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REPORT

ON THE 2020 INTEGRATED BIOBEHAVIOURAL SURVEY AMONG PEOPLE WHO INJECT DRUGS

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Terms definition

Biological component of the survey refers to the collection of data on HIV infection status, collection of capillary blood for rapid HIV tests, antibodies to HCV and syphilis, preparation of DBS.

Sample population (sample) - a part of the general population, the members of which are the observation objects and are selected according to particular criteria so that its characteristics reflect the features of the entire general population and provide an opportunity to get a complete picture of the entire population.

Secondary respondents (in Respondent-Driven Sampling (RDS) recruitment) are survey participants who have an invitation coupon from other PWID who took part in all survey components.

Illicit "street methadone" is an illegal synthetic opioid narcotic drug of unknown origin, known among PWID as "(street) methadone".

Integrated biobehavioural survey is a cross-sectional behavioural and biological survey associated in time and place with the same respondent.

Primary respondents or seeds (in RDS), are survey participants recruited by NGOs according to specific criteria and pave the way to a chain of recruitment of other respondents.

Behavioural component of the survey - a survey of risk behaviours concerning HIV infection, which is implemented by face-to-face interview - direct communication between the interviewer and the respondent.

Field phase of the survey is a part of the survey, during which the direct collection of data is carried out by interviewing respondents and performing tests.

Recruiter (in RDS recruitment) - a person who, after passing an interview, received coupons with which he/she can recruit other respondents representing the target group.

Survey site is a specially equipped facility with separate rooms for conducting all survey components.

Wave (in RDS recruitment) is the distance of secondary respondents in terms of recruiting from the primary respondent (seed). A PWID recruited directly by a seed represents the first wave.

Participant - a PWID who passed all stages of the survey (filled out the informed consent form, took part in the behavioural and biological components of the survey).

Abbreviations and Acronyms

AIDS Acquired immunodeficiency syndrome: the collective name for lesions occurring in the III-IV clinical stages of infection caused by the human immunodeficiency virus (HIV)

ART antiretroviral therapy (the use of medicines to treat HIV infection)

CDC United States Centers for Disease Control and Prevention

CI confidence interval

DBS dry blood spot

F2F face-to-face ("face-to-face" interview method, when the interviewer carries out the interview in person)

HCFs healthcare facilities

HCV hepatitis C virus

HIV human immunodeficiency virus

HTS HIV testing services (medical and psychological counselling of a particular person about HIV infection/AIDS and testing for antibodies to HIV, which is related to the counselling and carried out voluntarily)

IBBS Integrated Biobehavioural Survey

KIs key informants (representatives of non-governmental organisations or individuals who have expert knowledge of the survey target group)

MAT medication-assisted treatment

MoH Ministry of Health of Ukraine

NGO non-governmental organisation: a public or charitable organisation legalised or registered in accordance with the legislation of Ukraine

PEP post-exposure prophylaxis

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

PLHIV people living with HIV

PrEP pre-exposure prophylaxis

PWID people who inject drugs

RDS respondent-driven sampling

RDS-Analyst (short, RDS-A) a statistical package that is used to analyse data collected according to the RDS method

RT rapid testing

SD standard deviation

SOP standard operating procedure

UNAIDS Joint United Nations Programme on HIV/AIDS

WHO World Health Organisation

EXECUTIVE SUMMARY

This report presents the key results of the 2020 Integrated Biobehavioural Survey conducted in 12 Ukrainian cities.

The survey relied on a cross-sectional design using respondent-driven sampling (RDS). The sample population of the survey amounted to 6001 PWID.

Key survey indicators are summarised in Table 1.

Table 1. Key indicators of biobehavioural survey among PWID

Socio-demographic profile	
Average age (SD)	38 (8)
Percentage of PWID in the age group:	
Under 25 years	4.8
25-34 years	31.0
35-44 years	44.6
45 years and older	19.6
Percentage of female PWID	19.0
Getting preventive services	
NGO clients	32.3
Received the following in an NGO (past 12 months):	
sterile needles/syringes	34.7
condoms	30.8
social worker consultation	31.3
HIV testing	23.1
HV testing	19.6
syphilis testing	6.3
tuberculosis testing	11.5
Drug use	
Type of drugs used in the last 30 days:	
Only opioids	73.1
Only stimulants	13.1
Drugs mixing	11.5
Sexual behaviour	
Percentage of condom use during the last sexual intercourse (among those who have had sexual intercourse)	44.3
HIV, hepatitis C and syphilis: test results within the survey	
HIV prevalence	20.3
Hepatitis C prevalence	68.4
Syphilis prevalence	2.4
HIV treatment cascade	
Know HIV-positive status	64.4
Registered with a healthcare facility*	94.2
Receive ART*	91.7
Have undetectable viral load*	80.6
Annual HIV incidence	1.06

**From the previous line.*

INTRODUCTION

Sentinel epidemiological surveillance among key populations at risk for HIV (hereinafter referred to as KPs) is an essential tool for obtaining an accurate assessment of the epidemic situation and developing measures to overcome the epidemic; it allows to obtain data that cannot be collected through routine epidemiological surveillance, for example, collecting statistical reports. According to the Biobehavioural Survey Guidelines (WHO, 2017), "Biobehavioural surveys have proven to be invaluable tools for measuring and addressing HIV."[1]

Biobehavioural surveys are recommended to be carried out periodically at a frequency of 2-3 years to identify the HIV prevalence among KPs, determine behavioural factors that can contribute to the spread of infection, and assess the effectiveness of interventions and government programmes aimed at overcoming HIV infection in the relevant populations. Such studies are a data source for tracking progress in overcoming HIV, modelling epidemiological processes, and developing international reports of Ukraine within the framework of international obligations, including the UNAIDS Global AIDS Monitoring report.

In Ukraine, integrated biobehavioural surveys (IBBS) among KPs have been performed since 2007. The surveys are funded by international donors, in particular, the Global Fund to Fight AIDS, Tuberculosis and Malaria and the US Centers for Disease Prevention and Control (CDC). By 2018, such surveys were coordinated by non-governmental organisations, particularly the International Charitable Foundation "Alliance for Public Health". In accordance with the “Strategic Plan for Ensuring the Sustainability of Integrated Bio-Behaviour Surveys in Ukraine (2018-2021)”[2], in 2018, the coordination of IBBS among KPs was transferred to state institutions, namely, the Center for Public Health of the Ministry of Health of Ukraine.

This report presents the results of 2020 IBBS among PWID that was conducted for this population by a state institution (PHC) for the first time.

[1] http://apps.who.int/iris/bitstream/handle/10665/258924/9789241513012-eng.pdf

[2] https://www.phc.org.ua/sites/default/files/uploads/files/Strategichnyi_plan_IBPD_2018-2021.pdf

1. SURVEY METHODOLOGY

Survey objective and target group

The goal of the 2020 Integrated Bio-Behavioural Survey Among PWID (hereinafter - IBBS PWID 2020) was to comprehensively assess the epidemic process among PWID and provide substantiated information necessary for planning and implementing preventive and anti-epidemic measures.

The IBBS PWID 2020 envisaged the implementation of several tasks, namely:

- Assessment of the prevalence of HIV, antibodies to hepatitis C, and syphilis among PWID;
- Assessment of the prevalence of risky behaviours related to HIV infection among PWID;
- Assessment of the HIV incidence among PWID;
- Assessment of the achievement of viral suppression among PWID;
- Assessment of the level of coverage of PWID with prevention, care, and treatment services, including HIV testing;
- Determination of the level of PWID awareness of HIV transmission routes and preventive measures;
- Obtaining the data necessary to estimate the number of representatives of PWID in the survey regions;
- Calculation of the indicators of the 90-90-90 cascade for HIV-infected PWID;
- Providing data for HIV/AIDS epidemic modelling and national/international reporting (in particular, UNAIDS Global AIDS Monitoring (GAM))
- Providing recommendations for policy-making decisions on the provision of HIV prevention, care, and treatment services and proposals for further research needed to monitor and respond to the HIV/AIDS epidemic among PWID.

The target group of the survey were PWID, who met the following inclusion and exclusion criteria for survey participants:

Survey inclusion criteria:

- Experience of injection drug use within the last 30 days (verified by self-declaration and visual control for injection marks)
- Age 14 years and older at the time of the survey
- Duration of residence/work/study in the surveyed city at least 3 months
- Consent to participate in all components of the survey, namely: collection of capillary blood for further HIV testing using rapid tests (EDTA K3 microtubes), antibodies to hepatitis C, syphilis testing; in case of the first positive result, testing with a second confirmatory rapid test for HIV; using the dry blood spot (DBS) method for further testing for recent HIV infection and viral load.

Survey exclusion criteria:

- Participation in the current survey round more than once
- Refusal to participate in one or more survey components
- The level of alcohol or drug intoxication that does not allow understanding and answering the questions and the respondent's behaviour threatens his safety or the safety of others.

Data collection methods

IBBS PWID 2020 - a cross-sectional survey.
In each city, the actual field data collection phase was preceded by a formative assessment phase. The main goal of the formative assessment was to clarify the information necessary to understand the context, opportunities, and potential complications for surveying representatives of the KPs in a particular city. The formative assessment was performed with key informants (5 per city) - well-informed representatives of the KPs, NGOs, social, or outreach workers providing services for the PWID, the police, etc.
Also, the collection of data from PWID was preceded by the phase of piloting the survey tools.
The RDS method was used during the data collection process for recruiting participants - a variant of the sample, which the responders drive. One wave's participants recruited participants of the next wave with parallel mathematical control aimed at eliminating non-randomness in the selection process. Despite the non-random nature of the selection of the primary respondents (seeds), the final sample, provided that the RDS methodology is correctly implemented, frees from non-randomness. The RDS methodology provides for statistical correction of the final sample results to eliminate the possible impact of non-random selection of participants, as well as the unequal size of their individual social networks.
At the start of the sample implementation in each city, 4-6 primary respondents (seeds) were selected (depending on the calculated expected size of the sample population for the city). In addition to the general inclusion and exclusion criteria, the seeds should meet additional criteria. In particular, be motivated to disseminate information about the survey and coupons among PWID and have a social group of at least seven people. In addition, in order to ensure a greater diversity of secondary respondents in the course of recruitment, seeds should have access to different social groups and, accordingly, have different characteristics that are important from the research point of view. In particular, the seeds were to represent in a combined and variable manner:

- different age groups,
- different genders,
- residents of different city districts,
- self-declared HIV status,
- client status of an NGO that provides PWID services,
- experience of injection drug use (under/over 2 years),
- types of the main injecting drug (injecting opioids/stimulants).,

All participants who successfully completed all survey components had the opportunity (by agreement) to receive three coupons to invite their acquaintances to become potential participants in the survey.

Survey sample and geography

Compared to the previous rounds of IBBS PWID, in accordance with the requirement of the "Strategic Plan for Ensuring the Sustainability of Integrated Biobehavioural Surveys in Ukraine (2018-2021)" in order to optimise the cost of conducting IBBS, in the IBBS PWID 2020 the number of cities was reduced to 12. The final selection of cities was based on the following criteria: significant number of PWID, high HIV prevalence, high estimated HIV incidence, unstable epidemiological trends, prevalence of risky behaviours (use of sterile devices, condom use) among PWID, total population aged 15-59, implementation of the FAST TRACK CITIES initiative, etc. In addition, for safety of participants and field survey teams, the IBBS PWID 2020 was limited only to territories controlled by the government of Ukraine (excluding the temporarily occupied territories of the Autonomous Republic of Crimea. Sevastopol, parts of the Luhansk and Donetsk regions).

Furthermore, during the preparation of the 2020 survey, the approach calculating the sample was changed. The sample was calculated separately for each surveyed city based on the viral load values for the PWID cohort. The total sample size was determined using the CDC Sample Size Calculator for Survey-Based Viral Load Suppression.

The planned sample of the survey was 6000 PWID. The completed sample amounted to 6001 PWID. The performer of the field phase was the NGO "O. Yaremenko Ukrainian Institute for Social Research".

The list of cities involved in conducting the IBBS PWID 2020, survey sites, planned and implemented sample size, the number of seeds is presented in Table 1.1.

Duration of data collection

The survey field phase lasted from August 28 to November 6, 2020 (Table 1.2.). Differences in the timing of the start of the data collection process are associated with the impact of the COVID-19 pandemic (illness and quarantine of individual members of regional data collection teams, in particular in Bila Tserkva and Mariupol).

Table 1.1. Sample population

Region	City	Number of sites per city	Planned sample	Actual sample	Number of seeds
Dnipropetrovsk region	Dnipro	1	450	450	5
Dnipropetrovsk region	Kryvyi Rih	1	400	400	4
Donetsk region	Mariupol	1	550	550	5
Ivano-Frankivsk region	Ivano-Frankivsk	1	500	500	6
Kyiv region	Kyiv	2	650	650	6
Kyiv region	Bila Tserkva	1	400	400	4
Kirovohrad region	Kropyvnytskyi	1	550	551	5
Mykolaiv region	Mykolaiv	1	700	700	6
Odesa region	Odesa	1	450	450	4
Kharkiv region	Kharkiv	1	450	450	4
Khmelnytskyi region	Khmelnytskyi	1	500	500	4
Cherkasy region	Cherkasy	1	400	400	5
Total		**13**	**6000**	**6001**	**58**

Table 1.2. Duration of data collection

City	Maximum number of recruitment waves	Data collection period
Dnipro	12	31/08/2020-09/102020
Kryvyi Rih	9	31/08/2020-10/10/2021
Mariupol	16	15/09/2020-06/11/2020
Ivano-Frankivsk	14	31/08/2020-09/10/2020
Kyiv (left-bank part)	11	07/09/2020-07/10/2020
Kyiv (right-bank part)		07/09/2020-08/10/2020
Bila Tserkva	16	11/09/2020-30/10/2020
Kropyvnytskyi	15	31/08/2020-09/10/2020
Mykolaiv	15	31/08/2020-23/10/2020
Odesa	11	31/08/2020-01/10/2020
Kharkiv	9	31/08/2020-09/10/2020
Khmelnytskyi	11	31/08/2020-09/10/2020
Cherkasy	13	31/08/2020-09/10/2020

Data collection procedures

For the field phase of the survey, separate premises (sites) were used that were comfortable for PWID and ensured the confidentiality of data collection.

The participant data collection consisted of three sequential components:

- Screening a potential participant for compliance with inclusion and exclusion criteria screening), including obtaining informed consent to participate in all components of the survey;
- Behavioural component;
- Biological component.

All survey tools were developed in two versions - in Russian and Ukrainian.

The "face-to-face" (F2F) questionnaire interview method was used to collect information during the screening and the behavioural component. All information obtained during the interview was recorded in a specially designed mobile application using tablet computers, or paper questionnaires, with the subsequent transfer of answers to a specially designed secure mobile application on the PHC's platform.

The biological component involved collecting a K3-EDTA capillary blood sample using microcontainer tubes for rapid HIV tests, testing antibodies to hepatitis C and syphilis.

The following devices were used as a first rapid HIV test: Rapid Test HIV-1/2, Rapid Test for Antibody to HIV, Colloidal Gold Device. HIV-1/2.0 Rapid Test, First Response v.3.0 Cards Kit, was used to confirm the HIV-positive result of the first rapid test. In case of different (discordant) results of the second confirmatory HIV rapid test, the third rapid HIV-1/2 test, Bioline 3.0, was used.

Testing for antibodies to the hepatitis C virus was performed using the Hepatitis C Rapid Diagnostic Test, Bioline HCV. Syphilis testing - using the Syphilis Rapid Diagnostic Test, Bioline 3.0.

The data obtained were recorded in a special form by a healthcare professional of the regional data collection team. At the end of the day, the data from the paper forms was transferred to the mobile application.

All participants underwent pre- and post-test counselling.

All participants who tested positive for HIV and 10% of participants who tested negative for HIV underwent dry blood spot (DBS) sampling for viral load and recent infection. Cards with DBS samples were sent to PHC's HIV/AIDS Reference Laboratory, where they were analysed. The instruments and tests used are presented in Table 1.3.

Table 1.3. Instruments and tests used for the analysis of DBS samples by PHC's HIV/AIDS Reference Laboratory

Test name	Instruments	Name of reagents/tests
Recent infection	SUNRISE absorbance microplate reader; Thermal microplate shaker PST-60HL-4, BIOSAN, Latvia; PW 40 Microplate Washer, BioRad, Austria Refrigerated incubator SR13-2, SHEL LAB, USA	Maxim HIV-1 Limiting Antigen Avidity EIA for Dry Blood Spot-Cat. No. 92003, Maxim Biomedical, Inc., USA
Viral load	Sample preparation system Abbott m2000 sp, Amplifier Abbott m2000rt	Abbott Real Time HIV-1 Test Reagent Kit for DBS, which is compatible with Abbott instruments

Counselling and rapid testing were performed by qualified healthcare professionals from the AIDS centres or infectious disease hospitals.

Data quality assurance

The data quality assurance procedures were carried out in accordance with the Survey Protocol, and standard operating procedures (SOP) were developed on its basis, which were later agreed by the National Working Group on IBBS in Ukraine. Staff training was carried out based on the Protocol and SOPs. In addition, the survey staff (regional data collection teams, medical staff, laboratory specialists, consultants for monitoring the implementation of the IBBS) received specialised training.

Compliance with the methodology for the implementation of all components of the survey was checked during monitoring visits.

Using the “PHC_Research” electronic platform for data collection minimised possible data entry errors and made it possible to automatically track RDS coupons and compensation payments to participants and check recruitment rates.

The national and regional coordinators monitored the recruitment process to identify possible gaps and, if necessary, modify the recruitment of participants. Using the application made it possible to obtain preliminary results on key indicators and quality parameters of the RDS implementation.

If it was impossible to use the online form, the interviewer used a paper form and later entered the received data onto the platform within one day.

The dat set was checked. Inaccurate or incomplete data were reconciled with other data, particularly those entered on paper forms by data collection teams; if necessary, data were corrected.

All regional coordinators reported weekly to the national coordinator on the progress of data collection. The report included information on recruitment rates, the number of DBS samples collected and sent, a list of unpredictable problems and serious adverse events, and the steps that were taken to overcome the problems.

The Principal Investigator, national survey team, and a team of external monitoring consultants conducted a series of monitoring visits to the survey sites.

Unfortunately, due to quarantine restrictions associated with the COVID-19 pandemic, it was not possible to carry out all scheduled visits to Ivano-Frankivsk and Mariupol.

Ethical issues

The survey protocol passed the expert evaluation on the observance of human rights and was approved by the Ethics Committee of the State Institution "Center for Public Health of the Ministry of Health of Ukraine" (Kyiv, Ukraine) and Centers for Disease Control and Prevention (Atlanta, USA).

Each survey participant was familiar with the text of informed consent, which explained the purpose and procedure of the survey, voluntariness and confidentiality, possible risks and benefits of survey participation. If necessary, the survey team members additionally explained the conditions of survey participation and answered questions. Signed copies of the informed consent forms are stored in the PHC.

Each member of the data collection teams received training on ethical standards for conducting surveys and a corresponding endorsement certificate; they also signed the Data Use and Non-Disclosure Agreement for staff members.
The survey participants received monetary compensation for survey participation in the amount of UAH 150 and for successful recruitment of another participant in the amount of UAH 100.
All survey participants who received a positive result of rapid tests were referred to the appropriate healthcare facility to clarify the diagnosis, register, and start treatment. If necessary, a social worker accompanied the participant. At the same time, the effectiveness of referral was limited due to the three factors: The closure or re-profiling of specialised healthcare facilities to combat the COVID-19 pandemic, institutional restructuring of the healthcare system (in particular, the decentralisation of providers of testing and care for HIV, viral hepatitis, and sexually transmitted diseases), as well as the significant cost of confirmatory diagnostics.

Restrictions

The survey results are not representative of the entire PWID population and reflect only the urban residents of the regions included in the survey. Thus, the generalisation of survey data must take this context into account.

Impact of the COVID-19 pandemic

The preparatory and field phases of the survey were carried out in the context of the COVID-19 pandemic and related quarantine restrictions causing inconvenience during its implementation. Therefore, during the healthcare professional training, taking into account the quarantine, the participants were divided into three groups, and the training took place in three separate rooms. Some data collection team members were diagnosed with COVID-19, which led to a delay in the data collection start in Bila Tserkva and a delay in data collection in Mariupol. The timely implementation of monitoring visits was jeopardised due to the periodic introduction of restrictions on the movement of passenger transport in the event when a region or city was classified as a so-called “red zone” (in particular, there was a significant delay in monitoring visits to Ivano-Frankivsk).
In addition, the pandemic and the accompanying quarantines could influence the behaviour of the target group (in particular, the willingness to participate in the survey and recruit other potential participants) and affect the responses of the participants.

Main results of RDS diagnostics

During the data collection phase (sample recruitment) and after its completion, the recruitment quality control was performed in accordance with the RDS methodology. The convergence and uniformity of participants recruitment by seeds (recruitment homophily) were tracked in the context of the main socio-demographic and other characteristics, the dynamics of participants recruitment was tracked by recruitment waves, waves generated by each seed, etc.

The main characteristics used to quality control of RDS recruitment were gender, age groups, experience of injection drug use, use of sterile injection devices, condom use, client status of specialised NGOs, HIV testing, HIV status and having antibodies to hepatitis C virus, ART programme participation, etc.
Convergence was achieved for all cities in all main characteristics by the end of the data collection stage. Recruitment homophily for all main characteristics did not exceed 1.3, except for client status of specialised NGOs in Cherkasy and Ivano-Frankivsk, age groups in Bila Tserkva, Ivano-Frankivsk, Kropyvnytskyi, Kryvyi Rih and Mykolaiv, HCV test results in Ivano-Frankivsk and Kharkiv.

Data analysis

For data analysis, such descriptive statistics were used as one- and two-dimensional distributions. The main indicators are given in the context of socio-demographic characteristics, experience of drug use, type of the main drug, client status of NGOs, etc. When calculating percentages, the data were weighed according to the RDS methodology using as weights, which replace the size of the self-declared individual group of the participant, the size of the participant's network calculated on the basis of its "visibility" (i.e., "imputed visibility"). The corresponding weights were calculated in the RDS-Analyst statistical package (version 0.71) and imported into the IBM SPSS statistical package (version 26). Rates are presented unweighted. City-level indicators were calculated in RDS-Analyst, and aggregated indicators were computed in SPSS.
The report presents percentages calculated from the number of respondents who gave meaningful answers to the questions. Unless otherwise specified, percentages are indicated for all survey participants.
If the question was not posed to all respondents (filter questions were used), the analysis was carried out on the basis of the number of persons who had to answer the corresponding questions.
The significance of differences in percentage between groups was determined based on the chi-square test or Fisher's test (for the number of observations less than 5). The specified p-value was calculated based on the above criteria in the SPSS package.

Data access

To obtain additional calculations from the dataset not reflected in this report, please contact the Public Health Center with a corresponding request by sending a letter to the Director-General of the Center at info@phc.org.ua. The survey protocol and tools, as well as the request form for obtaining the survey dataset, will be published on the Center's website in the Research section: https://www.phc.org.ua/doslidzhennya.

