.9	-44.4	4,151	11.0	1.0	3,010	7.3	-33.0
Vinnytsia	152	9.8	-30.5	113	7.4	-24.9	159	10.6	43.3
Volyn	61	5.9	-53.9	62	6.0	2.0	39	3.8	-36.6
Dnipropetrovsk	538	16.9	-62.4	558	17.7	4.8	558	18.0	2.0
Donetsk	538	28.6	-41.5	417	22.4	-21.4	90	2.2	-90.1
Zhytomyr	122	10.0	-37.8	127	10.6	5.2	138	11.7	10.8
Zakarpattia	18	1.4	-60.7	33	2.6	83.8	29	2.3	-11.6
Zaporizhzhia	94	5.5	-55.4	97	5.8	4.4	74	4.5	-21.9
Ivano-Frankivsk	11	0.8	-67.5	14	1.0	27.8	24	1.8	73.1
Kyiv	207	11.7	-43.1	316	17.8	51.8	209	11.7	-34.2
Kirovohrad	155	16.6	-30.4	85	9.2	-44.4	73	8.1	-11.9
Luhansk [2]	36	5.3	-61.2	49	7.3	38.0	4	0.2	-97.4
Lviv	98	3.9	-60.1	207	8.3	112.3	119	4.8	-41.9
Mykolaiv	186	16.5	-36.1	178	16.0	-3.3	117	10.7	-32.9
Odesa	977	41.3	-30.0	997	42.2	2.3	686	29.3	-30.6
Poltava	39	2.8	-52.9	49	3.6	27.0	42	3.1	-12.6
Rivne	46	4.0	-44.3	67	5.8	46.2	61	5.3	-8.2
Sumy	57	5.3	-37.2	74	7.0	31.5	30	2.9	-58.5
Ternopil	20	1.9	-45.4	24	2.3	20.9	26	2.6	9.7
Kharkiv	166	6.3	-31.4	147	5.6	-10.7	117	4.5	-19.0
Kherson	96	9.3	-50.0	76	7.4	-20.0	32	3.2	-57.0
Khmelnytskyi	84	6.7	-43.0	82	6.6	-1.6	63	5.1	-21.9
Cherkasy	85	7.1	-53.6	75	6.3	-10.7	66	5.7	-10.1
Chernivtsi	32	3.6	-19.5	36	4.0	13.0	30	3.4	-15.9
Chernihiv	65	6.6	-53.8	66	6.8	3.1	44	4.6	-31.6
Kyiv city	256	8.8	-36.9	202	6.9	-21.2	180	6.2	-10.5

[1] Data for 2022 per 100 thousand population are based on 2021 demographic data and may be updated.

Table 19. Structure of modes of HIV transmission among citizens of Ukraine (registered cases), 2020-2022

Mode of HIV transmission	Persons with newly diagnosed HIV infection linked to care during the reporting year			Persons diagnosed with HIV infection linked to care as of the end of the reporting year		
	2020	2021	2022	2020	2021	2022
1) Total number of HIV-positive persons, including:	15,658	15,360	12,212	144,089	135,902	157,510
those infected through sexual contacts, of which:	9,590	9,966	8,342	94,983	89,784	10, 835
through homosexual contacts	393	432	289	3,402	3,004	4,278
through heterosexual contacts	9,197	9,534	8,053	91,581	86,780	100,557
those infected through parenteral transmission, of which those whose infection was caused by:	5,964	5,325	3,820	45,116	42,123	48,798
injecting drug use	5,960	5,325	3,820	45,066	42,073	48,754
transfusion of blood components and products	0	0	0	9	11	8
transplantation of donor organs, cells, tissues and transfusion of biological fluids	0	0	0	0	0	0
other medical manipulations	0	0	0	7	6	7
occupational exposure	0	0	0	1	1	1
other non-medical interventions	4	0	0	33	32	28
Children born to HIV-positive mothers whose HIV infection diagnosis was confirmed	67	48	35	3,412	3,368	3,334
HIV-positive persons with unknown mode of transmission	37	21	15	578	627	543
2. Children born to HIV-infected mothers whose HIV infection is being confirmed	1,930	1,929	1,424	4,261	4,431	4,101

Table 20. Number and percentage of officially registered new HIV cases among people who inject drugs (PWID) in Ukraine, compared to 1997, 2008 and 2022 data

Region (oblast, city)	1997 [1]		2008 [2]		2022 [3]	
	PWID	%	PWID	%	PWID	%
Ukraine (excl. the AR of Crimea and Sevastopol city)	6,966	84.3	6,558	36.9	3 ,820	31.3
Ukraine (incl. the AR of Crimea and Sevastopol city)	7,448	83.6	7,009	37.0		
Vinnytsia	37	72.5	98	31.5	32	14.9
Volyn	90	94.7	71	29.1	12	12.1
Dnipropetrovsk	2,042	93.1	1,316	42.7	917	33.5
Donetsk	1,710	81.8	1,295	32.4	67	21.1
Zhytomyr	50	89.3	134	39.4	30	11.9
Zakarpattia	21	7.05	3	7.1	0	0.0
Zaporizhzhia	264	89.2	188	35.7	130	38.9
Ivano-Frankivsk	18	90.0	51	30.7	15	13.2
Kyiv	71	89.9	236	33.7	301	40.9
Kirovohrad	16	76.2	53	22.2	45	14.3
Luhansk	147	86.0	295	43.5	7	63.6
Lviv	51	82.3	155	49.2	133	36.9
Mykolaiv	268	85.6	454	38.2	49	13.3
Odesa	769	67.3	431	27.7	1,423	39.5
Poltava	213	93.0	152	40.2	46	18.0
Rivne	13	68.4	102	47.2	16	11.0
Sumy	19	82.6	55	29.9	29	20.3
Ternopil	30	85.7	68	52.7	9	11.5
Kharkiv	205	74.0	218	42.2	173	53.6
Kherson	64	71.9	233	39.6	53	35.1
Khmelnytskyi	40	81.6	77	38.3	21	15.4
Cherkasy	188	82.5	134	37.5	44	17.2
Chernivtsi	80	94.1	19	21.1	11	16.9
Chernihiv	102	94.4	123	28.1	56	20.7
Kyiv city	458	90.7	597	47.5	201	23.4

[1] the year when the highest number of HIV-positive PWID within the whole period of HIV infection surveillance was registered in Ukraine

[2] the year when a change of the prevalent mode of HIV transmission took place in Ukraine, namely from parenteral transmission when injecting drugs to transmission through sexual contacts, primarily through heterosexual contacts

[3] the rate is calculated excluding children born to HIV-positive mothers whose HIV status is unknown

Table 21. Number and rate of HIV and AIDS cases per 100 000 population in the regions according to HCFs' data on PLHIV linked to care, 2021-2022

Region (oblast, city)**	2021				2022			
	PLHIV *		incl. with AIDS		PLHIV *		incl. with AIDS	
	number of persons	(per 100,000 population)	number of persons	(per 100,000 population)	number of persons	(per 100,000 population)	number of persons	(per 100,000 population)
Ukraine	150,005	397.5	47,652	126.3	157,510	384.2	49,074	119.7
Vinnytsia	2,969	195.1	1,451	95.3	3,260	217.0	1,588	105.7
Volyn	2,122	207.1	840	82.0	2,108	206.9	830	81.5
Dnipropetrovsk	28,275	900.8	8,044	256.3	29,293	947.0	7,867	254.3
Donetsk	12,261	659.7	5,517	296.8	11,148	275.5	5,004	123.7
Zhytomyr	3,386	283.0	1,142	95.5	3,274	277.5	1,122	95.1
Zakarpattia	766	61.4	297	23.8	1,093	88.0	389	31.3
Zaporizhzhia	4,586	275.3	1,660	99.7	4,497	274.6	1,583	96.7
Ivano-Frankivsk	1,159	85.3	402	29.6	1,219	90.4	403	29.9
Kyiv	7,623	427.6	2,811	157.7	8,074	451.2	2,910	162.6
Kirovohrad	3,325	363.9	1,283	140.4	3,394	378.2	1,309	145.9
Luhansk	2,184	327.5	555	83.2	1,986	94.6	497	23.7
Lviv	3,847	155.2	1,458	58.8	4,277	173.9	1,569	63.8
Mykolaiv	8,225	742.5	1,687	152.3	8,104	742.7	1,651	151.3
Odesa	25,341	1,075.1	9,160	388.6	27,248	1164.3	9,109	389.2
Poltava	3,533	259.1	1,000	73.3	3,710	276.0	1,047	77.9
Rivne	1,990	173.4	599	52.2	2,335	204.7	760	66.6
Sumy	1,638	155.8	508	48.3	1,776	171.8	518	50.1
Ternopil	791	77.0	116	11.3	858	84.2	120	11.8
Kharkiv	5,462	208,6	1,294	49.4	5,523	213.8	1,311	50.7
Kherson	4,760	468.8	1,113	109.6	4,547	454.6	1,061	106.1
Khmelnytskyi	2,302	185.6	938	75.6	2,366	193.0	953	77.8
Cherkasy	3,807	324.1	1,274	108.5	3,993	345.1	1,250	108.0
Chernivtsi	989	110.7	313	35.0	1,087	122.5	340	38.3
Chernihiv	4,088	422.2	1,265	130.7	4,065	427.5	1,211	127.4
Kyiv city	14,576	499.0	2,925	100.1	18,275	627.8	4,672	160.5

* excluding children born to HIV-positive mothers whose HIV status has not been established

** calculated based on data from health care facilities in the Ukrainian government-controlled areas and demographic data for 2021 (may be updated)

Table 22. AIDS incidence in Ukraine, 2020-2022

Region (oblast, city)	2020			2021			2022		
	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %
Ukraine	4,139	10.9	-44.4	4,151	11.0	1.0	3,010	7.3	-33.0
Vinnytsia	152	9.8	-30.5	113	7.4	-24.9	159	10.6	43.3
Volyn	61	5.9	-53.9	62	6.0	2.0	39	3.8	-36.6
Dnipropetrovsk	538	16.9	-62.4	558	17.7	4.8	558	18.0	2.0
Donetsk *	538	28.6	-41.5	417	22.4	-21.4	90	2.2	-90.1
Zhytomyr	122	10.0	-37.8	127	10.6	5.2	138	11.7	10.8
Zakarpattia	18	1.4	-60.7	33	2.6	83.8	29	2.3	-11.6
Zaporizhzhia	94	5.5	-55.4	97	5.8	4.4	74	4.5	-21.9
Ivano-Frankivsk	11	0.8	-67.5	14	1.0	27.8	24	1.8	73.1
Kyiv	207	11.7	-43.1	316	17.8	51.8	209	11.7	-34.2
Kirovohrad	155	16.6	-30.4	85	9.2	-44.4	73	8.1	-11.9
Luhansk *	36	5.3	-61.2	49	7.3	38.0	4	0.2	-97.4
Lviv	98	3.9	-60.1	207	8.3	112.3	119	4.8	-41.9
Mykolaiv	186	16.5	-36.1	178	16.0	-3.3	117	10.7	-32.9
Odesa	977	41.3	-30.0	997	42.2	2.3	686	29.3	-30.6
Poltava	39	2.8	-52.9	49	3.6	27.0	42	3.1	-12.6
Rivne	46	4.0	-44.3	67	5.8	46.2	61	5.3	-8.2
Sumy	57	5.3	-37.2	74	7.0	31.5	30	2.9	-58.5
Ternopil	20	1.9	-45.4	24	2.3	20.9	26	2.6	9.7
Kharkiv	166	6.3	-31.4	147	5.6	-10.7	117	4.5	-19.0
Kherson	96	9.3	-50.0	76	7.4	-20.0	32	3.2	-57.0
Khmelnytskyi	84	6.7	-43.0	82	6.6	-1.6	63	5.1	-21.9
Cherkasy	85	7.1	-53.6	75	6.3	-10.7	66	5.7	-10.1
Chernivtsi	32	3.6	-19.5	36	4.0	13.0	30	3.4	-15.9
Chernihiv	65	6.6	-53.8	66	6.8	3.1	44	4.6	-31.6
Kyiv city	256	8.8	-36.9	202	6.9	-21.2	180	6.2	-10.5

Table 23. Causes of death in HIV-positive people in Ukraine, 2020-2022								
Causes of death	2020			2021			2022		
	Total number of deaths	those received ART		Total number of deaths	those received ART		Total number of deaths	those received ART	
		N	%		N	%		N	%
Total number of deaths, including:	4,995	3,647	73.0	5,020	4,059	80.9	3,968	3,347	83.4
those directly related to HIV infection, including:	2,340	1,625	69.4	2,144	1,647	76.8	1 512	1,174	77.6
those with clinical stage III of HIV infection	226	157	69.5	216	170	78.7	219	175	79.9
those with clinical stage IV of HIV infection	2,114	1,468	69.4	1,928	1,477	76.6	1,293	999	77.3
including due to TB/HIV co-infection	920	626	68.0	801	622	77.7	446	340	76.2
those not related to HIV infection, of which:	2,302	1,744	75.8	2,506	2,110	84.2	2,088	1,839	88.1
tuberculosis	94	65	69.1	63	46	73.0	31	25	80.6
HBV or HCV, virus-related liver cirrhosis	223	179	80.3	194	162	83.5	162	136	84.0
other diseases	1,562	1,176	75.3	1,849	1,547	83.7	1,506	1,305	86.7
other causes	423	324	76.6	400	355	88.8	389	370	95.1
unknown cause of death	353	278	78.8	370	302	81.6	368	334	90.8
Percentage of people who injected drugs among the deceased persons		38.6			38.9			38.1	