2. SOCIO-DEMOGRAPHIC PROFILE OF PWID

The average age of PWID respondents was 38 years (standard deviation (SD): 8 years) (Table 2.1). The largest group among the survey participants were PWID aged 35-44 years - 44.6%, the least numerous were the young age group (up to 25 years old) - 4.8%. Females made up one-fifth of the survey participants (19%).

Table 2.1. Socio-demographic characteristics of PWID

		%	*n*
Age	< 25 years	4.8	297
	25-34 years	31.0	1845
	35-44 years	44.6	2671
	45 years and older	19.6	1187
	Mean age (SD)	37.8 (8)	
	Min. - max. age	16-68	
Gender	Male	81.0	4827
	Female	19.0	1134
Education level	Elementary (incomplete 9 grades)	2.4	142
	Junior high (complete 9 grades)	13.1	780
	Senior high (full 11 grades)	46.4	2814
	Incomplete higher education (less than 4 years)	9.3	549
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	20.9	1223
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	6.8	397
	Other	0.8	52
Main employment	Have a permanent job	24.6	1436
	Have odd jobs	51.7	3151
	Unemployed	15.2	862
	Housekeepers	2.2	144
	Disabled	4.9	307
	Technical school students	0.2	10
	University students	0.2	11
	Other	0.6	36
Marital status	Officially married or have a steady sex partner	52.5	3148
	Single and do not have a steady sex partner	47.5	2812
Place of residence	Own apartment/house	49.6	2932
	With family, friends (do not pay rent)	34.9	2078
	Rented apartment/house (rent on their own or share rent)	12.0	739
	No fixed residence (frequent change of residence)	2.8	171
	On the street, in abandoned houses, at train stations (homeless)	0.5	32
Personal income for the last 30 days, UAH	<UAH 2200	18.6	1071
	UAH 2200-11500	67.9	3845
	> UAH 11500	13.5	760
	Average income, UAH (SD)*	6745 (5187)	
	Median income, UAH*	6000	
	Average income, USD (SD)*	238 (183)	
	Median income, USD	212	

**The above calculations do not take into account the outliers (income above UAH 100000).*

Compared to men, among female PWID there is a higher percentage in the younger (under 25) age group - 7.9% versus 4.1% for men and in the older (45 years and older) age group - 23% versus 18.8% (Figure 2.1).

Almost every second survey participant has completed a high school (46.4%), and every fifth PWID has completed a vocational school (20.9%).

More than half (51.7%) of the survey participants indicated odd jobs as their main employment. This feature is inherent in participants from all age groups (Figure 2.2). Only a quarter of the participants (24.6%) reported that they had a permanent job. The largest percentage of permanently working PWID belongs to the group of 25-34 years old (29.2%). Every fifth (22.6%) respondent falls into the category of the unemployed, housekeepings, or disabled.

About a fifth (18.6%) of participants declared an average monthly income of less than UAH 2200; that is, below the living level for able-bodied citizens at the time of the IBBS. Among male participants, the percentage of people with an income level above the average wage is higher, while those with an income below the living level are lower (Figure 2.3). The average monthly income among men amounted to UAH 7075, and among women to UAH 5147 (among all participants, UAH 6745 (Approximately USD 238)).

More than half (52.5%) of the survey participants stated that they are officially married or have a steady sex partner. This figure is significantly higher among women (68.1% versus 48.9% among men), which may indicate that men and women interpret the term “steady sex partner” differently (Figure 2.4).

Figure 2.1. Age-sex structure of PWID, %

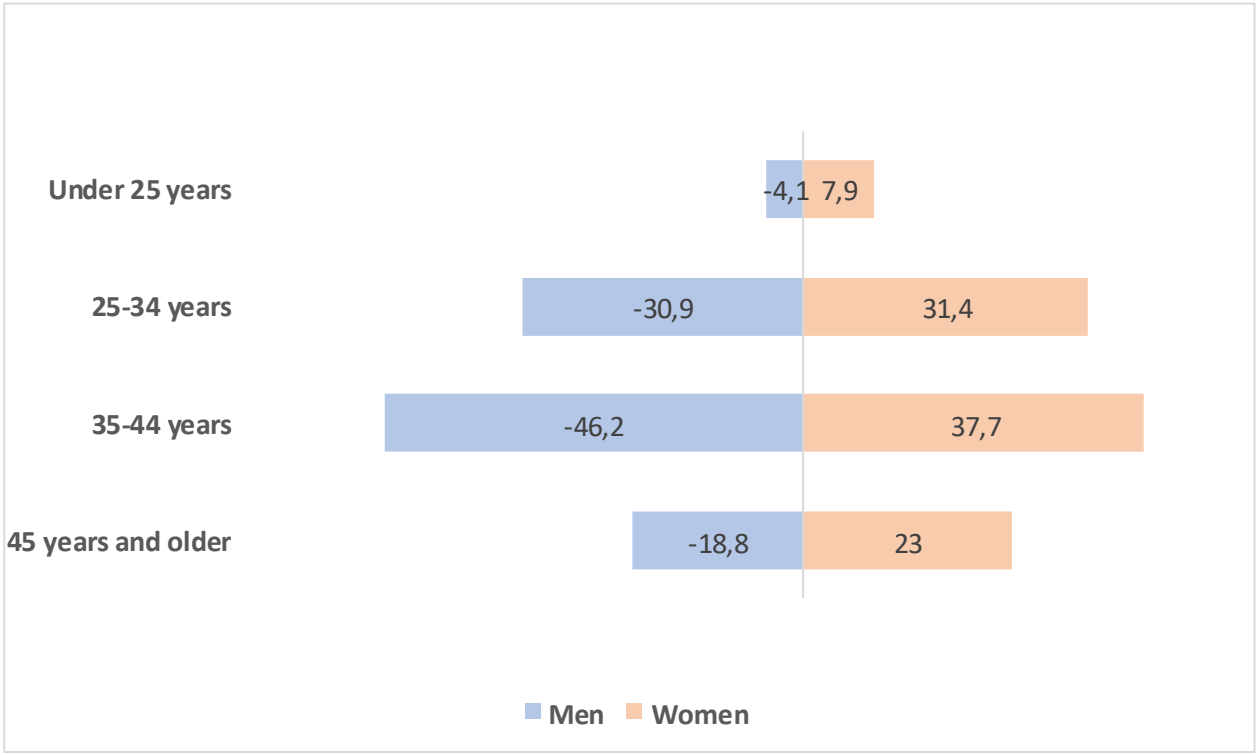


Figure 2.2. ***Differences in the employment of PWID by age groups, %***

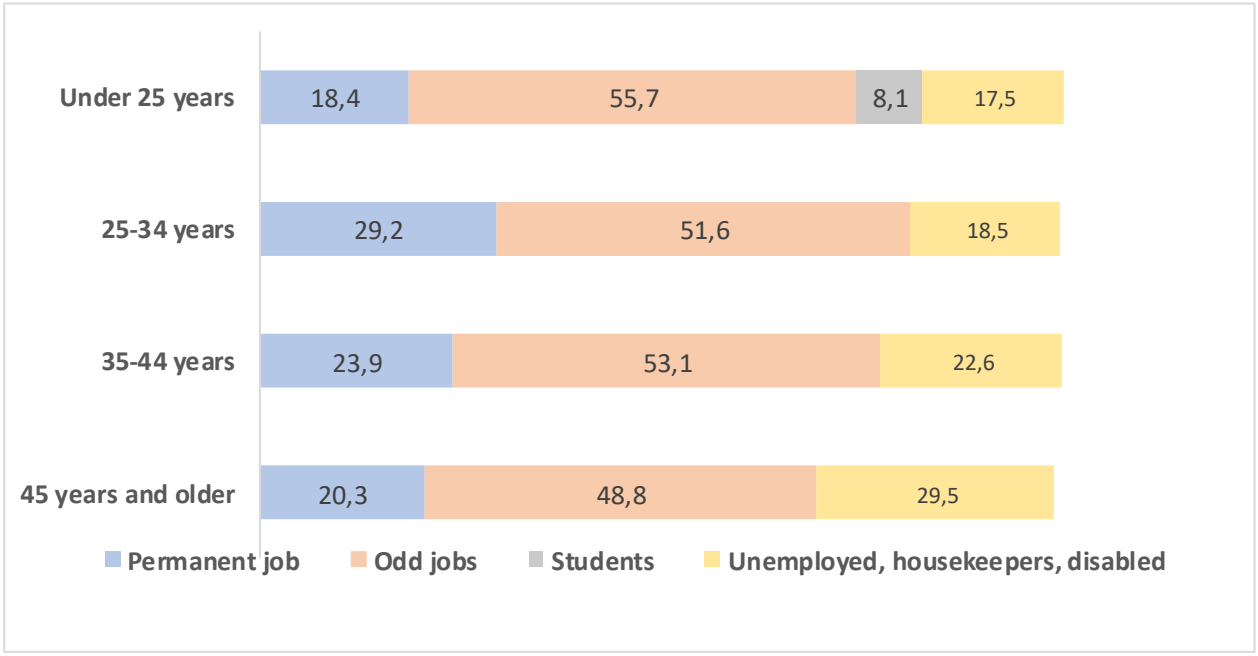


Figure 2.3. PWID distribution by the level of personal monthly income among men and women, %

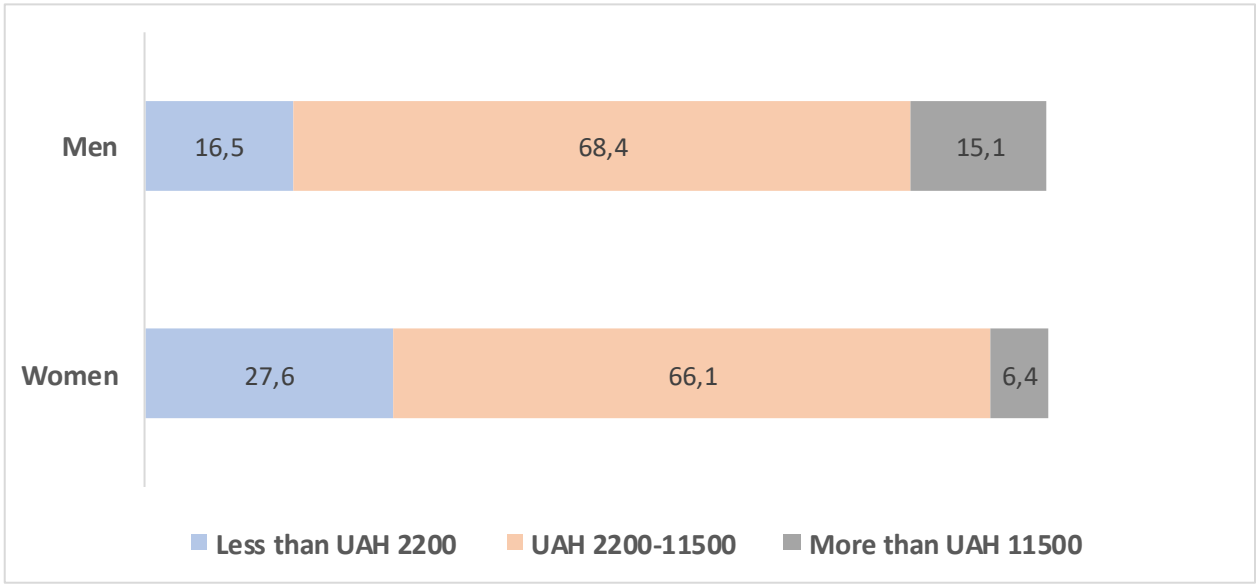
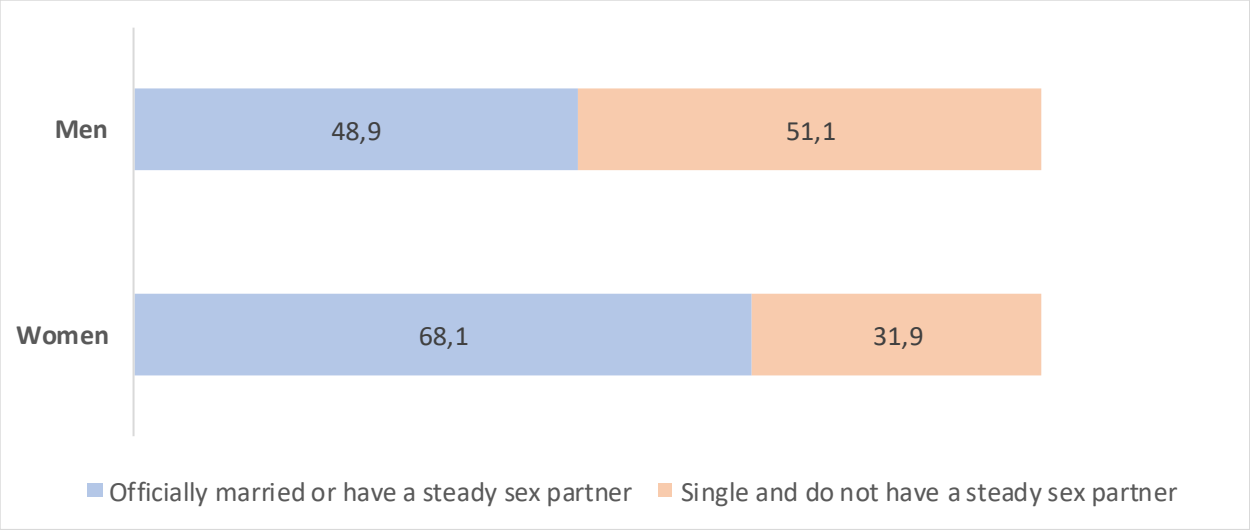


Table 2.2. Average monthly income among PWID, by gender, UAH

	Average	SD
Men	7075	5294
Women	5147	4442
Total	6745	5187

**The above calculations do not take into account outliers (income above UAH 100000).*

Figure 2.4. Distribution of PWID by marital status among men and women, %



The overwhelming majority of the survey participants (96.5%) lived in their own apartment/house, with their friends or in a rented place. Only 2.8% of the respondents noted that they had to change their place of residence frequently, and 0.5% of the participants were homeless (Table 2.1). At the same time, every seventh person (14.3%) reported at least one homelessness experience during his lifetime (Table 2.3). The percentage of PWID with relevant experience is higher among participants with incomes below the living level (19.3%) and representatives of the older age group (17.5%). There is less percentage of people with homelessness experience among participants with upper middle income (11.6%), young adults (11.6%), and women (11.7%).

Table 2.3. Lifetime experience of homelessness among PWID, according to socio-demographic characteristics

	Yes		No		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*					
Under 25 years	11.6	34	88.4	258	0	0
25-34 years	14.5	251	85.4	1577	0.1	1
35-44 years	12.9	336	87.0	2316	0.1	3
45 years and older	17.5	205	82.2	975	0.2	2
Gender	*p<0.001*					
Men	14.8	699	85.0	4119	0.1	6
Women	11.7	127	88.3	1007		0
Personal income for last 30 days	*p<0.001*					
Less than UAH 2200	19.3	209	80.7	861	–	0
UAH 2200-11500	13.2	482	86.6	3359	0.1	4
More than UAH 11500	11.6	90	88.4	670	–	0
Total	14.3	826	85.6	5126	0.1	6

3. PRACTICE OF INJECTION DRUG USE

Routes of injection drug use initiation

The overwhelming majority of the participants - eight out of ten PWID (81.8%) - started with the use of a non-injection drug. Every sixth survey participant (16.1%) began using both injection and non-injection drugs at about the same age. Injection drugs preceded non-injection drugs only in 2.1% of the surveyed PWID (Table 3.1).

Table 3.1. Distribution of participants' answers to the question: "What was your first route of drug use?"

	%	*n*
Non-injection drugs preceded injection drugs	**81.8**	4349
Injection drugs preceded non-injection drugs	2.1	106
Started using both types of drugs at the same age	16.1	859

The median age of injection drug use initiation is slightly higher than that of non-injection drug use (19 years versus 16 years). The maximum self-declared age of injection drug use initiation is 55 years (Table 3.2).

Table 3.2. Age of initiation of non-injection and injection drug use

	Narcotic drugs used	
	non-injection drugs, years	injection drugs, years
Mean	16.7	20.8
SD	4.6	5.9
Median	16.0	19.0
Minimum	6	5
Maximum	52	55

Main parameters of the drug scene

The current round of IBBS PWID recorded significant changes in the Ukrainian drug scene (Table 3.3.). The most popular drug among PWID in previous years, opium poppy, has lost it popularity to an illicit synthetic opioid, called “street methadone” by PWID (crystalline or powder). The extent to which these changes reflect long-term trends and to what extent they can be related to the impact of the COVID-19 pandemic require further investigation.

As for the trends in injection drug use over the past year, 57% of PWID noted that they were using illicit “street methadone” (25.4% in 2017). Opium poppy came in second place: a quarter of PWID respondents indicated using it last year (24.4% compared to 61% in 2017).

Table 3.3. Injection drugs used within the last 30 days and 12 months

	within the last 30 days		within 12 months	
	%	*n*	*%*	*n*
Illicit "street methadone" in crystals/powder	**54.7**	**3292**	**56.9**	**3427**
Opium poppy in liquid state (shirka, black pill)	**18.8**	**1076**	**24.4**	**1398**
Powder amphetamine (fen)	**13.5**	**818**	**20.0**	**1194**
Sleeping pills, sedatives, barbiturates (Valium, Barboval, Diazepam, Sonata, Xanax, Diphenhydramine, Tropicamide, Rinasoline, etc.).	**9.8**	**501**	**11.8**	**598**
Bath salts (MDPV, mephedrone)	**7.9**	**484**	**11.2**	**683**
Methadone supplied under the government MAT programme (in tablets or in liquid form) with registration as a drug user	7.0	371	7.5	399
Second-hand methadone supplied under the government MAT programme (tablets)	6.0	326	6.5	350
Street buprenorphine (Subutex)	4.3	269	5.3	326
Methamphetamine in the form of solution (Vint, Russian for "a screw", perventin, medicinal products containing iodine and red phosphorus)	2.7	186	4.3	286
Second-hand buprenorphine supplied under the government MAT programme (tablets)	2.4	125	3.3	178
Nalbuphine	2.3	151	3.1	195
Methamphetamine powder (crystalline)	1.9	112	3.1	177
Baclofen (Baclosan, “bacl”)	1.5	74	2.0	97
Buprenorphine supplied under the government MAT programme (in tablets) by a healthcare facility, with registration as a drug user	1.3	68	1.5	82
Poppy seed	0.6	44	1.1	76
Heroin	0.5	29	1.5	90
Efidrin (“bodyaga”, “boltushka”, jeff, “mulka”, “fedya”)	0.2	15	0.4	27
Lyrica (active substances - pregabalin, gabapentin)	0.2	9	0.5	28
Tramadol (“tram”, “tramal”)	0.2	10	0.5	25
Fentanyl (China White)	0.2	9	0.1	6
Morphine	0.1	8	0.3	15
Desomorphine ("crocodile", "electroshirka")	0.1	4	0.2	12
Mix of several drugs	0.2	11	0.7	32
Other	3.6	203	4.3	241

**Non-injection narcotic drugs are not indicated.*

Over the past 30 days, the so-called Illicit “street methadone” was used by 54.7% of respondents (23.7% in 2017). Less than one in five people used opium poppy during the same period, 18.8% of PWID (60% in 2017).

Also among the top-5 most popular drugs are amphetamine in powder form (the so-called "phen"), sleeping pills and sedatives, as well as the so-called "Bath salt".

The prevalence of amphetamine in the drug scene also decreased compared to 2017. The experience of using powdered amphetamine in the last year was indicated by one in five PWID (20%); over the past thirty days - 13.5% of respondents (in 2017, by 31.2% and 18.8%, respectively). Sleeping pills and sedatives were taken by about every tenth PWID: 11.8% indicated the experience of using drugs from this group during the year; 9.8%- within the last 30 days. "Bath

salt" closes the top-5 most popular drugs among PWID. Within the last 12 months, this drug was used by 11.2% of the participants, within the last 30 days - by 7.9%.

Table 3.4. Prevalence of Illicit "street methadone" and opium poppy use within 12 months, by city, %

	Illicit "street methadone" in crystals/powder	Opium poppy in liquid state (shirka, black pill)
Bila Tserkva	66.1	7.5
Cherkasy	70.4	5.7
Dnipro	33.0	**47.5**
Khmelnytskyi	48.2	**56.6**
Kharkiv	61.3	34.8
Ivano-Frankivsk	10.1	10.1
Kropyvnytskyi	83.6	14.4
Kryvyi Rih	9.7	**66.2**
Kyiv	72.6	9.8
Mykolaiv	62.5	26.6
Mariupol	71.4	4.0
Odesa	71.2	3.3
Total	57.1	24.4

Although, in general, illicit "street methadone" is more widespread than opium poppy, in three cities surveyed in the IBBS PWID 2020, "shirka" (Table 3.4) still prevails over methadone (The table compares drug use rates over the last 12 months). These are Kryvyi Rih (66.2% use opium versus 9.7% who reported using "street methadone"), Khmelnytskyi (56.6% versus 48.2%) and Dnipro (47.5% versus 33.0%).

Main drug

According to the survey results, it is possible to distinguish the three most popular narcotic drugs named their main drug by the respondents (Table 3.5). Nearly four out of ten respondents (38.4%) consider illicit "street methadone" to be their main drug; the next most popular is the opium poppy, which was named by 14% of PWID, and the powdered version of amphetamine closes the top-3 drugs, which was indicated as the main drug by 7% of the surveyed PWID.

Table 3.5. Distribution of participants' answers to the question: *"Which of the injection drugs do you consider to be the main one for yourself?"*

	% (among all)	*% (among those who answered)*	*n*
Illicit "street methadone" in crystals/powder	**38.4**	**46.6**	**2365**
Opium poppy in liquid state (shirka, black pill)	**13.9**	**16.8**	**783**
Powder amphetamine (fen)	**7.1**	**8.6**	**433**
Methadone supplied under the government MAT programme (in tablet or liquid version)	4.5	5.5	246
Bath salts (MDPV, mephedrone)	4.4	5.4	287
Street buprenorphine (Subutex)	3.4	4.1	214
Second-hand methadone supplied under the government MAT	3.5	4.2	187
Methamphetamine in the form of solution (Vint, Russian for "a screw",	1.5	1.8	111
Second-hand buprenorphine supplied under the government MAT	1.3	1.6	66
Buprenorphine supplied under the government MAT programme	1.0	1.2	50
Nalbuphine	0.9	1.1	68
Methamphetamine powder (crystalline)	0.8	0.9	44
Poppy seed	0.4	0.4	26
Heroin	0.3	0.3	18
Efidrin (“bodyaga”, “boltushka”, jeff, “mulka”, “fedya”)	0.1	0.1	6
Tramadol (“tram”, “tramal”)	0.1	0.1	4
Other	0.5	0.6	44

**The non-injection drugs are not indicated.*

Word order and length of the sentence: Main drug preference varies depending on the age of respondents. The powdered version of amphetamine (“phen”) is popular among young people, while opium poppy is preferred by the older age group. More details on the drug use in the context of socio-demographic characteristics of respondents can be seen in Table 3.6.

Table 3.6. Top-3 most popular drugs, according to the main characteristics

	Illicit "street methadone" in crystals/powder		**Opium poppy in liquid state (shirka, black pill)**		**Powdered version of amphetamine (phen)**	
	%	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*					
Under 25 years	22.4	65	9.9	24	40.2	98
25-34 years	47.5	729	10.0	138	11.2	170
35-44 years	50.8	1128	17.1	347	5.7	138
45 years and older	42.2	443	28.3	274	2.7	27
Gender	*p<0.001*					
Male	47.1	1929	16.1	608	8.4	340
Female	44.2	435	19.8	175	9.5	93
Experience in injection drug use	*p<0.001*					
Up to 2 years inclusive	32.6	93	11.1	27	26.1	72
3-5 years	33.0	152	16.5	64	19.9	91
6-10 years	45.7	332	11.4	75	10.9	78
11 years or more	50.2	1769	18.6	610	4.9	174
Type of drug used in the last 30 days	*p<0.001*					
Only opioids	57.5	2180	21.2	730	0.2	7
Only stimulants	1.3	9	0.5	5	50.6	351
Drugs mixing	34.5	169	9.1	45	14.6	75
NGO clients	*p<0.001*					
Yes	49.2	740	10.0	151	3.1	50
No	45.5	1616	19.7	624	11.1	382
Don’t know/don’t remember (ask not to read the list)	26.6	5	49.1	7	–	0
Refused to answer	41.9	2	29.0	1	–	0
Total	46.5	2363	16.9	783	8.6	432

Drug use frequency

During the survey, participants were asked how many days in the last 30 days they had used their main injection drug. 7.8% of participants could not answer this question. However, among those who responded, the majority (43.7%) stated that they used their main injection drug every day.

The median frequency of the main injection drug use in the last 30 days amounted to 24 days (25 days in IBBS PWID 2017). A lower frequency of use is inherent to PWID with an experience of use of up to 2 years and, among young PWID accordingly, and PWID who use stimulants (Table 3.7.). The high drug use frequency is observed among NGO clients and those who practice drugs mixing.

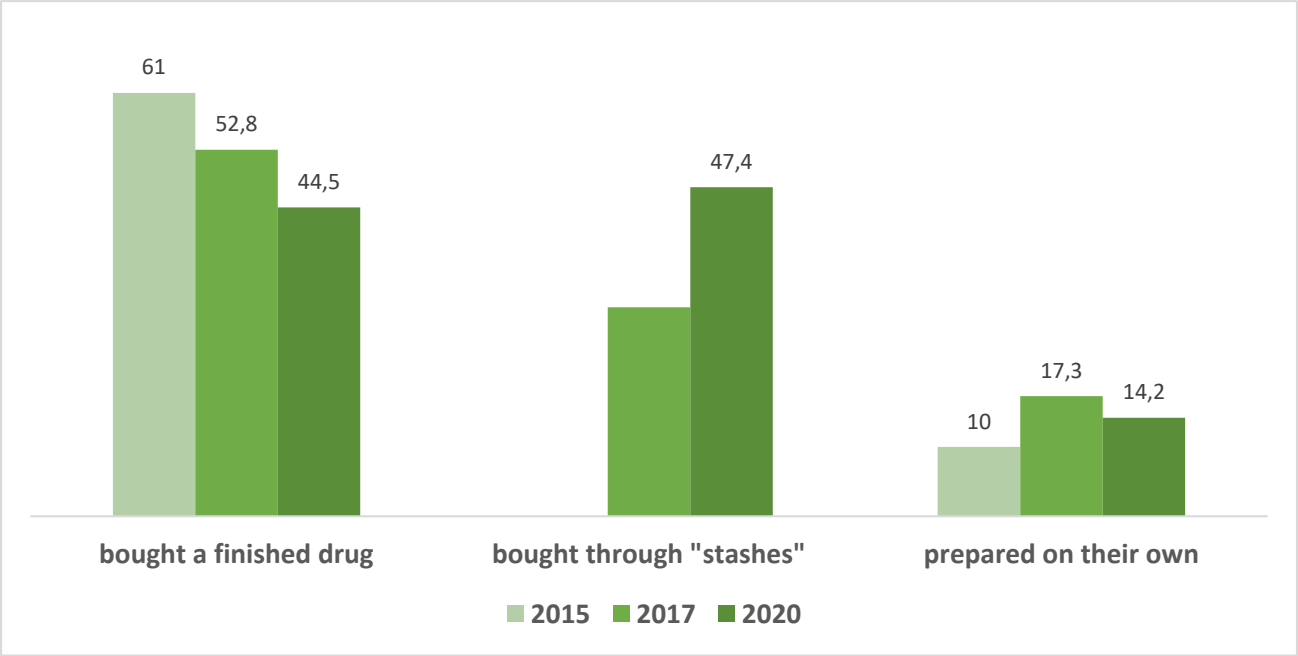
Table 3.7. Frequency of main injection drug use, number of days in the last 30 days

		Average	SD
Age	Under 25 years	15.5	9.7
	25-34 years	20.5	9.7
	35-44 years	21.1	9.7
	45 years and older	20.5	10.3
Gender	Male	20.9	9.8
	Female	19.1	10.1
Experience in injection drug use	Up to 2 years inclusive	14.5	10.3
	3-5 years	17.3	9.9
	6-10 years	19.5	9.9
	11 years or more	21.7	9.6
Type of drug used in the last 30 days	Only opioids	21.1	9.8
	Only stimulants	15.6	10.0
	Drugs mixing	22.5	8.8
NGO clients	Yes	23.3	9.0
	No	19.2	10.0
	Don’t know/don’t remember	19.9	9.6
	Refused to answer	17.6	10.6
Total		20.5	9.9

Acquisition methods, costs, and availability of the main drug

Among other changes in the drug scene compared to the previous wave of the survey, there was a shift in the method of acquiring injection drugs from the direct to an indirect route: from the so-called "copping zones" (locations where you can regularly find a seller of illicit drugs) and "pushers" (second-hand dealers, drug dealers) to online trade and "stashes" (caches where the dealer hides drugs, and their coordinates are provided to the buyer, thereby excluding direct visual contact between the distributor and the buyer) (Figure 3.1.). The acquisition of injection drugs was also commercialized - the percentage of people preparing injection drugs at home decreased.

Figure 3.1. Dynamics of changes in the acquisition methods of the main drug (2015-2020), %



Nowadays, the most popular drug acquisition method is online, particularly with the help via Internet messengers (Table 3.8.). Nearly half (47.4%) of the survey participants obtained drugs in this way (in 2017, this figure was 30.1%). This method of selling drugs protects drug traffickers as much as possible from the likelihood of police detention and, at the same time, facilitates the drug acquisition for PWID. 44.5% of respondents (52.8% in 2017) bought ready for use drugs “at copping zones” or “pushers”. 14.2% of respondents prepared drugs on their own (17.3% in 2017). 7.6% of the interviewed PWID used drugs made by friends or acquaintances. 3.1% (0.9% in 2017) bought ready for usedrugs in pharmacies.

It is not yet known how long-term these changes are and whether they are related to the impact of the COVID-19 pandemic. This question requires additional investigation.

Table 3.8. Methods of drug acquisition

	%	*n*
Buy a ready for use drug via the Internet, Telegram, Viber channels, telephone contacts ("stashes")	47.4	2846
Buy a ready for usedrug "at the point", "from a huckster"/intermediary	44.5	2694
Prepare on their own	14.2	830
Friends/acquaintances prepare	7.6	448
Buy a ready for usedrug in a pharmacy	3.1	176
Other	6.4	334

Purchasing drugs online is more prevalent among young PWID (Table 3.9). It is also more common among practitioners of drugs mixing, non-harm reduction clients, and men. "Copping zones" and "pushers" are relatively popular with those who practise stimulants and mixing drugs. A higher preference for drug self-preparation is shown among senior PWID and those who consume/take

drugs mixing. People who were more likely to receive drugs from friends were young people, and vice versa, the most senior PWID, women, as well as those who practise drugs mixing.

Table 3.9. Method of drug acquisition, by main characteristics

	Prepare on their own		Friends/acquaintances prepare		Buy a ready for use drug "at the point", "from a huckster"/intermediary		Buy a finished drug online, via Telegram, Viber channels, telephone contacts ("stashes")		Buy a ready for use drug in a pharmacy		Other	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*											
Under 25 years	7.6	22	10.1	29	47.8	138	57.2	169	0.3	1	0.8	3
25-34 years	8.9	156	6.1	108	44.3	823	52.7	974	3.5	64	5.3	89
35-44 years	15.2	394	7.2	190	44.9	1214	47.4	1262	3.5	86	6.3	142
45 years and older	21.8	258	10.4	121	43.1	519	36.8	441	2.3	25	9.6	100
Gender	*p=0.561*		*p<0.001*						*p=0.51*		*p<0.001*	
Male	14.3	671	7.1	337	45.3	2205	48.9	2373	3.1	137	6.0	251
Female	14.0	159	10.0	111	41.9	489	42.1	473	3.4	39	8.0	83
Experience in injection drug use	*p<0.001*											
Up to 2 years inclusive	6.6	20	9.3	25	46.3	145	50.2	154	2.7	9	4.6	14
3-5 years	6.4	31	8.5	42	50.4	258	51.2	263	2.7	15	3.9	21
6-10 years	7.3	60	7.5	64	44.5	389	50.2	435	3.6	34	5.3	40
11 years or more	17.3	713	7.3	304	44.0	1868	46.6	1953	3.2	116	7.0	253
Type of drug used in the last 30 days	*p<0.001*											
Only opioids	14.3	610	7.0	291	43.0	1879	47.6	2080	3.5	143	6.4	244
Only stimulants	10.1	82	8.7	76	52.1	431	46.6	379	0.7	5	2.5	21
Drugs mixing	18.4	123	11.3	73	51.7	365	53.3	361	3.7	23	4.1	27
NGO clients	*p<0.001*											
Yes	19.1	356	6.7	119	39.2	765	42.5	796	3.3	55	12.1	199
No	11.9	471	8.1	325	47.3	1914	50.2	2037	3.0	120	3.6	134
Don't know/don't remember (ask not to read the list)		0	3.6	1	45.5	8	34.1	7	8.2	1	8.6	1
Refused to answer	47.5	2	62.7	3	74.6	4	57.6	3		0		0

Nearly one third of respondents (29.2%) declared that their main drug's cost has increased over the past year, while more than half (61.5%) indicated that the price has not changed. Speaking about the drug quality, one third of PWID (31.2%) noted a subjective deterioration in the quality of their main drug, while 65.7% did not notice any changes in the quality over the last year. When asked about the availability of the main drug, 3 out of 4 PWID (75.5%) indicated that access to drugs has not changed, while every tenth PWID (11%) says that it has become more difficult to get

their main drug. Almost the same number of respondents (13%) reported that access to the main drug has improved over the past year.

Table 3.10. Distribution of participants' answers to the question: "Please tell me whether over the past 12 months has the following changed… ? "

	the price of your main drug	the quality of your main drug	access to your main drug
Changed for the better	8.3	2.4	10.9
Remained unchanged	61.5	65.7	75.5
Changed for the worse for me	29.2	31.2	13.0
Don't know/don't remember	1.0	0.7	0.6

According to the self-assessment by the overwhelming majority of PWID, the price, quality and availability of their main drugs (the top-7 main injection drugs were analyzed in more detail) generally remained unchanged in the 12 months preceding the survey (Figures 3.2 - 3.4). However, it is noteworthy that, according to a significant share of PWID, the price and availability of illicit street buprenorphine and opium poppy ("shirka") have worsened. In contrast, there has been a relative improvement in the cost and availability of so-called "street methadone" and the availability of "Bath salt".

Figure 3.2. Distribution of participants' answers to the question: "Please tell me whether the price of your main drug has changed over the past 12 months?", Top-7 most popular injection drugs

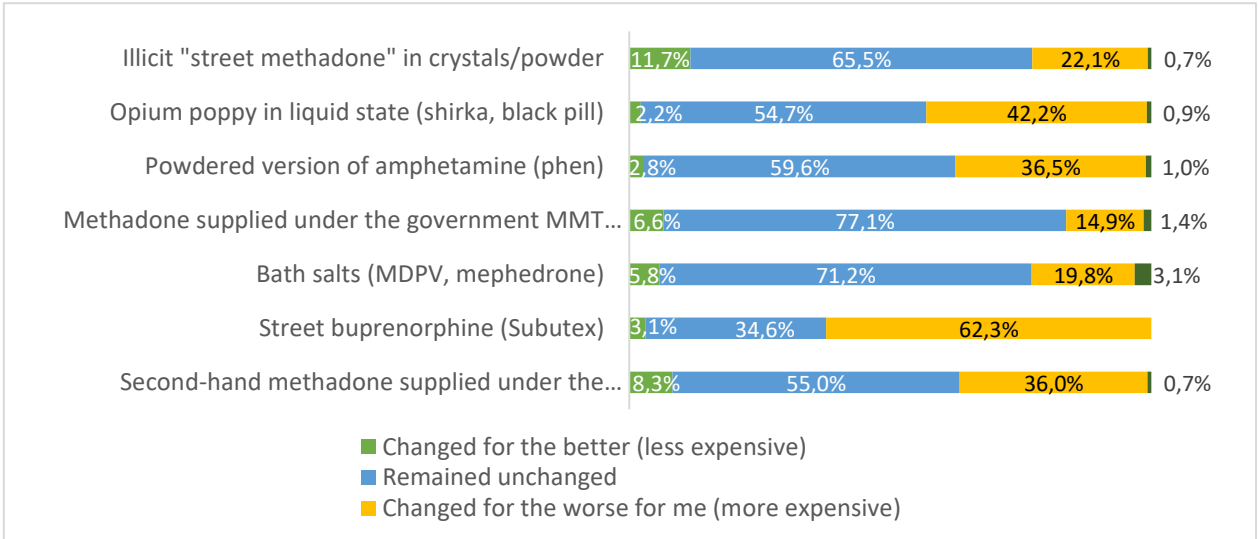


Figure 3.3. Distribution of participants' answers to the question: "Please tell me whether the quality of your main drug has changed over the past 12 months?", Top-7 most popular injection drugs

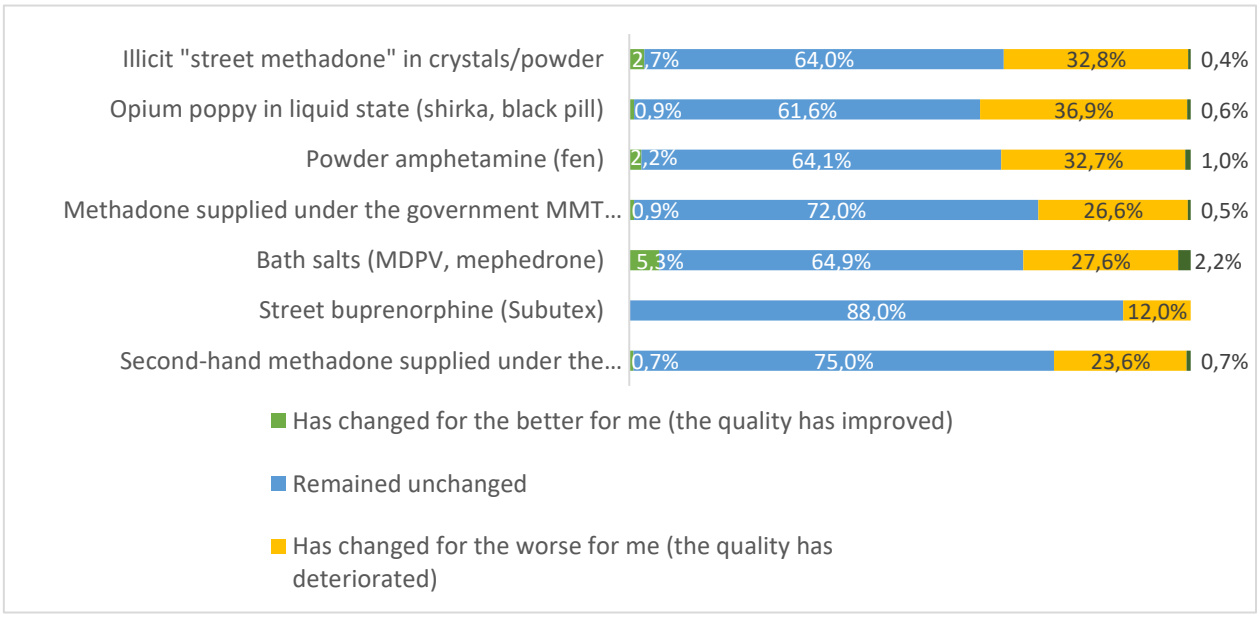
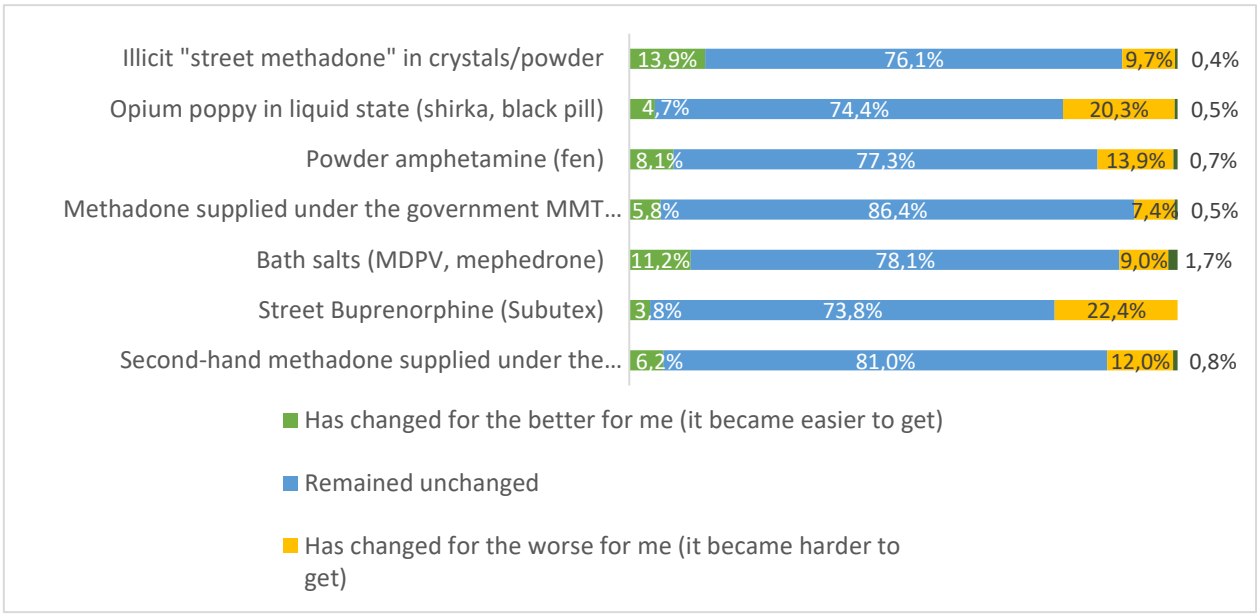


Figure 3.4. Distribution of participants' answers to the question: "Please tell me whether the access to your main drug has changed in the last 12 months?", Top-7 most popular injection drugs



Prevalence of unsafe injection practices

Almost all of the interviewed PWID (96.2%) reported using a sterile needle and syringe during their last injection drug use (Table 3.11). Among PWID who reported that sterile devices were not used during the last injection (2.9%), more precisely young users - 3.8%, but this indicator is not statistically significant in comparison with other age groups. The rest of the differences in the characteristics of respondents who did not use sterile devices during the last injection, depending on gender, the experience of use, type of drug and registration in the NGOs are reflected in the table; however, they are not statistically significant.

Table 3.11. Answers on questions: "Did you use a sterile needle and syringe during your last injection drug use?"

	Yes, I used		No, I didn't use		Don't know/don't remember		Refused to answer	
	%	n	%	n	%	n	%	n
Age	*p<0.001*							
Under 25 years	95.3	278	3.8	12	0.6	1	0.4	1
25-34 years	96.7	1772	2.7	47	0.5	7	0.1	2
35-44 years	95.7	2549	3.3	80	0.5	12	0.5	10
45 years and older	96.8	1150	2.3	24	0.4	4	0.4	3
Gender	*p<0.001*							
Male	96.1	4648	3.0	135	0.5	22	0.4	14
Female	96.8	1101	2.7	28	0.2	2	0.2	2
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	97.2	302	2.8	8	–	0	–	0
3-5 years	96.1	499	3.4	16	0.3	1	0.2	1
6-10 years	96.7	832	3.0	26	0.3	2		0
11 years or more	96.1	4034	2.9	110	0.6	21	0.4	14
Type of drug used in the last 30 days	*p<0.001*							
Only opioids	96.3	4183	3.1	123	0.3	13	0.2	8
Only stimulants	96.6	798	2.9	23	0.2	1	0.4	2
Drugs mixing	94.8	662	2.5	16	1.8	10	0.9	5
NGO clients	*p<0.001*							
Yes	97.7	1836	2.2	37	0.1	1	0.0	1
No	95.7	3890	3.2	124	0.7	23	0.4	12
Don't know/don't remember	83.6	16	8.2	1	–	0	8.2	1
Refused to answer	52.5	4	–	0	–	0	47.5	2
Total	96.2	5749	2.9	163	0.5	24	0.3	16

Additional risk indicators of injection practices

Among other risky practices among PWID practitioners, the most common remains the reuse of their syringes or needles. 31.7% of the participants stated having had such an experience over the past 30 days. Over the past 30 days, 15.1% of PWID respondents received and bought a ready for use injection in a pre-filled syringe; and 3.6% generally reported that they had shared devices that had been previously used by another PWID.

Table 3.12. Answers to the question: "Please tell me whether in the last 30 days there have been cases when..."

	You injected a drug with a syringe/needle previously use by another person?		You reused your syringe and/or needle to inject a different dose?		You gave, borrowed or sold a needle/syringe to another person after you injected yourself?		Have you received/bought an injection in a pre-filled syringe, which means that you did not see how this syringe was filled?	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Yes	3.6	221	31.7	1879	3.0	181	15.1	897
No	**95.7**	5698	**67.7**	4045	**96.5**	5746	**84.5**	5035
Don't know/don't remember	0.5	24	0.4	21	0.3	17	0.3	16
Refused to answer	0.2	10	0.2	8	0.2	9	0.1	5

Table 3.13. Distribution of answers to the question regarding additional risks of injection practices

Over the past 30 days, have there been any cases when you filled your syringe with a drug from a large syringe ("sample", several doses in one syringe) for further use?	*%*	*n*
Yes	21.0	1265
No	78.4	4659
Don't know/don't remember	0.4	19
Refused to answer	0.2	9
Over the past 30 days, have there been cases when you or someone else used a syringe for injection ("sample", several doses in one syringe), from which the drug was then filled into other syringes for further use?	*%*	*n*
Yes	8.8	546
No	87.8	5216
I haven't used it personally, but I've seen others use it	3.0	160
Don't know/don't remember	0.5	28
Refused to answer	0.0	2
Have shared devices or supplies for filling or preparing a drug at least once in the past 30 days?	*%*	*n*
Yes	20.8	1270
No	78.6	4644
Don't know/don't remember	0.6	32
Refused to answer	0.1	5

Every fifth PWID respondent (21%) personally filled his/her syringe with a drug from a large syringe ("sample") for further use. Approximately every tenth (8.8%) person used a syringe, from which the drug was then distributed; another 3% reported witnessing such a procedure. Every fifth respondent (20.8%) indicated having the experience of using shared devices for drug preparation or filling over the past 30 days.