Table 24. AIDS mortality in Ukraine, 2020-2022

Region (oblast, city)	2020			2021			2022		
	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %	abs. value	per 100,000 population	increase rate, %
Ukraine	2,114	5.5	-28.6	1,928	5.1	-8.2	1,293	3.1	-38.4
Vinnytsia	57	3.7	-8.6	45	2.9	-20.2	26	1.7	-41.5
Volyn	37	3.6	-34.9	26	2.5	-29.5	32	3.1	23.7
Dnipropetrovsk	450	14.1	-37.7	354	11.2	-20.5	280	9.0	-19.9
Donetsk *	191	10.1	-28.2	147	7.9	-22.0	59	1.4	-81.7
Zhytomyr	44	3.6	-45.8	53	4.4	21.7	47	4.0	-10.2
Zakarpattia	9	0.7	-18.0	7	0.6	-22.0	6	0.5	-14.0
Zaporizhzhia	77	4.5	-35.2	76	4.5	-0.1	40	2.4	-46.6
Ivano-Frankivsk	8	0.6	-33.1	10	0.7	25.6	13	1.0	30.8
Kyiv	119	6.7	-5.5	87	4.9	-27.3	73	4.1	-16.4
Kirovohrad	96	10.2	-8.3	52	5.6	-45.1	50	5.5	-2.3
Luhansk *	32	4.7	-36.5	31	4.6	-1.8	6	0.3	-93.9
Lviv	55	2.2	-23.3	41	1.6	-25.1	30	1.2	-26.3
Mykolaiv	112	10.0	-17.5	98	8.8	-11.6	59	5.4	-39.0
Odesa	364	15.3	-17.5	465	19.6	28.1	250	10.6	-45.9
Poltava	44	3.2	-41.5	45	3.3	3.3	26	1.9	-41.5
Rivne	23	2.0	4.9	15	1.3	-34.5	27	2.4	80.9
Sumy	14	1.3	-58.3	23	2.2	66.5	8	0.8	-64.7
Ternopil	15	1.4	16.1	8	0.8	-46.3	11	1.1	38.6
Kharkiv	64	2.4	-17.4	72	2.7	13.4	46	1.8	-35.4
Kherson	35	3.4	-24.8	21	2.1	-39.4	5	0.5	-75.9
Khmelnytskyi	43	3.4	-19.7	28	2.2	-34.3	34	2.8	22.7
Cherkasy	42	3.5	-21.3	21	1.8	-49.4	19	1.6	-8.3
Chernivtsi	21	2.3	-12.3	22	2.4	5.2	10	1.1	-54.3
Chernihiv	46	4.6	-35.2	54	5.5	19.1	43	4.4	-19.1
Kyiv city	116	3.9	-49.4	127	4.3	9.3	93	3.1	-26.6

Table 25: Indicators of the implementation of the program for prevention of mother-to-child transmission of HIV in 2022									
Region (oblast, city)	Coverage of pregnant women with HIV testing, %	HIV prevalence in pregnant women, %	Total number of HIV-positive pregnant women	Percentage of pregnant women with HIV-positive status established after 26 weeks, during and after delivery (among new HIV case), %	Percentage of HIV-positive pregnant women who received ART, %	Percentage of HIV-positive pregnant women continuing ART after delivery, %	Number of deliveries in HIV-positive women	Percentage of HIV-positive pregnant women admitted to an obstetric hospital for delivery, %	Percentage of HIV-positive women who had caesarean delivery, %
Ukraine	98.5	0.6	1,416	66.1	94.4	93	1,410	58.6	38.6
Vinnytsia	98.8	0.4	42	66.7	87.8	87.8	41	48.8	29.3
Volyn	97.4	0.4	38	76.3	100.0	100.0	33	66.7	36.4
Dnipropetrovsk	97.9	1.2	221	68.3	94.6	94.2	223	53.8	34.5
Donetsk	96.6	1.5	50	82.0	97.4	97.4	38	50.0	13.2
Zhytomyr	100.0	0.7	63	68.3	96.8	96.8	63	76.2	33.3
Zakarpattia	97.0	0.1	11	54.5	92.3	92.3	13	38.5	38.5
Zaporizhzhia	97.6	1.4	60	63.3	96.1	96.1	51	60.8	58.8
Ivano-Frankivsk	99.6	0.3	26	53.8	95.2	95.2	21	14.3	66.7
Kyiv	97.9	0.7	78	60.3	93.2	93.2	74	47.3	47.3
Kirovohrad	99.7	1.3	71	74.6	98.5	98.5	66	59.1	30.3
Luhansk	95.7	-	-	-	-	-	-	-	-
Lviv	99.5	0.2	48	29.2	96.2	90.4	52	88.5	51.9
Mykolaiv	97.7	1.6	87	78.2	97.2	97.2	71	43.7	29.6
Odesa	98.4	1.3	212	74.5	97.4	94.5	235	68.9	44.7
Poltava	98.3	0.5	49	67.3	100.0	100.0	41	34.1	29.3
Rivne	98.7	0.2	25	64.0	100.0	100.0	31	100.0	25.8
Sumy	99.5	0.5	24	58.3	100.0	100.0	24	83.3	29.2
Ternopil	97.4	0.2	13	46.2	87,.5	87.5	8	75.0	37.5
Kharkiv	98.3	0.3	31	29.0	80.0	80.0	25	36.0	24.0
Kherson	100.0	2.0	36	55.6	85.7	65.7	35	37.1	34.3
Khmelnytskyi	99.3	0.3	28	57.1	92.0	92.0	25	80.0	52.0
Cherkasy	97.8	0.9	74	68.9	92.5	92.5	67	59.7	26.9
Chernivtsi	98.9	0.2	14	35.7	100.0	100.0	15	80.0	66.7
Chernihiv	95.9	0.8	41	65.9	94,.7	94.7	38	44.7	36.8
Kyiv city	99.7	0.4	74	66.2	84.2	83.3	120	52.5	47.5

Table 26. Indicators of the implementation of the program for prevention of mother-to-child transmission of HIV in 2022

Region (oblast, city)	Number of live births in HIV-infected women	Number of new cases of perinatal HIV infection	Number of new cases of perinatal HIV infection for 100,000 live births	Percentage of HIV-exposed children, covered by PEP	Percentage of children born to HIV-positive mothers covered by early diagnosis within the first 2 months from birth
Ukraine	1,423	21	10.7	98.5	89.7
Vinnytsia	39	0	0.0	97.4	97.4
Volyn	34	0	0.0	100.0	97.1
Dnipropetrovsk	228	5	31.3	97.8	100.0
Donetsk	39	1	37.2	100.0	84.4
Zhytomyr	63	2	29.5	96.8	100.0
Zakarpattia	13	0	0.0	100.0	100.0
Zaporizhzhia	54	2	47.9	96.3	100.0
Ivano-Frankivsk	21	0	0.0	100.0	94.1
Kyiv	74	0	0.0	95.9	95.2
Kirovohrad	66	0	0.0	97.0	95.3
Luhansk	-	-	-	-	-
Lviv	52	0	0.0	100.0	92.2
Mykolaiv	71	1	24.0	100.0	100
Odesa	239	4	27.3	99.6	69.0
Poltava	41	0	0.0	100.0	85.0
Rivne	30	0	0.0	100.0	100.0
Sumy	23	1	24.2	100.0	100.0
Ternopil	8	0	0.0	100.0	100.0
Kharkiv	25	0	0.0	100.0	32.0
Kherson	36	1	54.2	100.0	88.6
Khmelnytskyi	25	0	0.0	96.0	100.0
Cherkasy	69	2	30.7	97.1	100.0
Chernivtsi	15	0	0.0	100.0	0
Chernihiv	38	0	0.0	97.4	84.8
Kyiv city	120	2	11.4	99.2	94

Table 27. Comparison of data on new cases of HIV infection due to mother-to-child transmission based on PCR test results (per 100,000 live births), 2021-2022