Overdose experience

More than every fourth interviewed PWID (28.7%) admitted having experience of drug overdose (Table 3.14). Almost every fifth respondent (19.3%) reported an overdose in the past 12 months (in 2017, the indicator was 5%).

Table 3.14. Distribution of answers to the question "Please tell me whether you have ever had an overdose after using drugs?"

	Yes, I have		No, I haven't		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*							
Under 25 years	16.0	49	83.1	239	0.9	3	–	0
25-34 years	26.3	475	73.4	1345	0.2	5	0.1	2
35-44 years	31.1	839	68.4	1799	0.4	11	0.1	1
45 years and older	30.0	357	69.6	819	0.3	3	0.1	2
Gender	*p<0.001*							
Male	30.1	288	69.5	1173	0.4	1	0.1	1
Female	23.0	50	76.8	207	0.2	0		0
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	12.6	39	87.4	270	–	0	–	0
3-5 years	17.0	92	82.5	421	0.5	3	–	0
6-10 years	24.2	202	75.6	654	0.2	3	–	0
11 years or more	32.5	1373	67.1	2785	0.3	15	0.1	5
Type of drug used in the last 30 days	*p<0.001*							
Only opioids	29.6	1290	70.0	3017	0.3	14	0.1	5
Only stimulants	16.7	142	83.0	675	0.3	4	–	0
Drugs mixing	36.6	253	62.9	436	0.5	4	–	0
NGO clients	*p<0.001*							
Yes	35.2	674	64.5	1195	0.2	5	0.0	1
No	25.5	1038	74.1	2992	0.3	16	0.1	3
Don't know/don't remember	38.6	6	57.7	11	–	0	3.6	1
Refused to answer	30.5	2	40.7	3	28.8	1	–	0
Total	28.7	1720	70.9	4202	0.3	22	0.1	5

Most often, overdose occurs in male PWID (30.1%), aged 35 to 44 years (31.1%), and, naturally, among those PWID who had been using drugs for more than 10 years (32.5%). If we talk about the

overdose experience among PWID, depending on the type of drug used, then overdose was relatively more frequently reported by PWID practicing drugs mixing.

The situation with the overdose experience during the last 12 months is somewhat different (Table 3.15). There is an expected age dependence on the practice of overdose: There were more overdoses among younger PWID during the year than among older users. Thus, 39.1% of PWID respondents under the age of 25 years reported overdose cases over the past year. Also, every fourth respondent aged 25-34 years (25.1%) had experiences of overdosing. In the last year, the overdose incidence among men amounted to 19.3%, and among women - 18.7%. It is reasonably expected that there are more overdoses among less experienced PWID than among more experienced consumers.

Table 3.15. Distribution of answers to the question "Please tell me whether you have had overdoses in the past 12 months?"

	Yes		No		Don't know, don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*							
Under 25 years	39.1	21	60.9	28	–	0	–	0
25-34 years	25.1	119	74.9	355	–	0	–	0
35-44 years	18.9	162	80.8	675	0.2	1	0.1	1
45 years and older	9.1	36	90.9	322	–	0	–	0
Gender								
Male	19.3	288	80.5	1173	0.1	1	0.1	1
Female	18.7	50	81.3	207	–	0	–	0
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	41.9	18	58.1	21	–	0	–	0
3-5 years	25.7	23	74.3	69	–	0	–	0
6-10 years	25.2	51	74.2	150	0.6	1	–	0
11 years and older	17.1	242	82.8	1130	–	0	0.1	1
Type of drug used in the last 30 days	*p<0.001*							
Only opioids	17.2	225	82.7	1064	0.1	1	–	0
Only stimulants	18.0	27	81.4	114	–	0	0.7	1
Mixed use	29.1	76	70.9	177	–	0	–	0
NGO clients	*p<0.001*							
Yes	15.8	112	84.1	561	–	0	0.1	1
No	21.5	225	78.4	812	0.1	1	–	0
Don't know/don't remember	21.2	1	78.8	5	–	0	–	0
Refusal to answer	–	0	100.0	2	–	0	–	0
Total	19.3		80.7		0.1		0.1	

Considering the specifics of the overdose in the context of the top-7 most popular drugs (Table 3.16), it is noticeable that more than six out of ten participants who overdosed in the past 12

months reported Illicit "street methadone" as their main injection drug, 9.1%- opium poppy (shirka), 6.7%- "Bath salt", 6.3%- powdered versions of amphetamine ("phen"). At the same time, in the context of main injection drugs, the largest percentage of those who had overdoses during the past year was observed among those who considered the so-called "Bath salt" as their main injection drug (29.6%), as well as powdered versions of amphetamine (24.5%).

Table 3.16. Overdose experience during the past 12 months and the main injection drug

	Percentage of participants who named the respective drug as the main injection drug among those who said they had overdosed in the past 12 months, %*	Percentage of participants who named the respective drug as the main injection drug among those who said they had overdosed in the past 12 months, %*	*n*
Illicit "street methadone" in crystals/powder	61.5	20.9	158
Opium poppy in liquid state (shirka, black pill)	9.1	13.0	23
Powdered version of amphetamine (phen)	6.3	24.5	16
Methadone supplied under the government MAT programme (in tablet or liquid version)	3.6	10.4	9
Bath salts (MDPV, mephedrone)	6.7	29.6	19
Street Buprenorphine (Subutex)	2.3	15.1	6
Second-hand methadone supplied under the government MAT programme (tablets)	2.9	11.4	6
Total	–	18.6	–

4. SEXUAL PRACTICES

Sexual behaviours

Almost all of the interviewed PWID (99.1%) have ever had sexual intercourse. The median age of age at first sexual intercourse among PWID is 16 years old. The percentage of the respondents sexually active in the past year amounted to 86.8%. 62.5% of respondents reported having sexual intercourse in the past month. 45% of PWID reported having sexual intercourse within the past 7 days. Among those who have had sexual intercourse within the past 7 days, more than a quarter (29%) had sexual intercourse once, about half (48.8%) - 2-3 times, every seventh (14.5%) - 4-6 times, 7.7%- had sexual contacts at least once a day.

Condom use during the last sexual intercourse

44.3% of participants who have ever had sexual intercourse stated that they used a condom the last time they had sex (Table 4.1). Among those who ever had sexual intercourse, a higher share of condom use was observed among the representatives of the younger age group - 62.2%, the lowest - among the older group of PWID (Figure 4.1). In terms of gender distribution, a lower level of condom use during the last sexual intercourse was declared by women - 35.4% versus 46.4% (Figure 4.2).

Figure 4.1. Percentage of condom use during the last sexual intercourse, by age,%

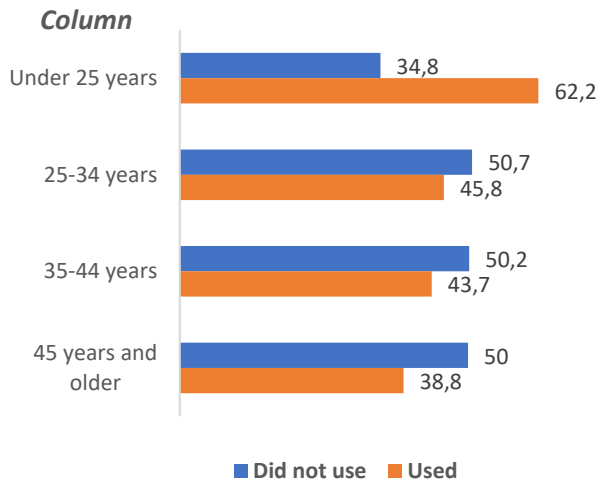
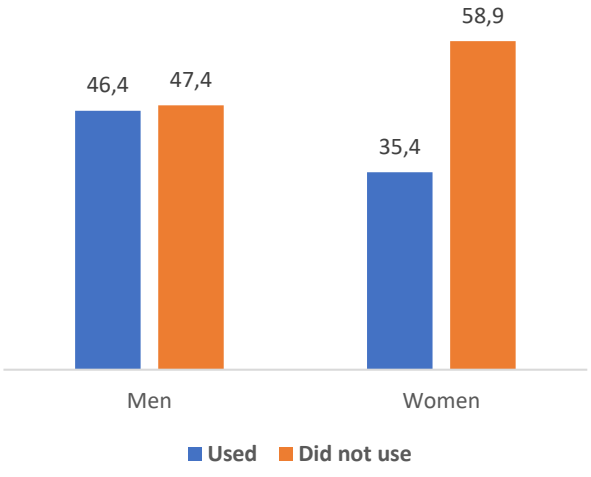


Figure 4.2. Gender distribution of condom use during the last sexual intercourse, %



The lowest rates of condom use at the last sexual contact were recorded among PWID in Mariupol (29.4%), Dnipro (31.8%) and Kyiv (36.8%). The highest rates of protected sexual intercourse was seen in Kryvyi Rih (57.0%) and Khmelnytskyi (56.6%).

Table 4.1. Distribution of answers to the question "Did you or your partner use a condom during the last sexual intercourse?" (Among those who ever had sexual intercourse), by main characteristics

	Yes		No		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*							
Under 25 years	62.2	172	34.8	102	2.2	7	0.8	4
25-34 years	45.8	817	50.7	927	2.0	43	1.5	36
35-44 years	43.7	1136	50.2	1326	3.9	103	2.1	64
45 years and older	38.8	444	50.0	594	7.7	85	3.5	46
Gender	*p<0.001*							
Male	46.4	2185	47.4	2282	4.1	192	2.2	121
Female	35.4	384	58.9	667	3.8	46	1.9	29
Personal income for the last 30 days, UAH	*p<0.001*							
Less than UAH 2200	40.6	428	52.6	556	4.7	50	2.1	31
UAH 2200-11500	45.7	1710	48.4	1859	3.9	151	2.1	94
More than UAH 11500	44.7	325	51.2	400	2.9	21	1.2	9
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	49.9	144	47.8	156	1.4	4	0.9	3
3-5 years	52.4	263	44.0	226	2.5	17	1.1	7
6-10 years	46.2	390	49.7	423	1.9	17	2.2	27
11 years and older	42.6	1740	50.2	2096	4.9	198	2.4	113
NGO clients	*p<0.001*							
Yes	48.2	892	46.8	885	3.8	71	1.2	23
No	42.4	1668	51.0	2052	4.1	164	2.6	125
Don't know/don't remember	41.1	6	44.1	7	13.4	3	1.5	1
Refusal to answer	21.4	1	52.4	3	0	0	26.2	1
Total	44.3	2569	49.6	2949	4.0	238	2.1	150

Table 4.2. Distribution of answers to the question "Did you or your partner use a condom during the last sexual intercourse?" (Among those who ever had sexual intercourse), by city

	Yes		No		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<0.001							
Bila Tserkva	46.2	182	53.1	207	0.5	2	0.2	1
Cherkasy	45.7	182	47.8	187	6.6	29	–	0
Dnipro	31.8	147	66.9	294	0.2	1	1.1	4
Khmelnytskyi	56.6	283	41.7	206	1.5	8	0.2	1
Kharkiv	39.5	176	57.9	260	1.3	6	1.4	6
Ivano-Frankivsk	46.6	226	51.2	252	1.2	5	1.0	5
Kropyvnytskyi	45.4	255	53.8	285	0.7	5	0.2	3
Kryvyi Rih	57.0	221	33.4	136	6.7	25	2.9	12
Kyiv	36.8	232	51.2	319	8.5	53	3.5	22
Mykolaiv	46.8	327	45.6	314	6.4	46	1.2	10
Mariupol	29.4	151	49.5	265	7.8	40	13.4	71
Odesa	43.1	187	49.4	224	4.1	18	3.5	15
Total	44.3	2569	49.6	2949	4.0	238	2.1	150

Low rates of condom use at the last sexual contact were observed among PWID who were officially married or living in a civil marriage (30.8%), had last sexual intercourse with a steady sex partner (39.1%), higher rates - among those who had last sexual intercourse when buying sex (66.3%) or with a casual partner (63.7 %).

Table 4.3. Condom use during the last sexual intercourse (among those who ever had sexual intercourse), by marital status, type of partner and type of last sexual intercourse

	Did you or your partner use a condom during the last sexual intercourse?							
	Yes		No		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Marital status	*p<0.001*							
Officially married or living with a partner in a civil marriage	30.8	443	68.0	1020	0.7	11	0.5	9
Married, but have other permanent sex partner	35.2	48	59.6	82	3.4	5	1.8	2
Single but have a steady sex partner or engaged	42.2	579	57.1	791	0.3	4	0.4	5
Married but do not live with either a wife/husband or other sex partner	44.9	60	43.7	63	7.5	9	3.9	5
Officially married/not married and do not have a sex partner at all	52.8	1439	35.9	993	7.5	209	3.8	129
Type of partner with whom you had last sexual intercourse	*p<0.001*							
steady sex partners	39.1	1543	58.7	2378	1.8	69	0.4	25
casual partners	63.7	951	31.3	473	4.3	64	0.7	9
buy sex	66.3	50	25.6	19	5.6	5	2.5	2
sell sex	52.5	6	35.0	3	12.5	1		0
Type of last sexual intercourse	*p<0.001*							
vaginal	46.0	2515	50.3	2823	2.7	150	1.0	67
anal	49.7	169	47.6	177	2.6	10	0.1	1
oral	44.9	356	50.1	2949	3.9	238	1.1	150

Sexual intercourses with different types of partners

During the last 30 days, more than half (55%) of PWID said they had sex with a steady sex partner, one sixth (15.9%) - with a casual partner, 2.3%- were buying sex, 1%- were selling sex (Table 4.4).

Table 4.4. Various sex partners in the last 30 days among the interviewed PWID, by main characteristics

	steady sex partners		casual partner		buy sex		sell sex	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*		*p<0.001*		*p<0.001*		*p<0.001*	
Under 25 years	57.7	146	27.0	74	1.8	5	3.1	8
25-34 years	59.0	978	19.6	346	3.0	51	1.3	23
35-44 years	56.0	1363	15.0	381	2.1	55	0.8	21
45 years and older	46.0	515	9.7	114	1.4	17	0.5	6
Gender	*p<0.001*		*p<0.001*		*p<0.001*		*p<0.001*	
Male	52.3	2291	17.9	835	2.5	114	0.7	31
Female	66.3	711	7.6	80	1.2	14	2.4	27
Experience in injection drug use	*p<0.001*		*p<0.001*		*p=0.191*		*p<0.001*	
Up to 2 years inclusive	65.6	186	18.4	52	2.3	6	1.9	4
3-5 years	56.4	257	21.7	105	2.1	11	1.5	7
6-10 years	60.5	471	17.4	152	2.4	20	1.2	11
11 years or more	52.8	2037	14.8	594	2.2	90	0.8	36
Type of drug used in the last 30 days	*p<0.001*		*p<0.001*		*p<0.001*		*p<0.001*	
Only opioids	53.8	2155	15.0	624	1.8	78	0.9	37
Only stimulants	62.3	452	17.8	143	3.3	26	1.5	13
Drugs mixing	54.4	340	20.4	132	3.4	20	0.7	4
NGO clients	*p<0.001*		*p<0.001*		*p<0.001*		*p<0.001*	
Yes	53.9	953	13.8	254	1.7	32	1.1	21
No	55.7	2041	17.0	657	2.5	95	0.9	36
I don't know/don't remember (do not read)	24.6	3	18.6	3	–	0	–	0
Refused to answer	100.0	4	–	0	–	0	–	0
Personal income for the last 30 days, UAH	*p<0.001*		*p<0.001*		*p<0.001*		*p<0.001*	
<UAH 2200	44.5	455	13.6	142	2.2	24	1.0	10
UAH 2200-11500	56.5	1975	16.1	603	2.1	75	1.0	37
> UAH 11500	64.1	446	19.0	135	3.5	25	1.0	8
Total	55.0	3002	15.9	915	2.3	128	1.0	58

Over the past 30 days, having a steady sex partner was more often declared by upper-middle-income PWID and women. The percentage of PWID who had casual partners during the same period is higher among young PWID and those who practise drugs mixing. Buying sex happened more often among high-income PWID, people aged 25-34 years, those who use stimulants or

practise drugs mixing, as well as men. Selling sex was more common among PWID under the age of 25 years, and women.

Condom use during the last sexual intercourse and in the last 30 days with different types of partners

Most often, PWID use a condom during sex with casual partners. Condom use is much less common with long-term partners and when buying sex. Those who sold sex used condoms rarely (Table 4.5).

Almost four out of ten (38.9%) PWID who had a steady sex partner used a condom during their last sexual intercourse, a bit more than a quarter (26.9%) - regularly during the last 30 days.

During the last sexual intercourse with casual partners, 61.7% of participants who had such partners used a condom, in the last 30 days - almost a half (49.3%).

Both with steady sex and casual partners, condoms are more often used by young PWID, NGO clients and men. Interestingly, that with casual sex partners a condom was used much less frequently by PWID whose income was below the living level.

Less than a third (30.6%) of PWID who were buying sex said that they used a condom the last time they had sex (in the last 30 days - just over a quarter (25.5%)).

Only an insignificant part of the PWID who sold sex used a condom during the last intercourse (11.3%) and during the last 30 days (12.4%).

Most often, using condoms with any type of commercial partner was reported by high-income PWID.

Table 4.5. Condom use during the last sexual intercourse and in the last 30 days with different types of partners (among PWID who stated that they had such a partner), by main characteristics

	Permanent partners		Casual partners		buy sex		sell sex	
	Last intercourse	*Always within 30 days*	*Last contact*	*Always within 30 days*	*Last contact*	*Always within 30 days*	*Last contact*	*Always within 30 days*
Age	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Under 25 years	48.5	35.0	73.4	57.7	14.7	8.7	17.0	30.8
25-34 years	38.1	24.3	64.7	49.5	33.9	26.5	8.3	7.2
35-44 years	38.2	27.2	61.2	50.0	32.0	28.8	9.7	14.3
45 years and older	39.3	28.8	53.0	42.0	27.3	22.4	8.7	6.5
Gender	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Male	40.4	28.2	62.8	50.3	33.3	28.6	5.1	4.3
Female	33.5	22.3	52.6	41.5	9.0	5.8	28.5	29.1
Experience in injection drug use	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Up to 2 years inclusive	40.1	29.9	67.4	56.9	23.8	32.9	12.9	31.7
3-5 years	45.2	31.5	68.8	43.5	33.0	13.6	16.8	15.5
6-10 years	39.1	26.7	67.0	49.7	27.0	19.3	7.6	9.8
11 years or more	38.1	26.3	59.3	49.9	31.6	28.5	9.1	10.9
Type of drug used in the last 30 days	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Only opioids	39.7	27.9	61.3	49.3	27.2	21.4	9.5	11.8
Only stimulants	36.9	25.4	60.0	50.1	30.5	31.8	11.9	14.4
Drugs mixing	36.6	22.4	64.8	49.3	48.4	39.8	7.4	13.3
NGO clients	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Yes	44.2	30.8	64.8	58.3	28.2	28.6	11.3	17.1
No	36.3	25.0	60.5	46.1	31.8	24.2	8.9	10.5
Don't know/don't remember	32.3	31.3	36.9	–	–	–	–	–
Refused to answer	29.0		–	–	–	–	–	–
Personal income for the last 30 days, UAH	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p=0.048*	*p<0.001*
<UAH 2200	37.9	26.1	54.2	43.3	25.6	23.4	6.2	4.8
UAH 2200-11500	39.4	27	64.0	51.6	30.5	24.6	9.4	11.2
> UAH 11500	39.2	27.8	61.9	46.4	36.5	33	11.3	13.4
Total	38.9	26.9	61.7	49.3	30.6	25.5	9.8	12.4

5. CONTACTS WITH LAW ENFORCEMENT BODIES

Police arrest

Compared to the previous wave of IBBS PWID, the percentage of PWID who reported a recent experience of being detained by the police has significantly decreased (Table 5.1). The reasons for these changes requires further investigation. However, this correlates with qualitative evidence showing that in recent years the National Police of Ukraine has changed its approach to combating drug crime and shifted the priorities of prosecuting petty offenders to fighting high levels of drug crime hierarchy.[3]

Table 5.1. Percentage of PWID who were detained by the police in connection with the use, sale or possession of drugs in 2019 and 2020

	Reasons for detention:	Drug use		Drug sale		Drug possession		All reasons (use, sale or possession)	
		%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Year:	2019	5.4	327	0.7	42	3.4	20	6.5	392
	2020	4.1	243	0.7	41	2.9	167	5.2	311

More often, the experience of police detention was reported by PWID, people practising drugs mixing, NGO clients, men, wealthier PWID and people with a long history of drug use (Table 5.2).

Table 5.2. Percentage of PWID who were detained by the police in connection with the use, sale, or possession of drugs in 2019 and 2020, by main characteristics

	Had an experience of police detention			
	In 2019		n 2020	
	%l	*n*	*%*	*n*
Age	*p<0.001*		*p<0.001*	
Under 25 years	5.2	15	5.9	17
25-34 years	7.2	132	6.1	108
35-44 years	7.2	194	5.3	141
45 years and older	4.1	51	3.6	45
Gender	*p<0.001*		*p<0.001*	
Male	7.2	352	5.8	279
Female	3.4	40	2.8	32
Personal income for the last 30 days, UAH	*p<0.001*		*p<0.001*	
Less than UAH 2200	5.9	66	3.6	40
UAH 2200-11500	6.5	250	5.5	208
More than UAH 11500	7.0	53	6.1	45

[3] According to telephone interviews with representatives of the regional departments for combating drug crime of the National Police of Ukraine.

Continuation of Table 5.2.

	There were cases of police detention			
	In 2019		In 2020	
	%	*n*	*%*	*n*
Experience in injection drug use	*p<0.001*		*p<0.001*	
Up to 2 years inclusive	2.6	8	2.9	10
3-5 years	5.3	26	3.7	20
6-10 years	6.4	56	7	58
11 years or more	6.9	294	5.2	218
Type of drug used in the last 30 days	*p<0.001*		*p<0.001*	
Only opioids	6.0	263	4.9	211
Only stimulants	6.2	50	4.9	40
Drugs mixing	10.4	71	7.9	54
NGO clients	*p<0.001*		*p<0.001*	
Yes	8.9	170	7.1	132
No	5.4	221	4.3	177
Don't know/don't remember	–	0	7.3	1
Refused to answer	18.6	1	18.6	1
Total	6.5	392	5.2	311

The police developed protocols for at least two-thirds of the detained PWID (69.1% in 2019 and 62.7% in 2020).

According to the majority (60.5%) of PWID, the attitude of law enforcement officials towards them or representatives of their KP in 2020 has not changed as compared to 2019. One quarter (24.9%) of respondents could not decide on their answer, a tenth (9.7%) said that the attitude had worsened, and every twentieth person (4.4%) - that it had improved.

Detention by informal security forces (representatives of "self-defense" squads or volunteer battalions) was a marginal phenomenon - only 1.4% of survey participants reported such an experience in the last 12 months.

Experience of incarceration

More than one third of PWID (36.9%) reported having experience of being in incarceration facilities at least once during their lifetime. The majority of them (33.4% of all participants) were released from prison more than a year ago (at the time of the survey), and 3.2%- within the last 12 months (Table 5.3).

Most PWID with experience of incarceration are observed among senior participants, NGO clients, people with low income, and men.

Table 5.3. Experience of incarceration among PWID, by main characteristics

	Have no experience of incarceration		Have recent experience of incarceration (less than a year ago)		Were imprisoned over a year ago	
	%	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*					
Under 25 years	92.2	269	1.2	4	5.0	16
25-34 years	72.4	1323	3.3	69	23.2	425
35-44 years	61.5	1625	3.3	93	34.1	916
45 years and older	40.7	480	3.3	41	54.9	653
Gender	*p<0.001*					
Male	58.8	2804	3.7	195	36.7	1788
Female	78.3	893	1.0	12	20.0	222
Personal income for the last 30 days, UAH	*p<0.001*					
Less than UAH 2200	51.2	543	4.0	48	44.5	475
UAH 2200-11500	65.5	2510	2.6	109	31.2	1199
More than UAH 11500	59.8	444	4.6	39	34.7	270
Experience in injection drug use	*p<0.001*					
Up to 2 years inclusive	85.5	263	1.0	4	12.3	39
3-5 years	83.2	422	2.9	15	13.0	76
6-10 years	75.8	651	3.1	28	20.7	177
11 years or more	55.1	2286	3.5	159	40.7	1708
Type of drug used in the last 30 days	*p<0.001*					
Only opioids	61.0	2617	3.4	159	34.9	1525
Only stimulants	74.6	610	2.2	21	22.4	187
Drugs mixing	59.0	407	2.9	23	37.2	258
NGO clients	*p<0.001*					
Yes	51.3	955	3.0	62	45.5	852
No	68.1	2729	3.3	144	27.9	1150
Don't know/don't remember	47.3	9	8.2	1	37.7	7
Refused to answer	66.1	4	–	0	18.6	1
Total	62.3	3697	3.2	207	33.4	2010

More than half of the survey participants who had an experience of incarceration (52.6%) stated that they used drugs while in prison (Table 5.4). The percentage of such participants is slightly higher among men and upper-middle-income people.

Table 5.4. Drug use in prisons (among those who ever were in prisons), by main characteristics

	Used		Did not use	
	%	*n*	*%*	*n*
Age	*p<0.001*			
Under 25 years	45.1	9	54.9	11
25-34 years	53.6	265	45.7	229
35-44 years	51.4	522	47.5	480
45 years and older	53.8	368	45.6	323
Gender	*p<0.001*			
Male	57.3	1127	41.8	846
Female	14.1	37	85.9	197
Personal income for the last 30 days, UAH	*p<0.001*			
Less than UAH 2200	46.7	246	52.4	274
UAH 2200-11500	54.1	705	45.1	597
More than UAH 11500	56.0	172	43.2	136
Experience in injection drug use	*p<0.001*			
Up to 2 years inclusive	19.3	10	80.7	33
3-5 years	32.3	28	66.5	62
6-10 years	45.4	93	54.6	112
11 years or more	55.2	1030	43.9	829
Type of drug used in the last 30 days	*p<0.001*			
Only opioids	54.1	911	45.1	765
Only stimulants	40.2	86	59.1	122
Drugs mixing	53.0	147	45.4	132
NGO clients	*p<0.001*			
Yes	54.6	495	45.2	418
No	50.9	662	47.9	623
Don’t know/don’t remember	84.2	6	15.8	2
Refused to answer	55.0	1		0
Total	52.6	1164	46.5	1043

6. MENTAL HEALTH

The survey measured the depression symptoms among the participants (Patient Health Questionnaire (PHQ-9)) and anxiety disorders (Generalised Anxiety Disorder Assessment Questionnaire (GAD-7)). Previous studies have shown the validity of these tools.[4]

Within this survey, the reliability of the PHQ-9 (Cronbach's alpha) and GAD-7 scales amounted to 0.895 and 0.930, respectively. Thus, both scales are reliable enough, and their results can be interpreted in aggregate form.

The severity of individual depression symptoms according to the PHQ-9 scale is presented in Table 6.1.

Table 6.1. Distribution of participants' answers to the question: "How often have they been bothered by the following over the past 2 weeks? ... " (PHQ-9 depression symptoms scale)

	Average	Median	SD
Little interest or pleasure in doing things	0.78	1.00	0.773
Feeling down, depressed, or hopeless	0.85	1.00	0.800
Trouble falling or staying asleep, or sleeping too much	0.93	1.00	0.860
Feeling tired or having little energy	1.01	1.00	0.854
Poor appetite or overeating	0.77	1.00	0.843
Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0.80	1.00	0.870
Trouble concentrating on things, such as reading the newspaper or watching television	0.60	0.00	0.783
Moving or speaking so slowly that other people could have noticed? Or so fidgety or restless that you have been moving a lot more than usual	0.61	0.00	0.754
Thoughts that you would be better off dead, or thoughts of hurting yourself in some way	0.43	0.00	0.732

Where 0 - "Not at all, 1 - "Several days", 2 - "More than half the days", 3 - "Nearly every day"

The PHQ-9 scale is interpreted in an aggregated form as the sum of the values of the participants' answers to all questions of the questionnaire. Depression Severity: 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe, 20-27 severe. According to the results of the survey, the average value of the PHQ-9 scale is 6.8, which corresponds to the level of mild depression (Table 6.2.).

The highest depression rate is typical for representatives of the older age group, those who practice drugs mixing, as well as for women, whilst lower level – for young PWID.

[4] https://www.apa.org/depression-guideline/assessment

Table 6.2. Manifestations of depression, by socio-demographic characteristics

	Mean	SD	Depression									
			Minimal		Mild		Moderate		Severe		Extremely severe	
			%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age			*p<0.001*									
Under 25 years	5.5	5.0	34.5	77	40.2	96	18.6	39	5.2	11	1.5	4
25-34 years	6.3	5.1	27.4	421	46.5	721	17.8	262	6.2	95	2.1	37
35-44 years	6.9	5.4	26.4	613	44.4	1026	18.8	427	7.5	166	2.9	67
45 years and older	7.5	5.8	23.0	235	42.8	451	20.1	201	9.6	96	4.5	43
Gender			*p<0.001*									
Male	6.6	5.3	27.0	1107	45.1	1862	18.1	729	7.2	286	2.6	111
Female	7.4	5.6	23.8	239	42.3	432	21.4	200	8.3	82	4.2	40
Experience in injection drug use			*p<0.001*									
Up to 2 years inclusive	6.1	5.4	30.2	75	42.9	111	17.5	39	6.6	17	2.8	8
3-5 years	6.2	4.9	26.6	109	49.0	212	16.7	74	5.9	24	1.8	7
6-10 years	6.3	5.1	30.1	223	44.8	337	16.7	117	6.3	46	2.1	17
11 years or more	7.0	5.5	25.2	911	44.1	1602	19.5	687	7.9	276	3.3	363
Type of drug used in the last 30 days			*p<0.001*									
Only opioids	6.7	5.4	27.1	1001	43.4	1614	18.8	663	7.6	272	3.1	114
Only stimulants	6.3	5.0	28.1	191	47.2	331	17.8	127	4.8	33	2.2	16
Drugs mixing	7.6	5.2	20.6	131	48.5	311	19.3	123	8.8	54	2.8	18
NGO clients			*p<0.001*									
Yes	6.9	5.3	24.5	398	46.8	757	17.6	276	8.2	127	2.8	49
No	6.7	5.4	27.4	946	43.5	1529	19.2	647	7.0	238	2.9	101
Don't know/don't remember	9.8	6.2	4.2	1	37.7	7	28.3	4	23.0	3	6.8	1
Refused to answer	4.9	4.4	37.0	1	23.9	1	39.1	2	–	0	–	0
Total	6.8	5.4	26.4	1346	44.5	2294	18.7	929	7.4	368	2.9	151

The severity of anxiety disorder on the GAD-7 scale is presented in Table 6.3.

Table 6.3. Distribution of participants' answers to the question: "Over the last 2 weeks, how often have you been bothered by any of the following problems?" (scale of anxiety disorders GAD-7)

	Mean	Median	SD
Feeling nervous, anxious or on edge?	0.7	1.00	0.8
Not being able to stop or control worrying?	0.7	1.00	0.8
Worrying too much about different things?	0.8	1.00	0.8
Trouble relaxing?	0.7	1.00	0.8
Being so restless that it is hard to sit still?	0.7	1.00	0.8
Becoming easily annoyed or irritable?	0.8	1.00	0.8
Feeling afraid as if something awful might happen?	0.6	0.00	0.8

Where 0 - "Not at all", 1 - "Several days", 2 - "More than half the days", 3 - "Nearly every day".

The individual values of the scale responses are summed up. Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively. The average value of the GAD-7 scale for the participants is 4.9, which corresponds to the minimal level of anxiety (Table 6.4). A higher level of anxiety was recorded among PWID practising mixed drug use, PWID at the age 45 years and older, as well as women, whilst lower among young PWID.

Table 6.4. Manifestations of anxiety symptoms, by socio-demographic characteristics

	Mean	SD	anxiety							
			minimal		Easy		moderate		strong	
			%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age			*p<0.001*							
Under 25 years	4.2	4.0	56.9	165	33.1	99	7.6	20	2.4	7
25-34 years	4.7	4.5	52.3	930	34.1	653	10.5	183	3.1	61
35-44 years	4.9	4.6	50.3	1297	35.0	964	10.9	286	3.8	102
45 years and older	5.3	4.9	46.4	535	37.0	459	11.8	131	4.7	56
Gender			*p<0.001*							
Male	4.88	4.6	51.7	2431	34.4	1731	10.4	484	3.5	169
Female	5.5	4.7	45.2	496	37.5	444	12.6	136	4.6	57
Experience in injection drug use			*p<0.001*							
Up to 2 years inclusive	4.6	4.6	54.2	164	32.5	105	9.7	28	3.5	12
3-5 years	4.6	4.4	51.9	253	36.3	202	8.3	43	3.5	18
6-10 years	4.7	4.5	54.2	455	32.1	291	10.2	82	3.5	31
11 years or more	5.0	4.7	49.2	2009	35.6	1544	11.4	462	3.8	162
Type of drug used in the last 30 days			*p<0.001*							
Only opioids	4.8	4.6	52.2	2210	33.6	1511	10.9	449	3.4	155
Only stimulants	5.0	4.5	48.7	387	38.7	335	9.1	70	3.6	29
Drugs mixing	5.8	4.7	40.2	268	41.8	302	12.8	87	5.3	36
NGO clients			*p<0.001*							
Yes	4.7	4.4	50.8	925	36.5	717	9.9	181	2.7	52
No	5.0	4.7	50.4	1993	34.3	1450	11.1	433	4.1	172
Don’t know/don’t remember	7.0	4.5	36.8	6	25.9	6	31.4	5	5.9	1
Refused to answer	4.9	5.5	50.8	3	33.9	2	–	0	15.3	1
Total	4.9	4.6	50.5	2927	35.0	2175	10.8	620	3.7	226

7. EXPERIENCE IN GETTING HEALTH CARE AND ACCESS TO PREVENTIVE SERVICES

Seeking medical attention

Every fifth survey participant (20.6%) had a health problem other than drug addiction in the last 12 months. Three out of five (60.5%) among those who had such problems turned to a healthcare facility for treatment. Considering that healthcare facilities were also visited by those who did not have health problems or could not or did not want to admit having such problems, every seventh participant (14.9%) sought medical attention in the past 12 months (Table 7.1).

Table 7.1. Percentage of people with HIV who have contacted a healthcare facility for treatment in the past 12 months, by main characteristics

	Contacted		**Have not contacted**	
	%	*n*	*%*	*n*
Age	*p< 0.001*			
Under 25 years	9.2	25	90.1	264
25-34 years	12.8	234	86.9	1588
35-44 years	14.5	384	84.9	2251
45 years and older	20.1	237	79.5	939
Gender	*p< 0.001*			
Male	14.4	691	85.2	4104
Female	16.8	189	82.7	938
Personal income for the last 30 days, UAH	*p< 0.001*			
Less than UAH 2200	21.6	229	78.3	838
UAH 2200-11500	12.8	496	86.7	3327
More than UAH 11500	15.6	112	84.0	643
Experience in injection drug use	*p< 0.001*			
Up to 2 years inclusive	11.1	34	88.3	273
3-5 years	11.9	59	86.4	450
6-10 years	11.1	96	88.8	762
11 years or more	16.1	671	83.6	3490
Type of drug used in the last 30 days	*p< 0.001*			
Only opioids	15.1	655	84.3	19
Only stimulants	11.1	92	88.6	3
Drugs mixing	16.6	111	83.2	1
NGO clients	*p< 0.001*			
Yes	18.8	354	81.0	1517
No	13.0	525	86.4	3503
Don’t know/don’t remember	5.9	1	90.9	16
Refused to answer		0	81.4	5
Total	14.9	880	84.7	5042

People with an income below the living level, representatives of the older age groups of PWID, clients of harm reduction programmes, and women contacted healthcare facilities for treatment more often (Table 7.1). Less often, healthcare facilities were contacted by young participants, as well as those who used stimulants.

The overwhelming majority (91.5%) of those who sought medical attention said they received the necessary assistance.

The main types of facilities in which PWID sought medical attention were out-patient clinics, primary care centers, or family doctors' offices (Table 7.2). Less frequently, survey respondents contacted hospitals. Only a minority of the respondents approached the rest of the facilities/services. The most popular among them were calling an ambulance and referring to a TB clinic.

Table 7.2. Healthcare facilities contacted by PWID for treatment in the past 12 months, by the percentage of people (among those who have contacted healthcare facilities)

	Have contacted in the past 12 months		Last contacted	
	%	*n*	*%*	*n*
Out-patient clinic, primary care centre, family doctor's office	53.4	475	46.8	381
Hospital	43.7	385	37.1	305
Called an ambulance	7.8	64	4.6	35
Tuberculosis clinic	5.5	51	4.4	38
Private clinic	3.2	24	2.8	20
Drug abuse clinic	1.3	11	0.7	5
STD clinic	0.7	5	0.1	1
Private laboratory	0.5	4	0.5	3
Other	3.8	31	2.7	20
Don’t know/don’t remember	–	0	0.3	2
Refuse to answer	–	0	0.1	1
Total			100.0	811

More than half of the participants (56.0%) declared having a family doctor (Table 7.3). Having a family doctor was more often declared by PWID, who are NGO clients, women, and older participants.

Despite having a family doctor, most of the relevant participants (54.6%) did not see one in the last 12 months. Approximately every fifth (18.9%) met their doctor only once - at the beginning of treatment. 17.8% of respective participants visited a family doctor 3-4 times during this period, 6% - once a month, 2.1% - about 2 times a month or more often. 0.7% of these participants did not remember or want to report the frequency of their visits to the family doctor.

Table 7.3. Percentage of PWID having a family doctor (among all participants), by main characteristics,%

	Family doctor			
	Have	Have no	Don't know/don't remember	Refused to answer
Age	*p<0.001*			
Under 25 years	46.4	51.9	1.7	
25-34 years	55.6	43.5	0.9	
35-44 years	55.6	43.0	1.3	0.1
45 years and older	59.7	38.7	1.6	
Gender	*p<0.001*			
Male	54.3	44.3	1.3	0.1
Female	63.1	35.8	1.1	
Personal income for the last 30 days, UAH	*p<0.001*			
Less than UAH 2200	58.9	39.3	1.6	0.1
UAH 2200-11500	55.7	43.2	1.1	0.0
More than UAH 11500	54.3	44.2	1.6	
Experience in injection drug use	*p<0.001*			
Up to 2 years inclusive	49.4	49.6	1.0	
3-5 years	49.0	48.5	2.5	
6-10 years	56.2	43.2	0.5	0.1
11 years or more	57.2	41.5	1.3	0.0
Type of drug used in the last 30 days	*p<0.001*			
Only opioids	57.4	41.2	1.3	0.1
Only stimulants	47.8	51.2	1.0	
Drugs mixing	54.2	44.6	1.3	
NGO clients	*p<0.001*			
Yes	65.6	33.6	0.7	
No	51.4	47.1	1.4	0.1
Don't know/don't remember	30.5	53.6	15.9	
Refused to answer	84.7	15.3		
Total	56.0	42.7	1.3	0.0

For KPs, stigma and discrimination can act as a limiting factor in seeking health care. As Table 7.4 shows, even among those who contacted healthcare facilities, one in six still avoided such treatment in some cases due to fear of stigmatisation from the staff, one in eight - because of the possible disclosure that he or she is taking drugs or because of possible denial of help if medical personnel find out that they belong to PWID. The same fears stop people from contacting healthcare facilities for HIV testing (Table 7.5.) and also plays a negative role in the case of non-referral to healthcare facilities for HIV-positive PWID (Tables 7.6. and 7.7.). Women and young PWID are more prone to be afraid of stigma.

Table 7.4. Avoidance of health services due to fear of stigma and discrimination (positive responses, among those who reported contacting healthcare facilities within the past 12 months)

		Please tell me whether in the past 12 months have ever avoided seeking MEDICAL ATTENTION IN GENERAL because of fear of or concern about....				
		Stigma form medical staff	Someone finding out that you are using drugs	Potential or experienced violence	Potential or experienced police harassment or arrest	Refusal of treatment due to participant's drug use
Total	%	16.8	12.9	7.3	10.4	11.8
	n	143	110	62	87	104
Gender		*p<0,001*	*p<0,001*	*p<0,001*	*p<0.001*	*p<0.001*
Male	%	15.3	12.4	7	10.2	10.6
	n	102	84	47	68	74
Female	%	22.5	14.7	8.6	11.3	16.5
	n	41	26	15	19	30
Age		*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Under 25 years	%	28.2	38	11	17.9	35.9
	n	6	8	2	4	8
25-34 years	%	14.1	12.2	8.2	9.1	9.2
	n	34	27	18	20	21
35-44 years	%	19.2	13.3	7.5	10.8	13.7
	n	70	50	28	38	53
45 years and older	%	14.4	10.2	5.7	10.4	8.8
	n	33	25	14	25	22

Table 7.5. Avoidance of health services due to fear of stigma and discrimination (positive responses, among those who reported contacting healthcare facilities within the past 12 months)

		Please tell me whether you have ever avoided seeking HIV TESTING because of fear of or concern about....				
		Stigma by staff	Someone finds out that you are using drugs	Potential or experienced violence	Potential or experienced harassment or arrest by law enforcement agencies	Refusal of treatment due to participant's drug use
Total	%	8.7	8.6	5.5	6.3	7.4
	n	74	75	47	53	65
Gender		*p<0.001*	*p<0.001*	*p<0.001*	*p=0.531*	*p<0.001*
Male	%	7.6	7.5	5.2	6.2	6.5
	n	51	53	36	43	46
Female	%	12.9	12.4	6.6	6.6	10.8
	n	23	22	11	10	19
Age		*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Under 25 years	%	28.2	30	8.8	6.6	25.6
	n	6	8	3	2	7
25-34 years	%	9.2	8.5	7.4	8	7
	n	19	17	16	17	15
35-44 years	%	8.5	8.9	4.9	5.8	7.4
	n	33	35	19	21	29
45 years and older	%	6.6	5.8	4	5.4	5.8
	n	16	15	9	13	14

Table 7.6. Experience of avoiding seeking HIV-related healthcare services out of fear of stigma and discrimination (positive responses, among those who reported contacting healthcare facilities within the past 12 months)

		Please tell me whether you have ever avoided seeking HIV CARE in the past 12 months because of fear of or concern for....				
		Stigma by staff	Someone finds out that you are using drugs	Potential or experienced violence	Potential or experienced harassment or arrest by law enforcement agencies	Refusal of treatment due to participant's drug use
Total	*%*	10.3	8.7	5.5	3.9	6.9
	n	21	18	11	8	15
Gender		*p<0.001*	*p=0.13*	*p=0.145*	*p=0.12*	*p=0.9*
Male	*%*	8.4	8.5	5.5	3.7	6.5
	n	11	11	7	5	9
Female	*%*	14.9	9.1	5.6	4.3	7.8
	n	10	7	4	3	6
Age		*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Under 25 years	*%*	–	–	–	–	–
	n	–	–	–	–	–
25-34 years	*%*	2	2	0	0	2
	n	1	1	0	0	1
35-44 years	*%*	15.4	13.2	8.1	4.5	10.4
	n	15	13	8	5	11
45 years and older	*%*	7.5	5.9	4.5	4.5	4.5
	n	5	4	3	3	3

Table 7.7. Experience of avoiding seeking HIV treatment due to fear of stigma and discrimination (positive responses, among those who reported contacting healthcare facilities within the past 12 months and were HIV-positive based on rapid tests)

		Please tell me whether you have you ever avoided seeking HIV CARE in the past 12 month because of fear of or concern for....				
		Stigma by staff	Someone finds out that you are using drugs	Potential or experienced violence	Potential or experienced harassment or arrest by law enforcement agencies	Refusal of treatment due to participant's drug use
Total	*%*	8.2	6.4	3.8	3.5	5.1
	n	17	14	8	7	11
Gender		*p=0.007*	*p=0.145*	*p=0.1*	*p=0.68*	*p=0.029*
Male	*%*	7.2	6.4	3.2	3.2	4.5
	n	10	9	4	4	6
Female	*%*	10.7	6.5	5.4	4.3	6.5
	n	7	5	4	3	5
Age		*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*	*p<0.001*
Under 25 years	*%*	–	–	–	–	–
	n	–	–	–	–	–
25-34 years	*%*	2	0	0	0	0
	n	1	0	0	0	0
35-44 years	*%*	10.4	7.8	4.4	3.7	6
	n	11	9	5	4	7
45 years and older	*%*	7.9	7.1	4.5	4.5	5.7
	n	5	5	3	3	4

Coverage by different types of preventive services

According to the survey results, about a third of PWID are clients of NGOs, which provide preventive services to representatives of this KP (Table 7.8). A quarter of these PWID had a client card with them, and during the interview, they agreed to show it (the rest of the participants did not have a client card with them or did not want to show it).

According to self-reports, in the last 12 months preceding the survey, about a third of PWID received sterile needles and/or syringes, condoms and counseling from a social worker from NGOs, about a quarter received HIV testing services, one in five received viral hepatitis testing services, each ninth was screened for tuberculosis, and only one in sixteen participants received syphilis testing services.

Among NGO clients, the coverage of needle and syringe programmes, programmes for condoms, and social worker counselling is close to the maximum - eight to nine out of ten NGO clients are covered by these services. HIV and viral hepatitis testing services also cover the majority of NGO clients, 17.9% are tested for syphilis, and a third are screened for tuberculosis.