Region (oblast, city)	2021			2022		
	Number of live births[1]	Number of new HIV infections[2]	Rate per 100,000 live births	Number of live births[1]	Number of new HIV infections[2]	Rate per 100,000 live births
Ukraine	271,983	24	8.8	196,806	21	10.7
Vinnytsia	10,529	0	0.0	9,356	0	0.0
Volyn	9,852	1	10.2	8,627	0	0.0
Dnipropetrovsk	19,508	6	30.8	15,968	5	31.3
Donetsk	10,134	1	9.9	2,685	1	37.2
Zhytomyr	8,544	0	0.0	6,786	2	29.5
Zakarpattia	12,631	0	0.0	10,521	0	0.0
Zaporizhzhia	9,571	0	0.0	4,176	2	47.9
Ivano-Frankivsk	10,545	0	0.0	9,410	0	0.0
Kyiv	12,632	1	7.9	7,664	0	0.0
Kirovohrad	5,533	1	18.1	4,961	0	0.0
Luhansk	3,356	1	29.8	240	-	0.0
Lviv	19,440	1	5.1	17,170	0	0.0
Mykolaiv	7,029	1	14.2	4,175	1	24.0
Odesa	19,280	5	25.9	14,671	4	27.3
Poltava	8,063	0	0.0	7,561	0	0.0
Rivne	11,691	0	0.0	10,091	0	0.0
Sumy	5,484	0	0.0	4,138	1	24.2
Ternopil	7,275	0	0.0	6,247	0	0.0
Kharkiv	15,482	2	12.9	7,496	0	0.0
Kherson	7,113	2	28.1	1,846	1	54.2
Khmelnytskyi	8,681	0	0.0	7,987	0	0.0
Cherkasy	6,825	0	0.0	6,524	2	30.7
Chernivtsi	7,836	0	0.0	6,826	0	0.0
Chernihiv	5,338	0	0.0	4,179	0	0.0
Kyiv city	29,611	2	6.8	17,501	2	11.4

[1] Source: reporting form No. 21 (annual) “Report on Medical Care for Pregnant, Parturient and Postpartum Women”.

[2] Source: reporting form No. 63 (annual) “Prevention of Mother-to-Child Transmission of HIV”

Table 28. Rate of mother-to-child transmission of HIV in Ukraine in a cohort of 2020 and early PCR diagnosis (2022)

Region (oblast, city)	Cohort of children born in 2020 (PCR, ELISA, IB)			Cohort of children born in 2022 (early PCR diagnosis)		
	Number of HIV-positive children	MTCT rate, %	MTCT rate av[1]%	PCR coverage, %	Number of HIV-positive children	MTCT rate, %
Ukraine	29	2.25	2.6	91.6	21	1.6
Vinnytsia	2	3.9	1.8	97.4	0	0.0
Volyn	0	0	0.0	100.0	0	0.0
Dnipropetrovsk	7	3.7	4.0	96.9	5	2.3
Donetsk	2	2	2.7	82.1	1	3.1
Zhytomyr	0	0	1.0	100.0	2	3.2
Zakarpattia	0	0	0.0	92.3	0	0.0
Zaporizhzhia	0	0	0.4	59.3	2	6.3
Ivano-Frankivsk	2	18.2	6.1	90.5	0	0.0
Kyiv	1	1.9	3.9	83.8	0	0.0
Kirovohrad	4	8.9	5.4	97.0	0	0.0
Luhansk			1.1	-	-	-
Lviv	1	1.8	2.2	98.1	0	0.0
Mykolaiv	0	0	1.5	100.0	1	1.4
Odesa	1	0.56	2.1	84.9	4	2.0
Poltava	0	0	2.1	97.6	0	0.0
Rivne	0	0	2.4	100.0	0	0.0
Sumy	0	0	2.4	100.0	1	4.3
Ternopil	1	12.5	4.2	100.0	0	0.0
Kharkiv	0	0	2.0	100.0	0	0.0
Kherson	2	2.7	3.4	97.2	1	2,.9
Khmelnytskyi	0	0	1.0	100.0	0	0.0
Cherkasy	0	0	1.1	98.6	2	2.9
Chernivtsi	0	0	14.7	100.0	0	0.0
Chernihiv	0	0	2.5	86.8	0	0.0
Kyiv city	6	5.7	3.1	83.3	2	2.0

[1] MTCT rate is an average rate calculated using the rank aggregation technique based on the numbers of children with established HIV status and HIV-positive children for 2016-2018 by region and in the country in general. This method is used for observations, which do not always allow identifying a clear trend in the dynamics of a particular phenomenon for a long time.

Table 28.Linkage to care of children born to HIV-positive mothers at healthcare facilities, 2022

Region (oblast, city)	New cases		Deregistered due to the absence of HIV infection	Under follow-up as of 01.01.2023		
	HIV-infection*	AIDS		HIV-diagnosed children		children in the process of HIV diagnosis confirmation
				children, total*	incl. with AIDS	
Ukraine	35	37	1,424	3,334	1,025	4,101
Vinnytsia	3	4	40	65	42	83
Volyn	2	1	34	42	10	68
Dnipropetrovsk	5	9	210	708	229	562
Donetsk	0	2	42	260	83	225
Zhytomyr	1	0	62	63	20	120
Zakarpattia	0	0	13	21	4	54
Zaporizhzhia	3	3	54	75	24	132
Ivano-Frankivsk	0	0	20	22	8	53
Kyiv	3	2	90	174	85	387
Kirovohrad	0	0	68	108	25	123
Luhansk	0	0	3	42	9	45
Lviv	0	0	58	81	22	191
Mykolaiv	4	2	71	255	30	169
Odesa	3	8	254	540	169	745
Poltava	2	0	40	64	10	104
Rivne	0	0	30	35	11	57
Sumy	1	0	22	30	3	52
Ternopil	0	0	8	9	4	14
Kharkiv	1	1	25	67	20	188
Kherson	2	1	36	82	8	127
Khmelnytskyi	0	0	25	60	52	55
Cherkasy	0	1	69	109	20	120
Chernivtsi	0	0	15	108	55	25
Chernihiv	1	1	39	78	13	99
Kyiv city	4	2	96	236	69	303

* excluding children born to HIV-positive mothers whose HIV status has not been established

Table 30. Total number of people receiving ART in Ukraine (by source of receipt of ARVs) as of 01.01.2023

Region (oblast, city, institution)	MoH and NAMS of Ukraine				SCES of Ukraine			Total
	State budget	Global Fund	IDPs	Total, MoH and NAMS of Ukraine	Global Fund	State budget	Total, SCESU	
Vinnytsia	1,699	582	8	2,289	47	109	156	2,445
Volyn	1,272	403	23	1,698	15	36	51	1,749
Dnipropetrovsk	21,199	3,470	513	25,182	335	468	803	25,985
Donetsk	3,702	682	43	4,427			0	4,427
Zhytomyr	2,119	394	55	2,568	83	159	242	2,810
Zakarpattia	649	18	130	797	1	10	11	808
Zaporizhzhia	2,976	663	119	3,758	20	23	43	3,801
Ivano-Frankivsk	1,025	13	118	1,156	14	31	45	1,201
Kyiv	5,429	904	28	6,361	62	180	242	6,603
Kirovohrad	2,620	251	91	2,962	40	94	134	3,096
Luhansk	175	40	0	215			0	215
Lviv	2,403	563	191	3,157	28	140	168	3,325
Mykolaiv	5,568	748	17	6,333	30	107	137	6,470
Odesa	17,767	1,951	78	19,796	65	178	243	20,039
Poltava	2,680	428	170	3,278	40	89	129	3,407
Rivne	1,795	250	69	2,114	31	58	89	2,203
Sumy	1,083	192	15	1,290	12	55	67	1,357
Ternopil	522	95	98	715	18	37	55	770
Kharkiv	2,449	755	88	3,292	96	245	341	3,633
Kherson	1,249	266	0	1,515			0	1,515
Khmelnytskyi	1,426	406	95	1,927	21	46	67	1,994
Cherkasy	3,087	548	118	3,753	41	74	115	3,868
Chernivtsi	636	124	106	866	7	30	37	903
Chernihiv	3,304	489	4	3,797	6	25	31	3,828
Kyiv city	9,979	1,508	43	11,530			0	11,530
NSCH Ohmatdyt	211	0	2	213			0	213
L.V. Gromashevsky Institute of the NAMS of Ukraine SI	2,315	779	0	3,094			0	3,094
UKRAINE	99,339	16,522	2,222	118,083	1,012	2,194	3,206[1]	121,289

[1] Based on update from the SCESU – 3,224 people.