Table 7.8. Percentage of PWID who are NGO clients and covered by preventive services (among all participants and NGO clients)

	Total		Among NGO clients	
	%	*n*	*%*	*n*
PWID who are clients of NGOs working with people who inject drugs	32.3	1875		
Showed an NGO client card	8.1	460	25.1	460
over the past 12 months received in the NGO:				
- sterile needles/syringes	34.7	2013	90.2	1674
- condoms	30.8	1769	81.2	1500
- a social worker consultation	31.3	1824	85.7	1606
- HIV testing services	23.1	1368	60.4	1139
- hepatitis testing services	19.6	1144	52.9	989
- syphilis testing services	6.3	370	17.9	334
- TB screening	11.5	662	33.3	613

Compared to the data of the IBBS PWID 2017, the percentage of PWID who received at least one of the preventive services through the NGO decreased from 48% to 37.1% (Table 7.9). This can probably be attributed to the COVID-19-related restrictions on the operation of organisations and population mobility.

The smallest share of PWID who received preventive services (both within 12 months and within 30 days) is among younger PWID and, accordingly, PWID with a short experience of injection drug use, as well as among those who use stimulants.

Table 7.9. Percentage of PWID who received at least one of the preventive services through NGOs in the last 12 months or 30 days, by main characteristics

	Within 12 months		Within 30 days	
	%	*n*	*%*	*n*
Age	*p<0.001*		*p<0.001*	
Under 25 years	12.4	38	8.9	26
25-34 years	33.3	603	26.0	468
35-44 years	40.2	1050	29.9	779
45 years and older	42.4	499	34.1	399
Gender	*p=0.008*		*p=0.048*	
Male	37.0	1767	28.4	1349
Female	38.3	423	29.3	323
Experience in injection drug use	*p<0.001*		*p<0.001*	
Up to 2 years inclusive	17.4	53	12.3	35
3-5 years	22.1	116	18.4	96
6-10 years	32.2	267	24.7	200
11 years or more	42.0	1735	32.1	1326
Type of drug used in the last 30 days	*p<0.001*		*p<0.001*	
Only opioids	39.9	1703	30.8	1313
Only stimulants	20.2	169	14.5	119
Drugs mixing	38.7	262	30.6	205
Total	37.1	2190	28.5	1672

Access to testing services

The majority (nine out of ten) of the survey participants believe that, if they wish, they can get tested for HIV infection in the near future (Table 7.10). Thus, the path to full coverage of HIV testing, which in particular affects the proportion of HIV-positive PWID who know their status, is rather influenced not by objective limitations but by insufficient motivation or understanding of the risks relevant to this KP.

Table 7.10. Percentage of PWID who believe they can get tested for HIV without hindrance if he/she wanted to do so in the near future (by city)

	Yes		No	
	%	*n*	*%*	*n*
	p<0.001			
Bila Tserkva	83.7	333	15.8	57
Cherkasy	91.6	365	0.7	3
Dnipro	86.8	387	12.4	56
Khmelnytskyi	97.2	488	2.5	10
Kharkiv	93.0	416	3.7	20
Ivano-Frankivsk	88.7	433	2.5	12
Kropyvnytskyi	83.6	458	12.1	65
Kryvyi Rih	84.0	337	8.5	33
Kyiv	85.0	553	9.6	62
Mykolaiv	93.6	654	5.8	41
Mariupol	86.8	456	3.7	20
Odesa	88.4	392	2.5	10
Total	88.8	5272	6.8	389

According to the self-declaration, the majority of PWID were tested for HIV (Table 7.11). The low level of declared testing coverage in Kryvyi Rih is noteworthy.

Table 7.11. PWID who were tested for HIV

	Yes		No	
	%	*n*	*%*	*n*
	p<0.001			
Bila Tserkva	90.4	356	9.6	36
Cherkasy	94.1	376	5.4	22
Dnipro	80.2	358	19.2	87
Khmelnytskyi	95.3	475	4.1	21
Kharkiv	76.7	342	22.8	106
Ivano-Frankivsk	80.4	394	18.1	88
Kropyvnytskyi	76.8	424	22.4	121
Kryvyi Rih	**52.9**	211	41.9	167
Kyiv	84.9	552	13.8	87
Mykolaiv	91.0	638	8.7	60
Mariupol	81.5	435	18.1	93
Odesa	84.5	374	12.4	56
Total	82.9	4935	15.9	944

Getting medication-assisted treatment services

Only three out of five survey participants are aware of the existence of the methadone maintenance treatment. A low level of awareness of the existence of the MAT programme is characteristic of young participants, PWID who use only stimulants, as well as participants with a short experience of injection drug use (Table 7.12).

Table 7.12. PWID who know something about the existence of the medication-assisted treatment (MAT) by main characteristics

	Please tell me whether you know about the access to the medication-assisted treatment (MAT) programme in your city?							
	Yes, I know		Yes, I heard something, but I'm not sure		No, I don't know and I didn't hear anything		Don't know/don't remember	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*							
Under 25 years	31.4	101	10.5	31	55.1	149	2.6	9
25-34 years	58.6	1066	9.5	186	30.2	540	1.6	32
35-44 years	64.6	1715	8.6	243	24.9	642	1.7	44
45 years and older	67.5	794	8.5	102	22.5	265	1.4	20
Gender	*p<0.001*							
Male	61.9	2983	8.9	455	27.4	1286	1.6	82
Female	60.9	693	9.3	107	27.9	310	1.9	23
Type of drug used in the last 30 days	*p<0.001*							
Only opioids	65.1	2818	7.9	363	25.3	1065	1.6	73
Only stimulants	38.6	336	13.3	110	45.0	350	2.7	23
Drugs mixing	63.0	439	11.3	78	24.5	168	1.2	8
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	38.7	124	8.0	24	50.3	150	2.2	9
3-5 years	44.0	235	10.4	55	43.0	211	2.6	15
6-10 years	53.3	453	10.5	98	34.2	290	1.8	17
11 years or more	67.8	2832	8.5	375	22.1	903	1.4	61
NGO clients	*p<0.001*							
Yes	82.5	1548	5.9	115	10.6	187	1.0	23
No	51.8	2117	10.5	444	35.6	1401	1.9	79
Don't know/don't remember	41.8	7	9.1	2	45.5	8	3.6	1
Refused to answer	40.7	3	11.9	1	–	0	47.5	2
Total	61.7	3676	9.0	562	27.5	1596	1.6	105

In Dnipro and Kryvyi Rih, the level of awareness of this service is critically low (Table 7.13).

Table 7.13. PWID who know something about the existence of the medication-assisted treatment (MAT) in their city

	Please tell me whether you know about the access to medication-assisted treatment (MAT) programme in your city?							
	Yes, I know		Yes, I heard something, but I'm not sure		No, I don't know and I haven't heard anything		Don't know/don't remember	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<0.001							
Bila Tserkva	65.8	260	4.2	16	29.8	115	0.3	1
Cherkasy	90.7	359	2.0	9	6.9	31	0.3	1
Dnipro	**36.5**	167	17.4	72	42.9	192	3.0	15
Khmelnytskyi	87.8	438	9.2	41	3.8	20	0.2	1
Kharkiv	41.5	183	22.3	100	35.7	165	0.4	2
Ivano-Frankivsk	69.8	344	8.9	46	21.0	96	0.3	2
Kropyvnytskyi	46.6	251	6.5	35	46.1	258	0.7	5
Kryvyi Rih	**21.0**	84	7.5	30	66.2	264	4.4	18
Kyiv	68.5	450	9.8	60	20.5	130	0.8	6
Mykolaiv	86.2	599	2.5	17	11.4	84		0
Mariupol	61.9	328	12.3	70	23.4	121	2.4	12
Odesa	47.0	213	15.8	66	26.5	120	10.4	42

As in the case of HIV testing, the survey revealed a lack of motivation - approximately half of the survey participants stated that they had never been and did not plan to join an MAT programme (Table 7.14). The largest share of PWID who are not motivated to participate in the MAT programme live in Dnipro, Kryvyi Rih, and Odesa.

Table 7.14. PWID who were a client of the medication-assisted treatment (MAT) programme

	Yes, I used to be a client and am now		Yes, I used to be a client, but not any more		No, I haven't been a client before, but I plan to		**No, I have never been a client and I do not plan to**		Don't know/don't remember	
	%	*n*	*%*	*n*	*%*	*n*	***%***	***n***	*%*	*n*
	p<0.001									
Bila Tserkva	19.5	52	3.8	10	20.5	59	**55.3**	**153**	0.8	2
Cherkasy	22.5	87	5.2	16	23.6	87	**46.4**	**170**	2.2	8
Dnipro	4.8	11	6.1	14	15.5	37	**71.9**	**172**	1.8	5
Khmelnytskyi	20.4	101	3.0	14	29.0	142	**46.4**	**218**	1.2	4
Kharkiv	3.1	8	5.3	16	45.0	125	**41.0**	**117**	5.2	16
Ivano-Frankivsk	36.0	137	5.0	20	17.1	68	**40.5**	**158**	1.5	7
Kropyvnytskyi	10.6	29	4.2	13	28.6	76	**54.8**	**161**	1.7	7
Kryvyi Rih	2.4	3	7.0	7	18.7	20	**69.7**	**81**	2.4	3
Kyiv	15.5	84	7.1	38	29.7	147	**46.9**	**237**	0.7	3
Mykolaiv	36.6	222	5.0	32	19.0	117	**39.1**	**242**	0.3	2
Mariupol	6.2	23	4.2	17	27.4	108	**56.6**	**228**	5.2	20
Odesa	3.6	11	2.9	9	16.5	46	**68.6**	**193**	6.7	16
Total	19.1	768	5.0	206	24.2	1032	**49.5**	**2130**	2.0	93

46.4% (n=1500) among those who used only opioids in the last 30 days, have never been and do not plan to be a client of an MAT programme. Every fourth participant (24.2%; n=776) has not been a client of an MAT programme but is planning to enrol. More than every fifth (21.8%; n=657) was an active client of an MAT programme at the time of the survey, 5.5% (n=169) - participated before, but at the time of the survey, they had already ceased to be, 2% (n=71) - did not remember, 0.2% (n=7) - refused to answer.

According to the self-declaration, only one out of five survey participants was actually covered by an MAT programme (within the last 6 months) (Table 7.15).

Table 7.15. Distribution of participants' answers to the question: "Have you received methadone or buprenorphine now or in the past 6 months in the medication-assisted treatment programme?"

	Yes		**No**	
	%	*n*	*%*	*n*
	p<0.001			
Bila Tserkva	20.5	55	79.5	221
Cherkasy	22.9	87	77.1	281
Dnipro	5.1	12	94.9	227
Khmelnytskyi	21.1	104	78.9	375
Kharkiv	3.2	9	95.5	271
Ivano-Frankivsk	36.4	139	63.6	251
Kropyvnytskyi	10.9	30	80.7	229
Kryvyi Rih	2.4	3	91.8	104
Kyiv	15.7	85	83.6	421
Mykolaiv	36.4	221	63.6	394
Mariupol	6.8	25	76.4	307
Odesa	3.8	10	94.2	263
Total	19.4	780	78.6	3344

Among those who said that in the past 30 days they had injected only opioids, at the time of the survey or within 6 months 22.1% (n=667) were receiving methadone or buprenorphine under the MAT programme and 75.8% (n=2420) among those who used only stimulants - 6.9% (n=27) and 91.0% (n=407), respectively; among those who practised drugs mixing - 14.3% (n=73) and 84.4% (n=437).

8. PrEP

Awareness of the existence of pre-exposure prophylaxis (PrEP)

The survey showed that pre-exposure prophylaxis (PrEP) continues to be a little-known phenomenon for most PWID. Only more than one out of nine participants heard about its existence (Table 8.1.).

Table 8.1 Distribution of participants' answers to the question: "Have you ever heard of pre-exposure prophylaxis (PrEP)?"

	Yes		No		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*							
Under 25 years	9.4	28	84.7	249	5.5	14	0.4	1
25-34 years	9.3	174	87.3	1595	3.0	51	0.4	7
35-44 years	11.8	319	83.6	2219	3.7	93	0.9	19
45 years and older	14.4	172	82.1	968	2.9	33	0.6	8
Gender	*p<0.001*							
Male	10.5	510	85.2	4114	3.6	161	0.7	32
Female	**15.2**	183	81.8	917	2.6	30	0.4	3
Experience in injection drug use	*p<0.001*							
Up to 2 years inclusive	7.3	24	85.3	265	6.2	19	1.2	2
3-5 years	7.6	40	88.2	457	4.0	18	0.2	1
6-10 years	8.8	75	88.0	756	2.8	25	0.4	3
11 years or more	12.9	551	83.2	3474	3.2	124	0.7	29
Type of drug used in the last 30 days	*p<0.001*							
Only opioids	11.7	517	84.3	3644	3.4	2	0.5	23
Only stimulants	10.2	89	85.5	704	3.7	142	0.6	3
Drugs mixing	11.5	80	83.3	583	3.5	26	1.8	9
NGO clients	*p<0.001*							
Yes	**17.1**	337	80.0	1481	2.7	52	0.3	5
No	8.6	352	86.9	3536	3.6	133	0.8	29
I don't know/don't remember (do not read)	21.8	4	55.5	10	14.5	3	8.2	1
Refused to answer	–	0	37.3	3	62.7	3	–	0
Total	11.4	693	84.5	5031	3.4	191	0.7	35

The level of PrEP awareness is slightly higher, which is typical for clients of specialised NGOs (17.1%), women (15.2%), participants aged 45 and over (14.4%). The lowest level of PrEP awareness is among those who have started injecting drugs quite recently.

Geographically, the lowest level of PrEP awareness was found in Odesa (3.9%), Bila Tserkva (4.6%), Kharkiv (5.6%), but the highest - in Cherkasy (32.6%), Khmelnytskyi (29.7%), and Kyiv (20.6%) (Table 8.2.).

Table 8.2. PrEP awareness, by city

	Have you ever heard of pre-exposure prophylaxis (PrEP)? (One answer)							
	Yes		No		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<0.001							
Bila Tserkva	4.6	19	94.7	370	0.7	3	–	0
Cherkasy	**32.6**	133	65.5	260	1.9	7	–	0
Dnipro	5.1	21	94.9	426	0	0	–	0
Khmelnytskyi	**29.7**	150	69.6	346	0.7	4	–	0
Kharkiv	5.6	26	94.0	422	0.4	2	–	0
Ivano-Frankivsk	9.1	44	90.7	443	0.2	1	–	0
Kropyvnytskyi	2.7	17	96.9	529	0.4	3	0.1	1
Kryvyi Rih	10.5	41	72.4	289	15.8	63	1.3	6
Kyiv	**20.6**	134	71.2	458	5.2	35	3.1	22
Mykolaiv	7.9	53	91.5	642	0.6	5	–	0
Mariupol	7.1	37	87.8	468	4.0	22	1.1	5
Odesa	3.9	18	85.9	378	9.9	46	0.4	1

PrEP experience

A marginally small proportion of PWID has a PrEP experience - only about one in seventy-seven participants (1.3%). Kyiv (5.2%) and Khmelnytskyi (4.8%) stand out with the highest declared level of use of pre-exposure prophylaxis drugs.

Table 8.3. Distribution of participants' answers to the question: "Have you used pre-exposure prophylaxis (PrEP) drugs for the past 12 months?"

	Have you used pre-exposure prophylaxis (PrEP) drugs in the past 12 months?" (single choice)											
	Yes, I have been using PrEP until now now		Yes, I used PrEP, but I do not use it now		No, I have not use PrEP		The respondent has not heard of the PrEP		Don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<0.001											
Bila Tserkva	**0.2**	1	**0.8**	3	5.6	21	93.2	366	0.2	1	0	0
Cherkasy	**0.3**	1	**1.6**	5	55.1	225	43.1	169	0	0	0	0
Dnipro	**0.7**	3	**0.3**	2	29.4	126	69.3	315	0.4	1	0	0
Khmelnytskyi	**4.8**	23	**1.3**	8	34.9	178	58.9	290	0.2	1	0	0
Kharkiv	**0**	0	**0.3**	1	7.8	35	91.5	412	0.5	2	0	0
Ivano-Frankivsk	**0.8**	4	**0.2**	1	23.1	111	75.7	371	0.2	1	0	0
Kropyvnytskyi	**0.1**	1	**0**	0	9.4	47	90.3	499	0.1	2	0.1	1
Kryvyi Rih	**0.3**	1	**0**	0	29.8	118	64.6	257	5.3	23	0	0
Kyiv	**5.2**	34	**0.5**	3	39.4	266	53.7	338	0.7	5	0.5	3
Mykolaiv	**0**	0	**0**	0	16.4	117	83.1	580	0.4	3	0	0
Mariupol	**1.7**	10	**0**	0	58.3	302	37.4	208	1.3	6	1.3	6
Odesa	**0.4**	2	**0**	0	5.4	25	79.5	351	14	62	0.7	3
Total	**1.3**	80	**0.4**	23	24.6	1571	71.7	4156	1.8	107	0.2	13

At the same time, PWID demonstrate significant interest in pre-exposure prophylaxis of HIV - on average, four out of ten participants stated that they would agree to become participants in such a programme (Table 8.4).

It can be noted that PrEP is of interest to survey participants for its ability to protect against HIV infection, as well as more attractive in the case of the possibility of prolonged action and getting it in an NGO.

Table 8.4. Distribution of participants' answers to the question: "Would you agree to become a member of the PrEP programme, if... ?"

	Yes		No		Don't know/don't remember	
	%	*n*	*%*	*n*	*%*	*n*
the medicine could protect a person from HIV infection	45.1	2678	46.5	2658	8.4	498
the medicine should be taken by injection about once every two months.	44.3	2629	46.6	2668	9.2	575
the medicine was received from a non-governmental organisation	42.8	2548	47.3	2713	9.8	611
the person who starts taking the medicine should have a medical check-up every 3 months.	42.1	2507	48	2748	9.9	617
you need to receive the medicine at the AIDS Centre?	41.3	2449	48.8	2807	9.9	617
the medicine had to be taken daily	41	2434	48.8	2818	10.1	617
the person who starts taking the medicine should use a condom every time they have sex.	38.9	2304	50.2	2882	10.9	686

9. KNOWLEDGE OF HIV TRANSMISSION ROUTES

The survey used an updated awareness scale that better current approaches to HIV risk and HIV prevention in a better way (Table 9.1).

Table 9.1. Distribution of participants' answers to the question: "To what extent do you agree with the statements below about HIV infection?"

	Strongly disagree		Rather disagree		Both agree and disagree		Rather agree		Completely agree		Don't know/don't remember	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
HIV infection can be avoided if an HIV-positive person has an indetermnate viral load.	5.5	356	16.2	925	15.8	948	**28.2**	1652	**15.1**	862	19.3	1235
The chances of contracting HIV are very small if an HIV-negative person takes pre-exposure prophylaxis (PrEP).	3.2	186	10.3	597	14.6	873	**27.2**	1617	**14.5**	874	30.2	1804
The chances of contracting HIV are significantly reduced if a person takes post-exposure prophylaxis (PEP) immediately after exposure (<72 hours).	3.2	184	13.9	625	14.7	872	**25.8**	1550	**12.7**	770	32.8	1950
Once an HIV-positive diagnosis is made, a person should immediately initiate ART.	1.6	91	5.9	335	8.7	509	**26.1**	1545	**50.1**	3014	7.7	457
ART may be delayed if an HIV-positive person feels healthy.	**31.8**	1877	**31.0**	1898	9.9	559	12.7	724	6.2	373	8.4	520
An HIV positive person can stop taking ART if they feel healthy.	**38.4**	2291	**29.7**	1803	9	523	10.4	575	4.6	271	7.9	488

Correct answers are highlighted grey.

The majority of participants responded correctly to the proposed statements. The largest share of correct answers - three-quarters of the participants (76.2%) - was received regarding the statement about the immediate initiation of ART. More than two-thirds of the participants (68.1%) correctly disagreed with the statement that ART could be stopped on their own, slightly less (62.8%) - that ART could be postponed. 43.3% answered correctly to the statement according to the principle "indeterminate viral load means HIV is not transmitted", 41.7% - regarding PrEP, 38.5%- on post-exposure prophylaxis. Participants were most confused about the statements about PEP and PrEP (in both cases, about a third of the participants were unable to determine the answer).

10. RESULTS OF HIV AND HCV TESTING

Prevalence of HIV infection

Based on the results of rapid testing, every fifth survey participant (20.3%, 95% CI: 20.0%-20.7%) tested positive for HIV (for comparison - in 2017, this indicator was 22.6%, 95% CI: 21.7%-23.3%). Among those who self-declared their HIV-positive status, this result was confirmed in 92.1%. Moreover, more than every twelfth (7.9%) representative of this population was found to be HIV-negative, or an indeterminate result was obtained, which required additional retesting (Table 10.1). The latter result can be associated with both the participants' misunderstanding of the meaning of "HIV-positive" concept, and the limitations of the sensitivity and specificity of the tests.

Among the participants who declared HIV-negative status during the survey, HIV infection was detected in one in seventeen (5.9%). Among those who did not want to disclose their HIV status, the share of HIV-positive participants was 29.4%, among those who refused to answer - 15.6%, and those who said they did not know or did not remember their HIV-status - 17.6%.

Table 10.1. Self-declared HIV status and HIV status confirmed by the results of a survey among PWID

Status based on the results of rapid tests	Self-declared status										Total	
	HIV-positive		HIV-negative		Unwillingness to report		I don't know/don't remember (do not read)		Refused to answer			
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
HIV-positive	92.1	784	5.9	255	29.4	74	17.6	44	15.6	74	20.4	1231
HIV negative or indeterminate	7.9	61	94.1	3834	70.6	167	82.4	200	84.4	386	79.6	4648

In the context of socio-demographic groups, high level of HIV prevalence is observed among representatives of the older age group, women, clients of NGOs that provide preventive services, PWID with a long history of drug use, and opioid users (Table 10.2).

Table 10.2. Percentage of PWID who tested positive for HIV

	HIV prevalence	
	%	***n***
Age	*p<00.1*	
Under 25 years	2.2	7
25-34 years	11.1	207
35-44 years	23.3	642
45 years and older	**32.6**	**396**
Gender	*p<00.1*	
Male	18.1	899
Female	**29.6**	344
Experience of injection drug use	*p<00.1*	
Up to 2 years inclusive	5.8	17
3-5 years	5.7	31
6-10 years	10.0	87
11 years or more	**25.4**	1096
Type of drug used in the last 30 days	*p<00.1*	
Only opioids	22.4	992
Only stimulants	12.1	104
Drugs mixing	14.6	108
	p<00.1	
NGO clients	**28.5**	542
Total	20.3	1252

The highest proportion of HIV prevalence was observed in Cherkasy, where every third participant (34.6%) turned out to be HIV-positive (Table 10.3). More than a quarter of the participants tested positive for HIV with rapid tests in Mariupol (29.4%), Mykolaiv (27.3%), Khmelnytskyi (27.5%), and Dnipro (23%). The lowest HIV prevalence was found in Kharkiv (7.1%) and Ivano-Frankivsk (10.8%).

Table 10.3. Percentage of PWID who tested positive for HIV with rapid tests, by city

	HIV prevalence	
	%	***n***
	p<00.1	
Bila Tserkva	15.9 (95% CI: 12.3-19.5)	67
Cherkasy	**34.6** (95% CI: 29.3-40.0)	140
Dnipro	**23.0** (95% CI: 19.1-27.0)	109
Khmelnytskyi	**27.5** (95% CI: 23.4-31.7)	139
Kharkiv	7.1 (95% CI: 4.5-9.4)	30
Ivano-Frankivsk	10.8 (95% CI: 7.5-14.1)	52
Kropyvnytskyi	11.9 (95% CI: 8.2-15.7)	67
Kryvyi Rih	23.7 (95% CI: 18.7-28.7)	92
Kyiv	16.6 (95% CI: 13.1-20.1)	106
Mykolaiv	**27.3** (95% CI: 23.5-31.0)	195
Mariupol	**29.4** (95% CI: 25.3-33.6)	160
Odesa	20.4 (95% CI: 16.3-24.5)	95
Total	20.3 (95% CI: 20.0%-20.7%)	1252

Recent HIV infection

Recent HIV infection means that a person had most likely contracted HIV within the past year. People with recent HIV infection have high amounts of HIV in their blood. This, in turn, means that the infection can be passed on more easily to other people.

Additional testing of DBS samples at the PHC HIV/AIDS Reference Laboratory showed that 0.4% of survey participants had a recent infection. This constituted 1.2% of all tested DBS cards (which, in addition to HIV-positive samples, also included control ones) or 1.9% of all HIV-positive survey participants (Table 10.4).

Table 10.4. Final classification of the DBS sample (according to the HIV/AIDS Reference Laboratory), among all DBS cards

	%	*n*
Recent HIV infection	1.2	231
Old HIV infection	59.7	11099
ART use (old infection)	6.1	1141
No HIV infection detected	31.0	5765
Indeterminate result (retest)	1.9	347

The highest proportion of participants with recent HIV infection among HIV-positive participants was found in Kyiv (5.9%), Kropyvnytskyi (5.0%), Odesa (3.7%) (Table 10.5).

Table 10.5. Final classification of the DBS sample (according to the PHC's HIV/AIDS Reference Laboratory), among HIV-positive participants

	Recent HIV infection		Old HIV infection		ART use (old infection)		No HIV infection detected		Indeterminate result	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<00.1									
Bila Tserkva	–	0	89.0	57	9.57	6	1.4	1	–	0
Cherkasy	1.8	2	85.9	120	12.3	16	–	0	–	0
Dnipro	1.0	1	88.4	91	10.0	11	0.6	1	–	0
Khmelnytskyi	1.2	2	79.5	109	18.8	24	0.5	1	–	0
Kharkiv	–	0	84.8	25	11.2	4	4.0	1	–	0
Ivano-Frankivsk	–	0	91.5	47	7.4	4	1.1	1	–	0
Kropyvnytskyi	5.0	3	87.8	58	7.2	6	–	0	–	0
Kryvyi Rih	2.1	2	91.0	83	6.9	6	–	0	–	0
Kyiv	5.9	5	87.3	89	6.8	8	–	0	–	0
Mykolaiv	1.0	2	92.8	177	5.9	11	0.4	1	–	0
Mariupol	1.2	2	89.7	140	4.2	7	1.7	3	3.2	5
Odesa	3.7	4	74.3	66	8.7	8	13.3	14	–	0
Total	1.9	23	87.0	1062	8.9	111	2.0	23	0.2	5

In the context of socio-demographic groups, the highest percentage of recent HIV infection was observed among PWID who had been injecting drugs for 3-5 years and aged 25-34 years (Table 10.6) - that is, in those who have started to inject drugs relatively recently.

Table 10.6. Final classification of the DBS sample (according to the PHC's HIV/AIDS Reference Laboratory), among HIV-positive participants, by main characteristics

	Recent HIV infection		Old HIV infection		Taking ART (old infection)		No HIV infection detected		Indeterminate result (redo the analysis)	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*									
Under 25 years	–	0	87.9	6	12.1	1	–	0	–	0
25-34 years	5.0	9	80.1	163	9.0	17	5.2	9	0.7	2
35-44 years	1.5	10	90.6	563	6.6	45	1.2	8	0.2	2
45 years and older	0.8	4	84.8	330	12.7	48	1.6	6	0.1	1
Gender	*p<0.001*									
Male	1.9	17	87.8	768	8.5	76	1.5	12	0.3	5
Female	1.9	6	85.2	287	9.8	34	3.2	10	–	0
Experience in injection drug use	*p<0.001*									
Up to 2 years inclusive	–	0	96.2	16	3.8	1	–	0	–	0
3-5 years	9.3	2	87.9	26	2.8	1	–	0	–	0
6-10 years	3.0	3	81.5	68	7.8	6	7.6	6	–	0
11 years or more	1.7	18	87.3	934	9.2	101	1.6	16	0.3	5
Type of drug used in the last 30 days	*p<0.001*									
Only opioids	2.0	19	87.1	839	9.2	92	1.6	16	0.2	2
Only stimulants	1.7	1	88.0	90	5.6	6	3.7	3	1.0	2
Drugs mixing	2.1	3	87.8	93	7.0	7	2.7	2	0.4	1
NGO clients	*p<0.001*									
Yes	1.6	9	86.3	452	9.6	54	2.3	12	0.2	2
No	2.2	14	87.5	592	8.4	56	1.6	10	0.3	3
Don't know/don't remember	–	0	100.0	6	–	0	–	0	–	0
Refused to answer	–	0	100.0	2	–	0	–	0	–	0

Annual HIV incidence

Incidence is the likelihood that new cases of disease will occur in a population over time.

To determine the annual incidence among PWID, DBS samples from participants in the IBBS PWID 2020 who tested positive for HIV were sent to the PHC's HIV/AIDS Reference Laboratory, where they were tested for viral load to determine recent HIV infection. As noted above, 1252 survey participants tested positive for HIV with rapid tests. For 1224 of these, the DBS cards were tested, in 23 of which the samples were classified as recent HIV infection.

The CDC Calculator for HIV Prevalence and Incidence was used to calculate the annual incidence of HIV among PWID, based on the formula:

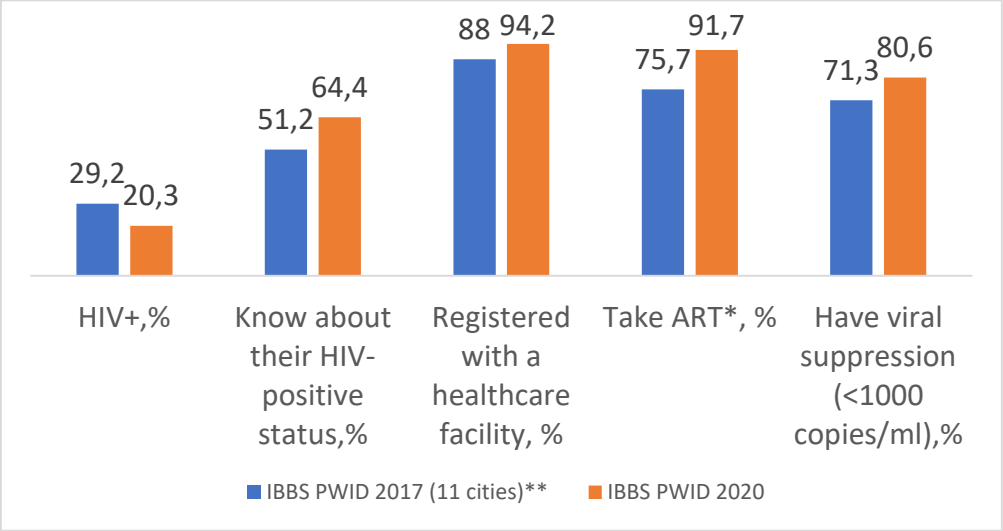
$$I_a = 1 - exp\left(-\frac{R-\varepsilon Q}{(1-\varepsilon * {}^{T}/_{\omega})({}^{\omega}/_{365})N'}\right),$$

where:
R is the number of cases of recent HIV infection
ε is the proportion of false cases of recent HIV infection
ω is the average duration of recent HIV infection (in days)
Q is the number of HIV-positive cases
N' is the adjusted number of HIV-negative cases
T is the post-infection threshold (in days).
When calculating the value of T was set equal to 161 (or 0.44 years), ω to 161 (95% CI: 148-174), ε to 0.09% (95% CI: 0.07%-0.11%). As a result, the calculated value of the annual HIV incidence among people who inject drugs, based on the results of the IPCI at the level of HIV infection, was 1.06% (95% CI: 0.61%-1.52%).

HIV treatment cascade

In accordance with the goals of UNAIDS, one of the most critical milestones in overcoming the HIV epidemic among KPs is the achievement of the so-called "90-90-90-90" Target in the HIV treatment cascade. This means that 90% of all people living with HIV know their HIV status, 90% of all people with diagnosed HIV infection receive sustained antiretroviral therapy, 90% of all people receiving antiretroviral therapy will have viral suppression.
The results of the IBBS PWID 2020 show that the targets of the HIV treatment cascade have not been fully achieved among the representatives of PWID in Ukraine as of the end of 2020 (Figure 10.1, Table 10.7). The best results (exceeded target indicators) were achieved for PWID who know their HIV status and are registered in a healthcare facility, as well as for receiving ART by PWID registered in a healthcare facility due to HIV. Also, a fairly high rate (80.6%) was recorded for those PWID who, while taking ART, have viral suppression. The "bottleneck" in the HIV treatment cascade continues to be the awareness of PWID about their HIV-positive status. This indicates the need to strengthen the ability and motivation of PWID to undergo appropriate testing.

Figure 10.1. HIV treatment cascade



**According to the data reported to the interviewer.*
***Cities coincide with IBBS PWID 2020, with the exception of Mariupol (Dnipro, Kryvyi Rih, Ivano-Frankivsk, Kyiv, Bila Tserkva, Kropyvnytskyi, Mykolaiv, Odesa, Kharkiv, Khmelnytskyi, Cherkasy).*
Values are shown as a percentage of the previous column.

Table 10.7. HIV treatment cascade

	HIV+		Know about their HIV-positive status		Registered with a healthcare facility		Take ART*		Have viral suppression (<1000 copies/ml)	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
	p<0.001									
Bila Tserkva	15.9	67	65.0	43	97.8	42	91.4	39	75.6	29
Cherkasy	34.6	140	79.0	107	100.0	107	96.3	103	85.2	87
Dnipro	23.0	109	**47.4**	52	91.1	47	93.9	44	78.2	36
Khmelnytskyi	27.5	139	70.6	101	100.0	101	87.4	88	85.1	74
Kharkiv	7.08	30	**25.9**	8	83.5	7	85.7	6	100.0	6
Ivano-Frankivsk	10.8	52	82.5	42	95.2	41	98.3	40	81.8	32
Kropyvnytskyi	11.9	67	59.6	36	87.5	33	**72.4**	27	**62.9**	19
Kryvyi Rih	23.7	92	**25.4**	24	53.3	14	90.0	13	100.0	13
Kyiv	16.6	106	**51.3**	56	93.7	52	96.1	50	85.2	42
Mykolaiv	27.3	195	83.4	163	95.8	156	90.7	140	81.2	110
Mariupol	29.4	160	61.8	95	91.6	89	87.9	78	80.6	62
Odesa	20.4	95	60.1	57	84.6	49	98.6	48	83.7	40
Total	20.3	1252	64.4	784	94.2	738	91.7	676	80.6	550

**According to the data reported to the interviewer.*
Values are shown as a percentage of the previous column.

The highest proportion of HIV-positive participants who do not know about their HIV-positive status (Table 10.8) is observed among PWID with 3-5 years and 6-10 years of injection drug use experience (41.9% and 31 0%, respectively), young participants (34.8%), NGO clients (27.9%).

Table 10.8. HIV status awareness of HIV-positive participants, by main characteristics

	Can you report your latest HIV test result?									
	Yes, HIV-positive		Yes, HIV-negative		No		I don't know/don't remember		Refused to answer	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
Age	*p<0.001*									
Under 25 years	31.8	2	**34.8**	2	21.2	2	12.1	1	–	0
25-34 years	54.3	109	**28.7**	62	7.1	12	5.1	10	4.8	10
35-44 years	65.2	408	**18.9**	121	5.6	38	3.6	22	6.7	42
45 years and older	69.1	265	**16.9**	70	5.7	22	2.5	11	5.8	22
Gender	*p<0.001*									
Male	63.2	557	**20.7**	186	5.9	53	3.4	31	6.8	63
Female	67.4	227	**18.4**	69	6.3	21	3.9	13	4.1	11
Experience in injection drug use	*p<0.001*									
Up to 2 years inclusive	64.5	11	**23.7**	4	7.5	1	4.3	1	–	0
3-5 years	32.6	10	**41.9**	14	12.6	4	3.7	1	9.3	2
6-10 years	49.8	40	**31.0**	30	5.2	4	9.8	8	4.2	4
11 years or more	66.8	719	**18.3**	203	5.8	64	3.1	34	6.0	66
Type of drug used in the last 30 days	*p<0.001*									
Only opioids	65.6	637	**14.2**	195	5.9	59	3.3	33	5.8	60
Only stimulants	53.7	56	**19.4**	26	6.3	6	6.8	6	9.6	7
Drugs mixing	58.3	63	**23.6**	28	7.7	8	3.8	4	4.8	5
NGO clients	*p<0.001*									
Yes	81.2	435	**10.9**	61	4.5	26	1.6	10	1.7	9
No	50.2	344	**27.9**	193	7.3	48	5.2	34	9.3	63
Don't know/don't remember	37	3	**17.8**	1	–	0	–	0	45.2	2
Refused to answer	100	1	**–**	0	–	0	–	0	–	0
Total	64.4	784	**20.0**	255	6.0	74	3.6	44	6.0	74

Prevalence of antibodies to hepatitis C virus

Antibodies to hepatitis C virus were detected in more than two-thirds of the survey participants (68.4%, 95% CI: 68.0%-68.7%; according to IBBS PWID 2017 - 63.9%, 95% CI: 63.3%-65.1%) (Table 10.9).

Table 10.9. Percentage of PWID who tested positive for HCV, by socio-demographic characteristics

	Antibodies to hepatitis C	
	%	*n*
Age	*p<0.001*	
Under 25 years	25.1	78
25-34 years	61.8	1145
35-44 years	73.9	1971
45 years and older	**76.8**	918
Gender	*p<0.001*	
Male	69.8	3389
Female	62.5	702
Experience of injection drug use	*p<0.001*	
Up to 2 years inclusive	37.4	117
3-5 years	42.5	225
6-10 years	58.8	510
11 years or more	**76.5**	3205
Type of drug used in the last 30 days	*p<0.001*	
Only opioids	71.4	3083
Only stimulants	49.2	424
Drugs mixing	72.7	512
NGO clients	*p<0.001*	
Yes	**79.4**	1491

The highest prevalence of antibodies to hepatitis C virus (HCV) was observed among PWID in Kyiv (83.0%), Kropyvnytskyi (82.3%), Cherkasy (80.6%) (Table 10.10).

Table 10.10. Percentage of PWID who tested positive for HCV, by city

	Antibodies to hepatitis C virus	
	%	*n*
	p<0.001	
Bila Tserkva	63.4 (95% CI: 57.1-69.8)	253
Cherkasy	**80.6** (95% CI: 76.0-85.3)	323
Dnipro	**76.3** (95% CI: 71.7-80.8)	340
Khmelnytskyi	64 (95% CI: 58.1-69.9)	315
Kharkiv	69.0 (95% CI: 61.3-76.6)	304
Ivano-Frankivsk	66.9 (95% CI: 60.8-73.1)	336
Kropyvnytskyi	**82.3** (95% CI: 77.2-87.3)	451
Kryvyi Rih	60.7 (95% CI: 55.2-66.2)	241
Kyiv	**83.0** (95% CI: 79.1-86.9)	540
Mykolaiv	60.1 (95% CI: 55.7-64.5)	420
Mariupol	62.6 (95% CI: 58.2-66.9)	345
Odesa	55.1 (95% CI: 49.95-60.4)	245
Total	68.4 (95% CI: 68.0-68.7)	4113

As for HIV cases, the highest prevalence of antibodies to HCV was observed among clients of NGOs working with PWID (79.4%), representatives of the older age group (76.8%) and, in accordance with those who had the greatest experience of injection drug use (76.5%) (Table 10.9). At the same time, the prevalence of antibodies to HCV was lower among women (62.5%) compared to men (69.8%).

New HCV cases

Cases where the participant did not declare that he/she has or has HCV, but has antibodies to it, were classified as new HCV cases. According to the survey results, in one third (33.4%) of the participants, antibodies to HCV were newly identified.

In terms of cities, the largest percentage of such new cases was observed in Dnipro (more than half of the participants - 58.4%), Mariupol (45.9%) and Kryvyi Rih (43.2%) (Table 10.11).

In terms of socio-demographic characteristics, a greater percentage of new HCV cases was diagnosed among those who practice drugs mixing (38.5%), representatives of the age group 35-44 years (35.1%), PWID with experience of injection drug use during 6 -10 years, men (35%) (Table 10.12).

Table 10.11. Share of PWID with new HCV cases (based on rapid test results and self-declaration), by city

	Newly HCV cases	
	%	*n*
	p<0.001	
Bila Tserkva	32.1	274
Cherkasy	24.9	302
Dnipro	**58.4**	**191**
Khmelnytskyi	33.3	336
Kharkiv	35.3	296
Ivano-Frankivsk	32.3	340
Kropyvnytskyi	41.8	340
Kryvyi Rih	**43.2**	**229**
Kyiv	38.2	403
Mykolaiv	17.6	577
Mariupol	**45.9**	300
Odesa	23.5	346
Total	33.4	3934

Table 10.12. Percentage of PWID with new HCV cases (based on the results of rapid tests and self-declaration), by main characteristics

	%	*n*
Age	*p<0.001*	
Under 25 years	20.2	63
25-34 years	32.8	631
35-44 years	**35.1**	957
45 years and older	33.8	416
Gender	*p<0.001*	
Men	**35.0**	1746
Women	27.5	321
Experience in injection drug use	*p<0.001*	
Up to 2 years inclusive	28.9	93
3-5 years	31.4	167
6-10 years	**35.3**	317
11 years or more	34.1	1473
Type of drug used in the last 30 days	*p<0.001*	
Only opioids	33.2	1470
Only stimulants	33.3	291
Drugs mixing	**38.5**	278
NGO clients	*p<0.001*	
Yes	24.0	455
No	38.1	1599
Don’t know/don’t remember	49.1	9
Refused to answer	33.9	2

Prevalence of HIV and hepatitis C coinfection

Slightly less than every sixth (17.7%) survey participant was co-infected with HIV and HCV. Only over a quarter of the survey participants (28.9%) had neither HIV nor HCV. Moreover, more than half of the participants (50.7%) had HCV and were not infected with HIV. HIV without HCV was observed in only one in forty participants (2.6%).

Figure 10.2. Cross-sections of PWID groups co-infected with HIV and HCV (antibodies)

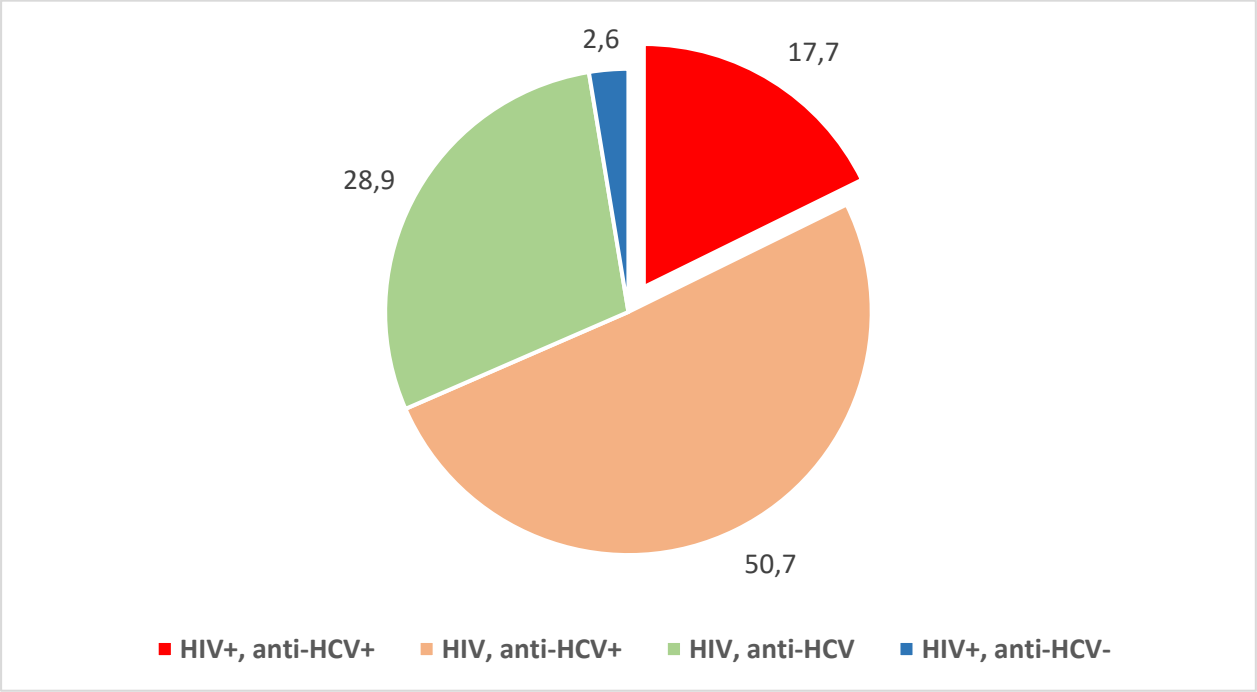


Table 10.12. Cross-sections of PWID groups co-infected with HIV and HCV (antibodies)

	HCV antibodies+		HCV antibodies-	
	%	n	%	n
HIV-	50.7	3037	28.9	1706
HIV+	17.7	1076	2.6	174

CONCLUSIONS

The 2020 Integrated Biobehavioural Survey among people who inject drugs, compared with the previous survey waves, recorded an overall stable epidemic situation regarding HIV and HCV: HIV prevalence declined slightly, while HCV increased.

The targets for the HIV treatment cascade among PWID have improved, but it is too early to speak of decisive progress. The “bottleneck” of the HIV treatment cascade is the awareness of HIV-positive PWID about their status: a quarter of the participants, among those who tested positive for HIV with rapid tests, did not know or remember their status or thought it was negative.

The most notable differences from previous survey waves are related to the drug scene. In particular, opium poppy (so called “shirka”) as the most popular main drug has been replaced by an illegal synthetic opioid known informally as illicit “street methadone”. It is worth noting that despite the changes in the prevalence of the "top drugs", which the participants consider the main ones, the trend towards the dominance of opioid use remains (73%). Also, a transition was recorded from the injection drug acquisition at the so-called "copping zones" and form the "pushers" to distance shopping online using "hatches". We can also say that the purchase of injecting drugs has been commercialized - the percentage of home-prepared drugs has decreased. The question of whether these changes in the drug scene reflect long-term trends or are a consequence of the impact of the COVID-19 pandemic remains unclear and requires further investigation.

The percentage of participants who reported about an overdose experience in the last 12 months increased significantly compared to 2017 - from 5% to 19%. Six out of ten participants who overdosed during this period named illegal "street methadone" as their main injection drug.