Table 31. Number of PLHIV receiving ART in the regions of Ukraine, ART coverage rate in patients from the follow-up group, 2021-2022

Region (oblast, city)	2021				2022			
	Number of PLHIV linked to care[1]	Number of PLHIV receiving ART		ART coverage	Number of PLHIV linked to care[1]	Number of PLHIV receiving ART		ART coverage
		persons, total	of which children aged 0-17 years	%		persons, total	of which children aged 0-17 years	%
Ukraine	150,005	130,239	2,721	87	157,510	121,289	2,162	77
Vinnytsia	2,969	2,326	48	78	3,260	2,445	54	75
Volyn	2,122	1,657	40	78	2,108	1,749	41	83
Dnipropetrovsk	28,275	25,045	498	89	29,293	25,985	395	89
Donetsk	12,261	11,437	256	93	11,148	4,427	62	40
Zhytomyr	3,386	2,757	65	81	3,274	2,810	59	86
Zakarpattia	766	621	10	81	1,093	808	21	74
Zaporizhzhia	4,586	4,330	58	94	4,497	3,801	44	85
Ivano-Frankivsk	1,159	973	22	84	1,219	1,201	26	99
Kyiv	7,623	6,445	145	85	8,074	6,603	120	82
Kirovohrad	3,325	2,878	94	87	3,394	3,096	102	91
Luhansk	2,184	1,936	34	89	1,986	215	6	11
Lviv	3,847	2,851	66	74	4,277	3,325	85	78
Mykolaiv	8,225	7,006	139	85	8,104	6,470	122	80
Odesa	25,341	19,491	385	77	27,248	20,039	301	74
Poltava	3,533	3,224	63	91	3,710	3,407	62	92
Rivne	1,990	1,662	34	84	2,335	2,203	37	94
Sumy	1,638	1,252	27	76	1,776	1,357	26	76
Ternopil	791	619	10	78	858	770	10	90
Kharkiv	5,462	4,287	62	78	5,523	3,633	34	66
Kherson	4,760	4,271	101	90	4,547	1,515	57	33
Khmelnytskyi	2,302	1,824	42	79	2,366	1,994	39	84
Cherkasy	3,807	3,602	72	95	3,993	3,868	72	97
Chernivtsi	989	738	84	75	1,087	903	80	83
Chernihiv	4,088	3,712	79	91	4,065	3,828	75	94
Kyiv city (DoH)	14,576	11,940	159	82	18,275	11,530	138	81
NSCH Ohmatdyt		243	128			213	94	
L.V. Gromashevsky Institute of the NAMS of Ukraine SI		3,112	0			3,094	0	
SCESU		3,762	0			3,224	1	

[1] excluding children born to HIV-positive mothers whose HIV status was not established

[2] the rate is calculated based on the population of the territories of Donetsk and Luhansk oblasts controlled by the Government of Ukraine

Annex 2

Indicators under the National Global AIDS Response Progress Report, 2017-2022 (GAM)

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
1.	Combined prophylaxis of HIV infection for everybody							
1.1.	HIV incidence [2]	Number of people newly infected with HIV in the reporting period per 1,000 uninfected population	-	-	0.28	0.22	0.16	-
1.2.	Estimated size of key populations	1.2A. Estimated number of SWs	-	86,600	-	-	-	-
		1.2B. Estimated number of MSM	-	179,400	-	-	-	202,200
		1.2C. Estimated number of PWID	-	350,300	-	-	-	-
		1.2D. Estimated number of TP	-	-	-	8,200	-	12,800
		1.2E. Estimated number of prisoners[3]	-	-	52,863	48,714	46,931	41,810
1.3.	HIV prevalence among key populations	1.3A. Percentage of SWs living with HIV	5.2	-	-	-	3.1	-
		1.3B. Percentage of MSM living with HIV	7.5	-	-	-	3.9	-
		1.3C. Percentage of PWID living with HIV	22.6	-	-	20.3	-	-
		1.3D. Percentage of TP living with HIV	-	-	-	1.7	-	-
		1.3E. Percentage of prisoners living with HIV [4]	3.3	8.0	7.2	8.0	8.5	8.2
1.4.	HIV testing among key populations	1.4A. Percentage of SWs who were tested for HIV in the past 12 months, or who know that they are living with HIV	58.2	-	-	-	64.2	-
		1.4B. Percentage of MSM who were tested for HIV in the past 12 months, or who know that they are living with HIV	39.2	-	-	-	72.0	-
		1.4C. Percentage of PWID who were tested for HIV in the past 12 months, or who know that they are living with HIV	43.1	-	-	51.0	-	-
		1.4D. Percentage of TP who were tested for HIV in the past 12 months, or who know that they are living with HIV	-	-	-	52.7	-	-
1.5.	Condom use among key populations	1.5A. Percentage of sex workers reporting using a condom with their most recent client	93.9	-	-	-	92.2	-
		1.5B. Percentage of men reporting using a condom the last time they had anal sex with a male partner	77.7	-	-	-	76.9	-

[2] Based on forecasting results obtained using Spectrum program

[3] According to the State Criminal-Executive Service of Ukraine

[4] According to the State Criminal-Executive Service of Ukraine (since 2018)

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
		1.5C. Percentage of PWID reporting using a condom the last time they had sexual intercourse	43.9	-	-	43.4	-	-
		1.5D. Percentage of transgender people reporting using a condom during their most recent sexual intercourse or anal sex	-	-	-	79.4	-	-
1.6.	**Coverage of HIV prevention programs among key populations**	**1.6A. Coverage of HIV prevention programs among SWs**						
		I. **Behavioral surveillance or another special survey.** Percentage of sex workers who report receiving at least two of the listed HIV prevention services from a nongovernmental organization, healthcare provider or other sources	-	37.2[5]	-	-	30.2	-
		II. **Program data.** Percentage of sex workers reached with HIV prevention interventions designed for SWs	48.4	46.0	52.3	57.0	59.8	53.4
		Number of sex workers reached with HIV prevention interventions designed for SWs	38,742	39,832	45,310	49,326	51,787	46,273
		Number of condoms and lubricants distributed among SWs	7,682,148	5,385,137	7,166,555	5,389,881	6,724,694	5,737,389
		1.6B. Coverage of HIV prevention programs among MSM						
		I. **Behavioral surveillance or another special survey.** Percentage of MSM who report receiving at least two of the listed HIV prevention services from a nongovernmental organization, healthcare provider or other sources	-	-	28[6]	-	-	28.2[7]
		II. **Program data.** Percentage of MSM reached with HIV prevention interventions designed for MSM	23.6	25.2	27.2	24,.8	26.3	22.6
		Number of men who have sex with men reached with individual or small-group HIV prevention interventions designed for the intended population	42,881	45,278	48,744	44,513	47,264	45,780
		Number of condoms and lubricants distributed among MSM	7,489,741	3,357,222	2,537,618	2,298,220	2,583,965	2,379,223
		1.6C. Coverage of HIV prevention programs among PWID						

[5] Based on answers to the question "Are you a client of an organization performing HIV prevention among sex workers, that is, do you have a client's plastic card that you use to receive condoms or other services from social workers?" Source: Моніторинг поведінки та поширення ВІЛ-інфекції серед осіб, які надають сексуальні послуги за винагороду / Середа Ю.В., Сазонова Я.О. – К.: МБФ «Альянс громадського здоров'я», 2017. – 142 с.
[6] Based on answers of MSM who reported being clients of prevention programs. Source: «Звіт за результатами біоповедінкового дослідження серед чоловіків, що практикують секс із чоловіками в Україні» Я. Сазонова, Ю. Дукач. МБФ «Альянс громадського здоров'я». 2019 р. – 120 с.
[7] Update (IBBS, 2021).

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
		I. **Behavioral surveillance or another special survey.** Percentage of PWID who report receiving at least two of the listed HIV prevention services from a nongovernmental organization, healthcare provider or other sources[8]	48[9]	-	-	-	37.1[10]	-
		II. **Program data.** Percentage of sex workers reached with HIV prevention interventions designed for PWID	65.3	58.3	66.8	69.3	54.7	47,1
		Number of PWID reached with HIV prevention interventions designed specifically for PWID	226,469	204,291	233,905	242,933	191, 534	164,835
		Number of needles or syringes distributed	29,071,944	20,048,017	18,671,424	22,789,972	17,705,713	14,377,722
		1.6D. **Coverage of HIV prevention programs among TP**						
		I. **Behavioral surveillance or another special survey.** Percentage of TP who report receiving at least two of the listed HIV prevention services from a nongovernmental organization, healthcare provider or other sources[11]	-	-	-	22.8	-	-
		II. **Program data.** Percentage of sex workers reached with HIV prevention interventions designed for TP	-	-	-	32.6	43.9	28.8
		Number of TP reached with HIV prevention interventions designed specifically for TP	595	1,049	1,747	2,677	3,601	3,689
		Number of condoms and lubricants distributed among TP	50,152	207,023	258,888	504,015	468,810	372,999
1.7.	**HIV prevention programs in prisons**	Number of prisoners receiving opioid substitution therapy	-	-	-	-	117	156
		Number of condoms distributed to prisoners	0	0	1,276,500	0	1,030,560	1,030,560
		Number of prisoners receiving ART	2,375	3,200	3,343	3,601	3,808	3,224
		Number of prisoners tested for HIV	29,369	48,314	54,025	48,714	83,390	62,533

[8] Description of the indicator within the framework of GAM (UNAIDS).

[9] Defined based on respondent's answers concerning receiving NGO-provided prevention services in the past 12 months Source: Звіт за результатами біоповедінкового дослідження 2017 року серед людей, які вживають наркотики ін'єкційно, в Україні. – Ю. Середа, Я. Сазонова. – К.: МБФ «Альянс громадського здоров'я». 2020 р. – 224 с.

[10] Defined based on answers by PWID who reported receiving at least one of the prevention services from an NGO. Source: «Звіт за результатами Інтегрованого біоповедінкового дослідження 2020 року серед людей, які вживають наркотики ін'єкційним шляхом. – І. Тітар, С. Сальніков, С. Огороднік, О. Нестерова., К. Попова, І. Андріанова, О. Шейко, С. Січкар – К.: ДУ «Центр громадського здоров'я Міністерства охорони здоров'я України». 2021 р. – 133 с.

[11] Description of the indicator within the framework of GAM (UNAIDS).

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
		Percentage of people living with HIV among prisoners		7.99	7.2	8.0	8.5	8.2
		Number of people living with HIV among prisoners	3,999	3,860	3,824	3,901	3,993	3,415
		Percentage of prisoners with hepatitis C	-	1.5	-	-	2.9	30.0
		Number of prisoners with hepatitis C	-	829	-	-	1,342	12,545
		Percentage of prisoners co-infected with HIV and hepatitis C virus	-	20	1.3	1.9	1.2	5.7
		Number of prisoners co-infected with HIV and hepatitis C virus	-	1,015	668	917	504	2,391
		Percentage of prisoners with TB or co-infected with HIV and TB	-	3.33	2.4	2.5	0.4	0.5
		Number of prisoners with TB or co-infected with HIV and TB	369	1,839	1,262	1,224	210	191
1.8.	**Safe injecting practices among people who inject drugs**	Percentage of PWID reporting using sterile injecting equipment the last time they injected drugs Percentage of PWID reporting using sterile injecting equipment the last time they injected drugs	96.6	-	-	-	96.6	-
1.9.	**Needles and syringes distributed per person who injects drugs**	Number of needles and syringes distributed per person who injects drugs per year by needle-syringe programs (rounded to a whole number)	84	57	53	65	51	41
		Number of needles and syringes distributed in the past 12 months by needle-syringe programs	29,071,944	20,048,017	18,671,424	22,789,972	17,705,713	14,377,722
1.10.	**Coverage of opioid substitution therapy**	Percentage of people who inject drugs receiving opioid substitution therapy	3.5	3.8	4.5	5.3	7.1	10.7
		Number of people who inject drugs and are receiving opioid substitution therapy	10,189	11,385	12,411	14,868	19,942	28,679
1.11.	**People who received pre-exposure prophylaxis (PrEP)**	Number of people who received PrEP at least once during the reporting period	4	125	1,735	2,258	5,711	9,075
		Number of people who received any PrEP product for the first time in their lives during the reporting period	4	125	1,635	1,549	4,794	6,380
1.14.	**Use of condom during the recent high risk sexual contact**	Percentage of respondents who reported using condom during the last sexual contact with a partner, who is not a husband of partner they live with, out of the total number of people who had sexual contact with such partner in the last 12 months	79.9	-	-	-	-	-
1.15.	**Number of condoms distributed annually**	Number of condoms distributed in the past 12 months	x	x	10,287,036	10,290,515	10,581,167	8,694,227
1.16.	**Young people: knowledge about HIV prevention**	Percentage of respondents 15-24 years old who correctly answered all five questions	26.7	-	18.9[12]	25.1	-	-

[12] Source: Health Behavior in School-Aged Children: a World Health Organization cross-national study (HBSC), Ukraine, 2018

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
2.	95-95-95 in HIV infection testing and treatment indicators							
	Estimated number of people living with HIV [13]	Estimated number of people living with HIV as of the end of the reporting period	244,000	240,750	251,168	257,548	244,877	-
2.1.	**People living with HIV who know their HIV status** [14]	Number of people living with HIV who know their HIV status	136,378	169,433	169,787	177,760	184,029	157,510[15]
	Progress towards the first 95 target	Percentage of people living with HIV who know their HIV status	56	70	68	69	75	-
2.2.	**People living with HIV on antiretroviral therapy** [16]	Number of people on antiretroviral therapy	98,237	122,697	136,105	146,488	152,226	121,289[17]
	Progress towards the second 95 target	Percentage of PLHIV on ART among all people who know their HIV status			72 72	80 82	83 77[18]	
2.3.	**People living with HIV who have suppressed viral loads** [19]	Number of people living with HIV with suppressed viral loads	57,010	113,578	127,871	137,221	142,586	115,252[20]
	Progress towards the third 95 target	Percentage of PLHIV with suppressed viral load among persons on ART	58	93	94	94	94	95[21]
	Late HIV diagnosis	Percentage of people living with HIV with an initial CD4 cell count < 200 cells/mm3 during the reporting period	36.8	36.6	35.1	32.5	35.3	37.3
		Percentage of people living with HIV with an initial CD4 cell count < 350 cells/mm3 during the reporting period	58.0	58.7	59.0	54.5	57.3	59.8
2.4.	**HIV testing volume and positivity** [22]	Percentage of HIV-positive results returned to people (positivity) in the calendar year	x	-	3.1	1.7	2.1	1.3[23]
		Number of tests conducted where an HIV-positive result was returned to the person (positivity)	x	-	16,344	24,000	33,682	29,653

[13] Based on forecasting results obtained using Spectrum program.
[14] For all the territory of Ukraine taking into account the available data on migration
[15] Only for the Ukrainian government-controlled territories.
[16] For all the territory of Ukraine taking into account the available data on migration, treatment and assumptions on the previous years data change.
[17] Only for the Ukrainian government-controlled territories.
[18] Only for the Ukrainian government-controlled territories.
[19] Calculated using the coefficient based on the results of PLHIV testing on the government-controlled territory.

[20] Only for the Ukrainian government-controlled territories.
[21] Only for the Ukrainian government-controlled territories.
[22] Since 2020, the indicator is calculated not only based on data on HIV testing services at community level, but also based on information on testing results in separate populations at HCFs where HIV- positive results were returned to the tested persons (in particular, persons who were tested using RTs). This explains significant difference of the results as compared to those in 2019.
[23] The indicator was for the first time calculated taking into account all data on the testing results within SEM.

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
		Number of tests performed where results were received by the person (testing volume)	x	-	520,119	1,380,914	1,628,098	2,247,375
	Data on HIV testing services at healthcare facilities	Percentage of HIV-positive results returned to people (positivity) in the calendar year	x	-	-	1.9	1.7	0.9
		Number of tests conducted where an HIV-positive result was returned to the person (positivity)	-	-	-	13,609	13,941	14,942
		Number of tests performed where results were received by the person (testing volume)	-	-	-	713,566	832,765	1,612,841
	Data on HIV testing services at community level	Percentage of HIV-positive results returned to people (positivity) in the calendar year	-	-	3.1	1.6	2.5	2.3
		Number of tests conducted where an HIV-positive result was returned to the person (positivity)	-	-	16,344	10,391	19,741	14,711
		Number of tests performed where results were received by the person (testing volume)	-	-	520,119	667,348	795,333	634,534
	Self-testing	Total number of individual self-test kits procured during the year by the government and/or donors	-	17,000	20,950	24,000	116,900	82,500
		Total number of individual self-test kits distributed during the year	-	523	25,540	18,587	40,454	55,786
2.6.	Antiretroviral therapy coverage among people living with HIV in key populations	**2.6A.** Percentage of SWs living with HIV and receiving ART in the past 12 months	29.0	-	-	-	78.0	-
		2.6B. Percentage of MSM living with HIV and receiving ART in the past 12 months	46.3	-	-	-	55.4	-
		2.6C. Percentage of PWID living with HIV and receiving ART in the past 12 months	37.9	-	-	-	86.2	-
		2.6D. Percentage of TP living with HIV and receiving ART in the past 12 months	-	-	-	41.2	-	-
		2.6E. Percentage of prisoners living with HIV and receiving ART in the past 12 months[24]	62.0	82.9	87.4	92.3	95.4	94.4
2.7.	**AIDS mortality** [25]	Total number of people who have died from AIDS-related causes per 100 thousand population.	16.14	13.67	11.45	10.52	10.27	-

[24] According to the State Criminal-Executive Service of Ukraine

[25] Based on forecasting results obtained using Spectrum program.

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
	AIDS mortality [26]	Number of people who have died from AIDS-related causes per 100 thousand population	7.7	8.1	7.7	5.5	4.7	3.1
		Total number of people who have died from AIDS-related causes (additional option for information)	3,298	3,448	2,977	2,114	1,928	1,293
3.	**Eliminating vertical HIV transmission and eradicating AIDS in children**							
3.1.	HIV testing in pregnant women	Percentage of pregnant women with known HIV status	97.2	99.5	99.9	99.1	98.7	98.5
		Number of pregnant women who **already knew they were HIV- positive** at the first antenatal care visit.	1,441	1,437	1,431	1,281	1,258	936
		Number of women who received a positive HIV test result **for the first time** when attending antenatal clinics and during current pregnancy and/or delivery	1,165	977	772	622	599	480
3.2.	Early infant diagnosis	Percentage of infants born to HIV-positive mothers who received an HIV test within two months of birth	54.2	60.9	82.1	87.9	70.0	82.7
3.3.	Vertical transmission of HIV	Estimated percentage of children newly infected with HIV from vertical transmission among women living with HIV delivering in the past 12 months (based on PCR data)[27]	2.2	1.64	1.58	1.3	1.3	1.5
3.4.	Preventing MTCT	Percentage of pregnant women living with HIV who received antiretroviral medicine to reduce the risk of vertical transmission of HIV	92.0	96.2	95.6	95.9	95.7	94.4
		Number of pregnant women who initiated ART **after** the start of current pregnancy	1,470	1,376	1,051	797	705	421
		Number of pregnant women who initiated ART **before** the current pregnancy	565	853	940	1,041	1,069	883
3.5.	Syphilis among pregnant women	Percentage of women attending antenatal care services who were tested for syphilis (testing during any visit)	92.5	93.4	90.2	92.8	95.4	95.3
		Percentage of women accessing antenatal care services who tested positive for syphilis	0.085	0.069	0.15	0.10	0.07	0.07
3.6.	Congenital syphilis rate	Reported congenital syphilis cases (live births and stillbirth)	0.0	0.0003	0.0003	0.0006	0.0004	0.002

[26] Based on data from Reporting Form No. 2 HIV/AIDS "Report on Persons with Conditions and Diseases Caused by Human Immunodeficiency Virus (HIV) for Year_____"
[27] Based on data of Reporting Form No. 63 (annual)

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
3.7.	Hepatitis B virus among pregnant women [28]	Percentage of women attending antenatal care services who were tested for HBV surface antigen (HBsAg)	-	-	-	-	52.52	61.2
		Percentage of women attending antenatal care services who were tested for HBsAg and had a positive HBsAg test	-	-	-	-	0.59	0.4
		Number of women attending antenatal care services who were tested for HBsAg and had a positive HBsAg test	-	-	-	-	788	500
4.	**Gender equality, empowering women and girls**							
4.1.	Physical and/or sexual violence experienced by key populations [29]	**4.1A.** Experience of physical and/or sexual violence among SWs	-	-	-	-	28.8	-
		4.1B. Experience of physical and/or sexual violence among MSM	-	-	-	-	23.6	-
		4.1C. Experience of physical and/or sexual violence among PWID	-	-	-	-	-	-
		4.1D. Experience of physical and/or sexual violence among TP	-	-	-	-	9.5	-
4.2.	Attitudes towards violence against women [30]	The percentage of women and men aged 15 to 49 years who agree that a husband is justified in hitting or beating his wife for specific reasons (% of those who agree with one or more of the situations)	-	-	-	-	28[31]	-
6. Implementation of human rights and eradication of stigma and discrimination								
6.1.	Discriminatory attitudes towards people living with HIV	Percentage of women and men 15–49 years old who report discriminatory attitudes towards people living with HIV (answering "no" to at least one of the two questions)	-	-	-	66.6	-	-
6.2.	Internalized stigma reported by people living with HIV [32]	Percentage of people who report receiving a positive HIV test result and agreed with the statement (concerning internalized stigma).	-	-	-	-	-	-
6.3.	Stigma and discrimination experienced by PLHIV in community settings [33]	Stigma and discrimination experienced by people living with HIV in community settings	-	-	-	-	8.1[34]	-

[28] New indicator since 2021

[29, 20] New indicator since 2021

[31] Source: Research "Citizens' Attitudes Toward Gender-Based and Domestic Violence", 2021.

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[32, 23] New indicator since 2021

[34, 25] Source: "Index Stigmas" in Ukraine (2020)

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
6.4	Experience of HIV-related discrimination in health- care settings	Percentage of people living with HIV who report experiences of HIV-related stigma discrimination in healthcare settings in the past 12 months	-	-	-	17.3[35]	-	-
6.5	Stigma and discrimination experienced by key populations [36]	6.5A. Percentage of SWs who report that one or more of the three experiences has happened to them in the past 6 months	-	-	-	-	-	-
		6.5B. Percentage of MSM who report that one or more of the three experiences has happened to them in the past 6 months	-	-	-	-	45.1	-
		6.5C. Experience of stigma and discrimination among PWID	-	-	-	-	-	-
		6.5D. Experience of stigma and discrimination among TP	-	-	-	-	-	-
6.6.	Avoidance of health care among key populations because of stigma and discrimination	6.6A. Percentage of SWs avoiding health care because of stigma and discrimination in the past 12 months	-	-	-	16.3	21.3	-
		6.6B. Avoidance of health care by MSM because of stigma and discrimination	-	-	-	9.7	6.3	-
		6.6C. Avoidance of health care by PWID because of stigma and discrimination	-	-	-	10.3	-	-
		6.6D. Avoidance of health care by TP because of stigma and discrimination.	-	-	-	8.4	-	-
	6.7. PLHIV seeking redress for violation of their rights [37]	Proportion of PLHIV who have experienced rights abuses in the last 12 months and have sought redress	-	-	-	-	-	-
7. General access to medical services and integration								
7.1.	Viral hepatitis among key populations	Prevalence of **hepatitis B** and coinfection with HIV among key populations	-	-	-	-	-	-
		Prevalence of **hepatitis B** and coinfection with HIV among key populations:						
		PWID	18.7	-	-	18.0	-	-
		SWs	3.7	-	-	-	1.8	-

[36,37] New indicator since 2021

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
		MSM	-	-	-	-	0.4	-
		TP	-	-	-	0.2	-	-
7.2.	Hepatitis C testing among PLHIV	Proportion of people starting antiretroviral therapy who were tested for hepatitis C during the reporting period using the sequence of anti-HCV antibody tests followed by HCV polymerase chain reaction (PCR) for those who are anti-HCV positive.	-	-	-	-	-	-
7.3.	People coinfected with HIV and Hepatitis C virus starting Hepatitis C virus treatment	Percentage of people diagnosed with HIV and HCV coinfection starting treatment for HCV	8.9	7.7	4.4	15.1	15.5	17.5
7.4.	Syphilis prevalence among key populations	7.4A Syphilis prevalence among SWs [38]	-	-	0.49	0.38	3.9	-
		7.4B Syphilis prevalence among MSM [39]	-	-	0.54	0.69	3.2	-
		7.4D Syphilis prevalence among TP [40]	-	-	-	-	2,4	-
7.5.	Men with urethral discharge	Percentage of men reporting urethral discharge in the past 12 months	0.002	0.002	0.001	0.001	0.00033	0.0002
7.6. Gonorrhea among men		Rate of laboratory-diagnosed gonorrhea among men in countries with laboratory capacity for diagnosis	0.019	0.016	0.013	0.007	0.0055	0.004
7.7. Co-management of tuberculosis and HIV treatment		Percentage of TB cases in PLHIV who received treatment for both TB and HIV	53.3	58.6	62.3	49.0	53.2	x
		Estimated number of TB cases in PLHIV [41]	8,300	8,200	7,800	7,000	6,300	x
		Number of HIV-positive new and relapse TB patients started on TB treatment during the reporting period who were already on antiretroviral therapy or started on antiretroviral therapy during TB treatment within the reporting year	4,426	4,806	4,860	3,428	3,354	3,069
7.8. People living with HIV with active tuberculosis disease		Total number of PLHIV with active TB expressed as a percentage of those who are newly enrolled in HIV treatment during the reporting period	-	22.8	20.3	12.9	11.5	12.1
7.9. People living with HIV who started tuberculosis preventive treatment		Number of patients who started latent TB infection treatment (IPT) expressed as percentage of the total number of those who are newly enrolled in HIV treatment during the reporting period	59.8	60.6	55.8	72.7	67.7	70.5
7.10. People living with HIV on ART who completed a course of tuberculosis preventive treatment		Percentage of PLHIV on ART who completed a course of TB preventive treatment (IPT) among those who initiated treatment (cohort of the year before the reporting year) for the current annual reporting round[42]	-	-	-	-	-	82.1

[38, 29] Based on program monitoring and prevention programs (SYREX database) until 2020 (2021 — IBBS data).

[40] According to IBBS data (2020). New indicator since 2021.

[41] Source: http://www.who.int/tb/country/data/download/en

No.	Indicator	Description of the indicator	2017	2018	2019	2020	2021	2022
7.11.	Women living with HIV who were screened for cervical cancer	The number of women living with HIV who were screened for cervical cancer in the last 12 months using any screening test [43]	-	-	-	-	-	-
		The number of women living with HIV who were screened for cervical cancer in the last 12 months using any screening test for the first time in their lives	-	-	-	-	-	-
7.12.	Cervical precancer treatment in women living with HIV [44]	Percentage of women living with HIV, who screened positive for cervical precancer who received treatment for precancerous lesions in the last 12 months [45]	-	-	-	-	-	-
7.13.	Treatment of invasive cervical cancer in women living with HIV [46]	The percentage of women living with HIV with suspected invasive cervical cancer who were treated within the last 12 months [47]	-	-	-	-	-	-
7.14.	People living with HIV receiving multimonth dispensing of antiretroviral medicine (coverage)[48]	Proportion of PLHIV currently on ART who are receiving multimonth dispensing of antiretroviral medicine for:	-	-	-	-	-	
		<3 months	-	-	-	-	-	11
		3 to <6 months	-	-	-	-	-	56
		> 6 months	-	-	-	-	-	32

[42, 33] Note: The source of data (an appropriate reporting form) is currently absent in Ukraine

[44, 36] New indicator since 2021. In 2023 is based on data from MIS SSD for 2021 patients' cohort.
[45, 37] Note: The source of data (an appropriate reporting form) is currently absent in Ukraine

[48] New indicator since 2021. Since 2016, a differentiated approach to service provision, which, in particular, provides for a possibility of receiving drugs for several months, has been recommended by the WHO and included to the Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection. Recommendations for a Public Health Approach.


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