Compared to the previous wave of the IBBS among PWID, the share of PWID who reported about a recent experience of police detention has decreased significantly (from 14% in 2017 to 7% in 2019 and 5% in 9 months of 2020).

Almost half of the survey participants stated that they were not and do not plan to become clients of the MAT programmes, which indicated that there was a lack of awareness of the programme or motivation to participate in it.

Pre-exposure prophylaxis (PrEP) remains a little-known phenomenon for PWID community.

Practical recommendations

It is necessary to strengthen the motivation of PWID to test (including by increasing the availability of self-testing and understanding the risks of HIV infection relevant to this KP), which remains the "bottleneck" of the HIV treatment cascade.

There are significant reserves of additional opportunities for NGO workers to access PWID community and involve in preventive programmes. In particular, taking into account that representatives of the younger age groups of PWID are relatively “closed”, since they are more inclined to buy drugs online and are poorly covered by preventive NGO services, there is a need to change the existing approaches to attracting such clients (including by training social workers themselves on their search).

Since the differences in the use of sterile injection devices between NGO clients and non-NGO clients are very small, studies need to be conducted on how safe injection behaviours are promoted in PWID who are non-NGO clients that report using sterile injection devices.

It would be interesting to study what influences the participant's reuse of their used syringe and/or needle, and how this correlates with the availability of relevant services in NGOs. It is also worth conducting a similar survey on the reasons for drug acquisition in pre-filled syringes and using/not using condoms.

It is important to continue research on the channels and routes of illicit synthetic opioids, known as “street methadone”, as well as the reasons why PWID prefer it over opium poppy. There is a need for a field survey of the chemical composition of this drug.

The reasons for PWID's low awareness of pre-exposure prophylaxis (PrEP), the effectiveness of PrEP awareness-raising methods and intervention channels should be investigated.

Despite the improvement in the HIV treatment cascade compared to the IBBS PWID 2017, it is advisable to carry out a survey aimed at identifying the factors influencing seeking (both self-referral and accompanied by a social worker) health care in the context of HIV among representatives of KPs.

Additional advocacy is needed to create a request in PWID for the methadone maintenance treatment. Among other things, it should be communicated that the medicines supplied for MAT are free.

DYNAMICS OF MAIN CHARACTERISTICS AND INDICATORS

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Table D1. Dynamics of socio-demographic characteristics

	2011		2013		2015		2017		2020	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Average age, years	33.1		33.4		33.9		35.5		37.7	
Gender										
Men	6578	72.5	7366	76.4	7424	80.1	8282	81.7	4827	81
Women	2491	27.5	2136	23.6	1851	19.9	1792	18.3	1134	19
Marital status										
Married or have a steady sex partner	4238	46.8	4175	43.3	5611	59.4	5745	57.3	3148	52.5
Single/unmarried and does not have a steady sex partner	4814	53.2	5326	56.6	3661	40.6	4329	42.7	2812	47.5
Occupation										
Students	281	3.1	263	2.6	74	0.8	78	0.8	21	0.4
Have a permanent job	5587	61.8	222	23	2105	23.1	324	3.2	1436	24.6
Have odd jobs			4406	46.1	4642	47.7	2563	25.5	3151	51.7
Do not work	3175	35.1	2668	28.3	2378	28.3	7109	70.5	1313	22.3

INDICATORS REGARDING DRUGS USE

Figure D1. Dynamics of the indicator of the average age of drug use initiation, 2011-2020,%

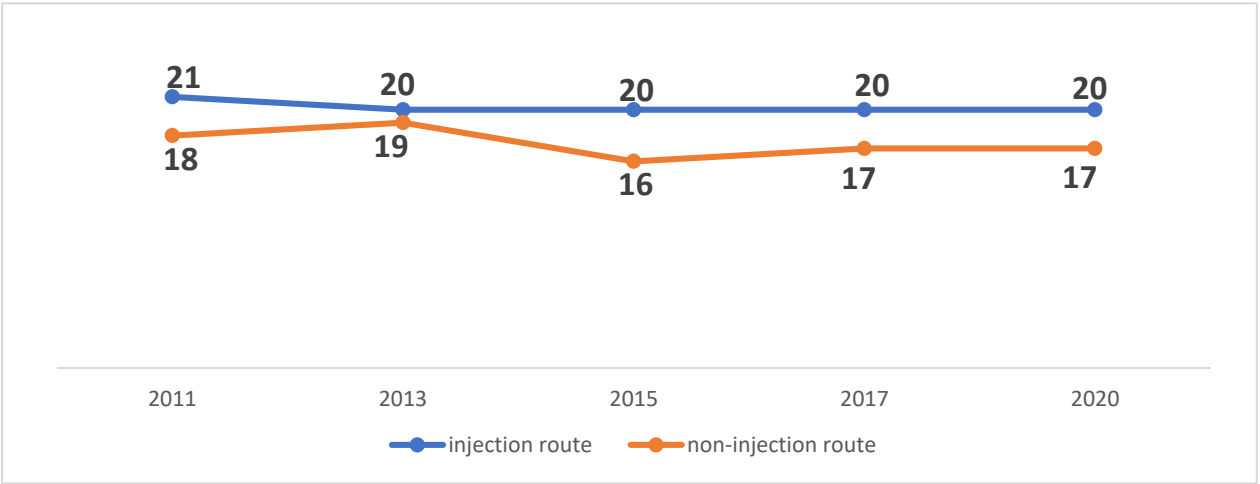


Figure D2. Dynamics of the experience of injection drug use, 2011-2020,%

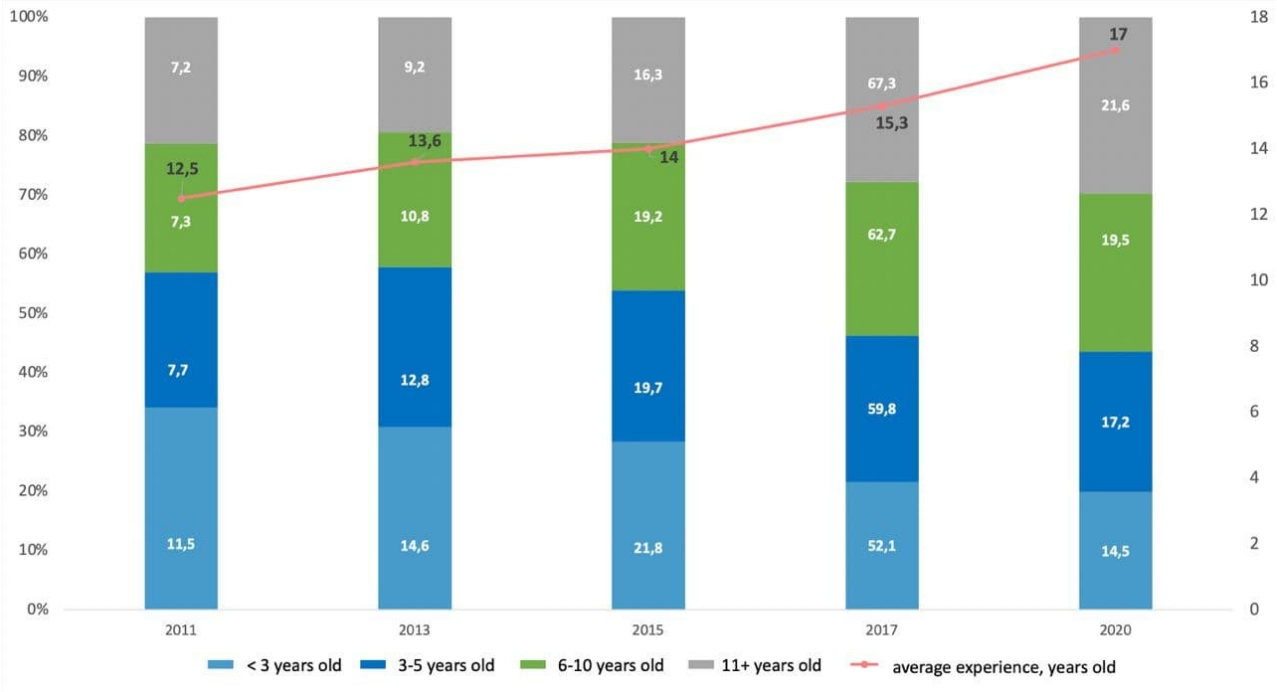
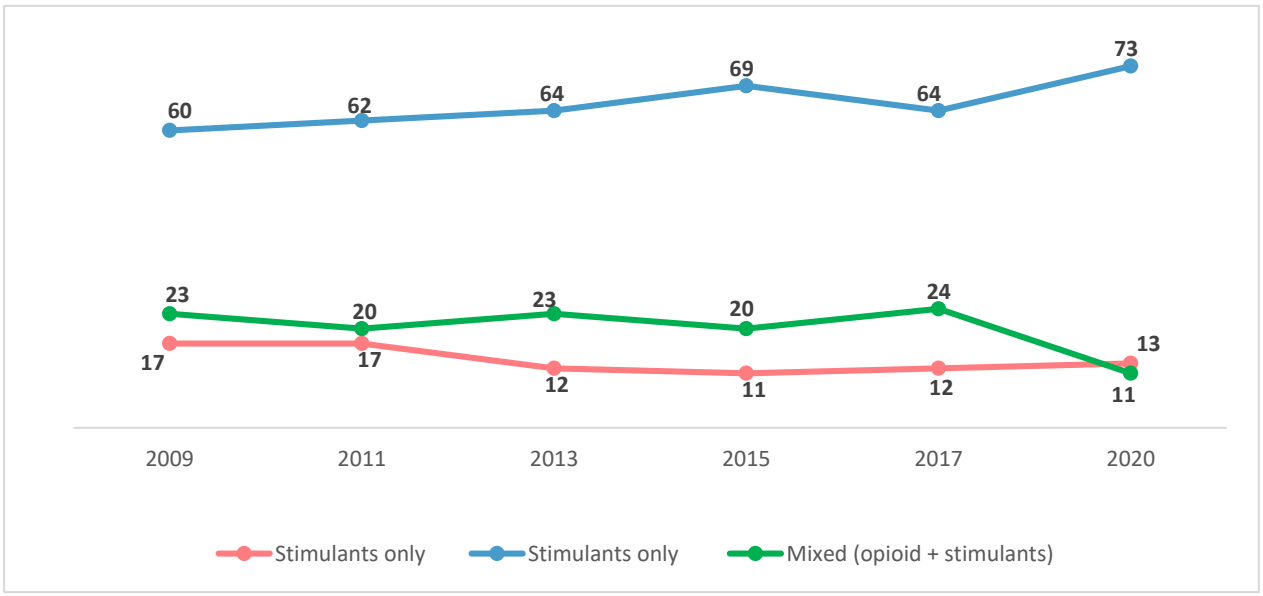
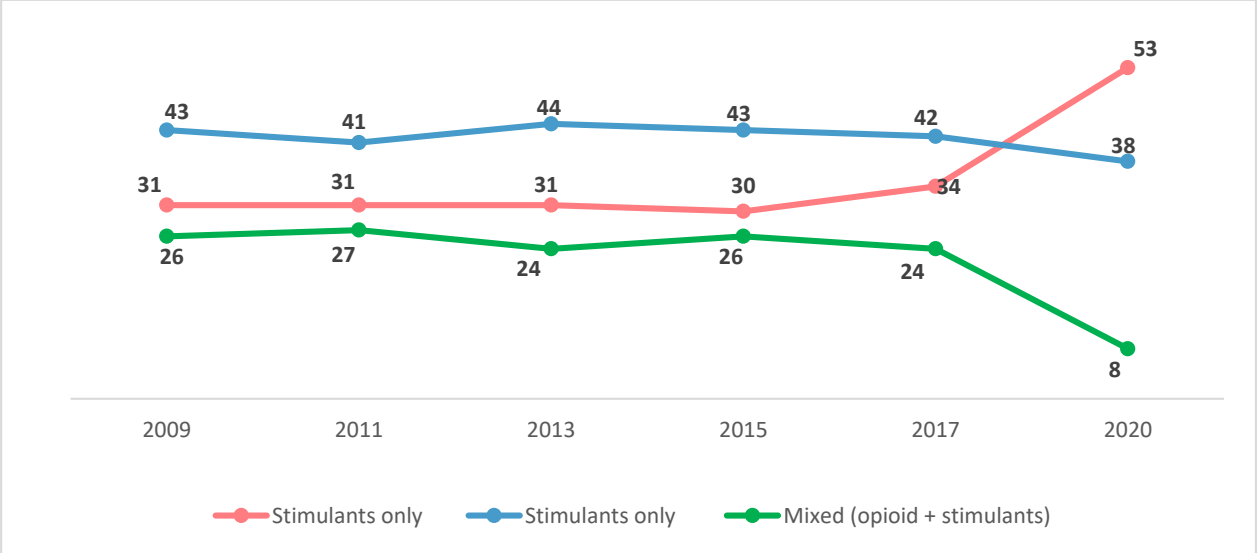


Figure D3. Level of injection drug use during the last 30 days,%.

TOTAL

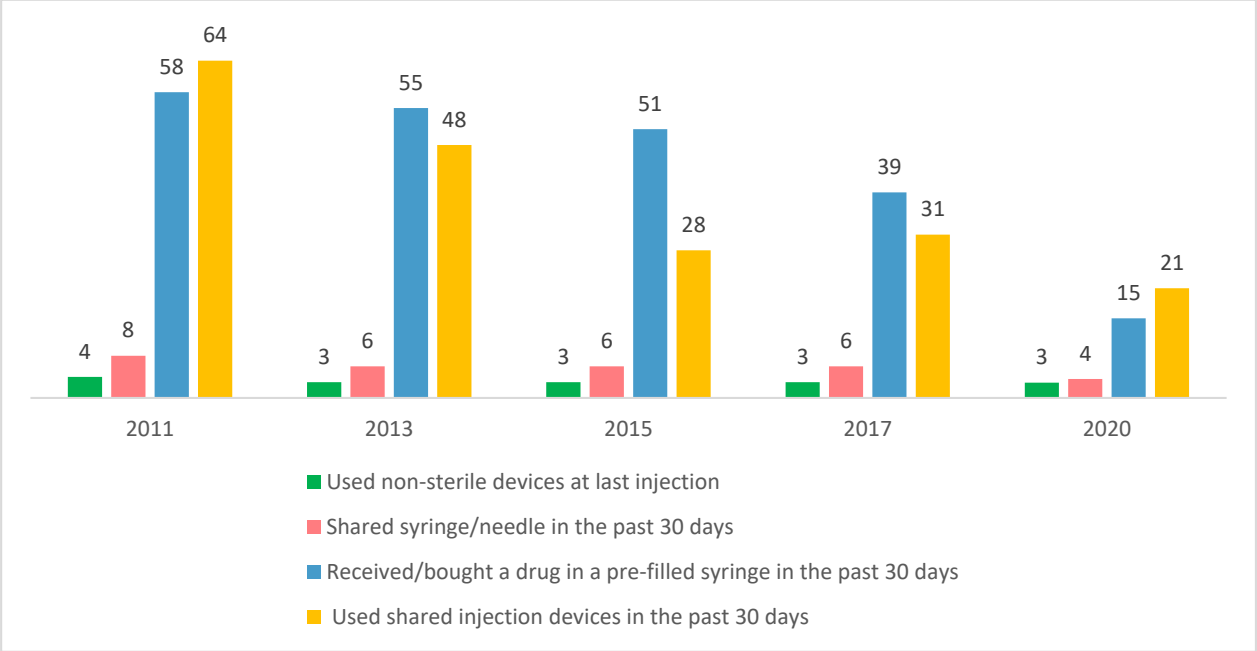


PWID UNDER 25 YEARS OLD



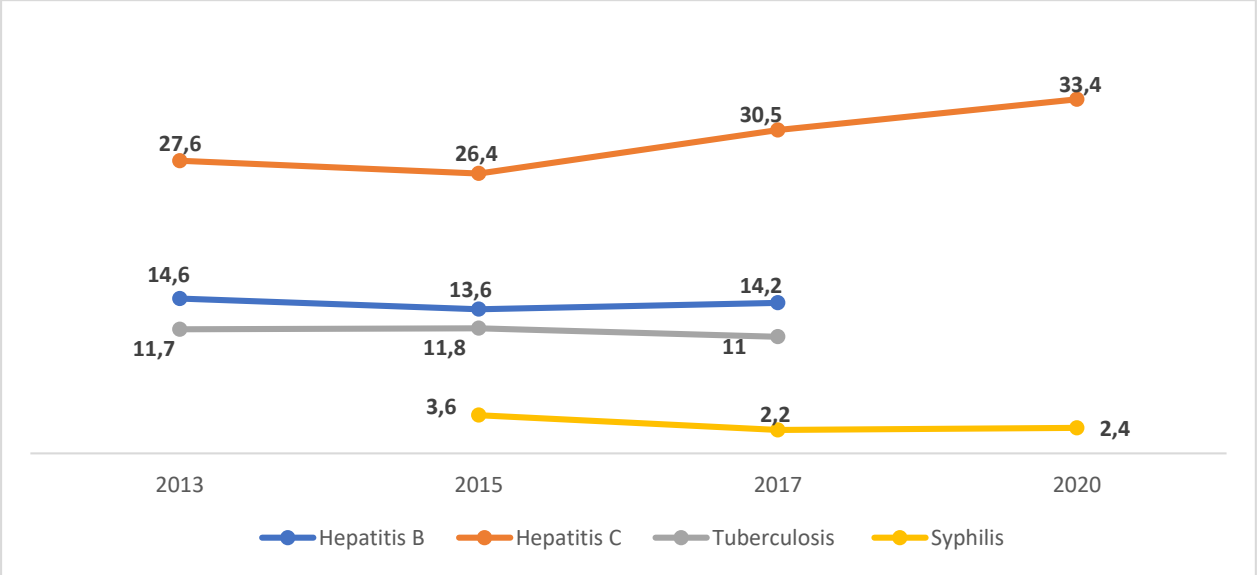
UNSAFE INJECTION PRACTICES

Figure D4. Dynamics of the main unsafe injection practices, 2011-2020,%



SELF-DECLARATION OF HEPATITIS B, HEPATITIS C, TUBERCULOSIS AND SYPHILIS

Figure D5. Dynamics of diagnoses of HBV, HCV, tuberculosis and syphilis among PWID according to self-declaration during 2013-2020,%



HIV PREVALENCE AND INCIDENCE

Figure D6. Dynamics of HIV spread among total PWID community and among PWID under 25 years of age, 2011-2020,%

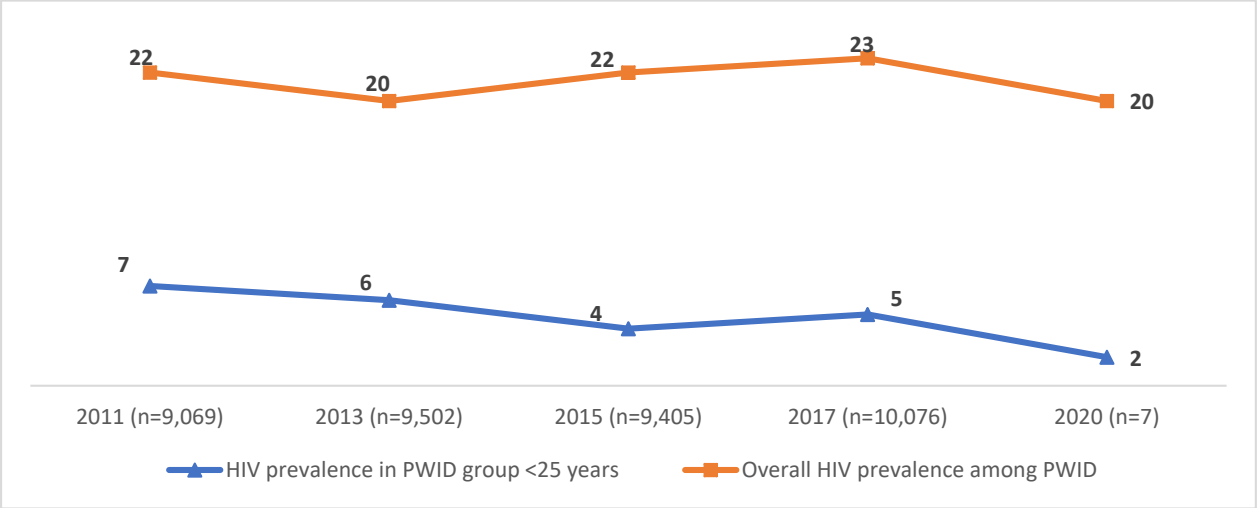
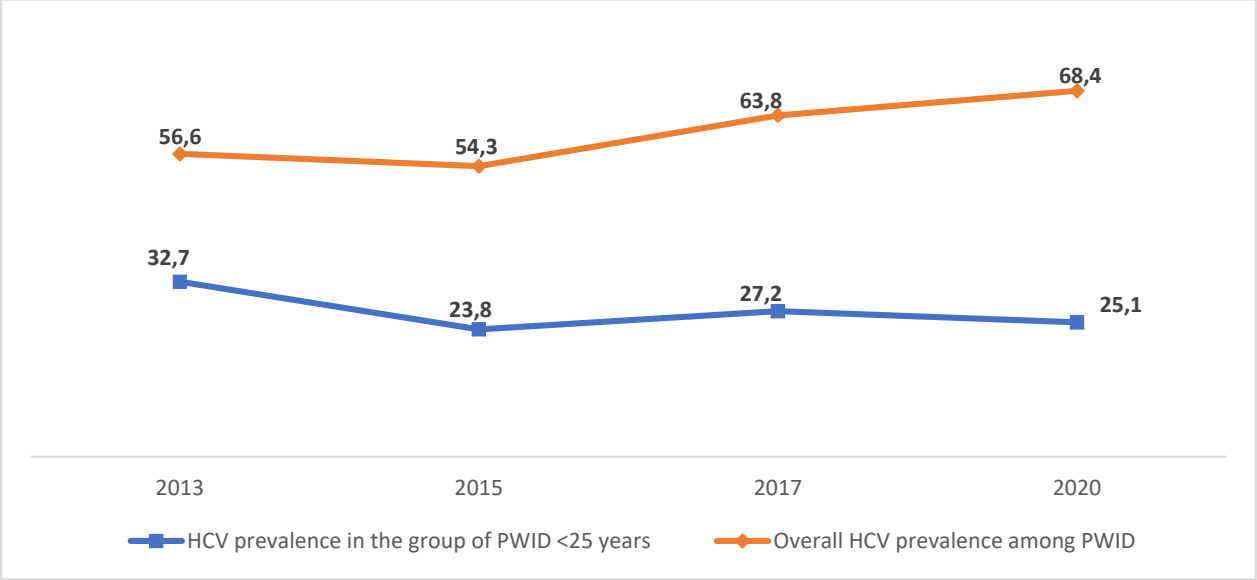


Table D2. Dynamics of the annual HIV incidence among PWID, 2013-2020

	%	95% CI
2013	0.74	0.33-1.14
2015	1.36	0.85-1.87
2017	2.44	1.86-3.02
2020	1.06	0.61-1.52

HEPATITIS C PREVALENCE

Figure E7. Dynamics of HCV spread among total PWID community and among PWID under 25 years of age, 2011-2020,%

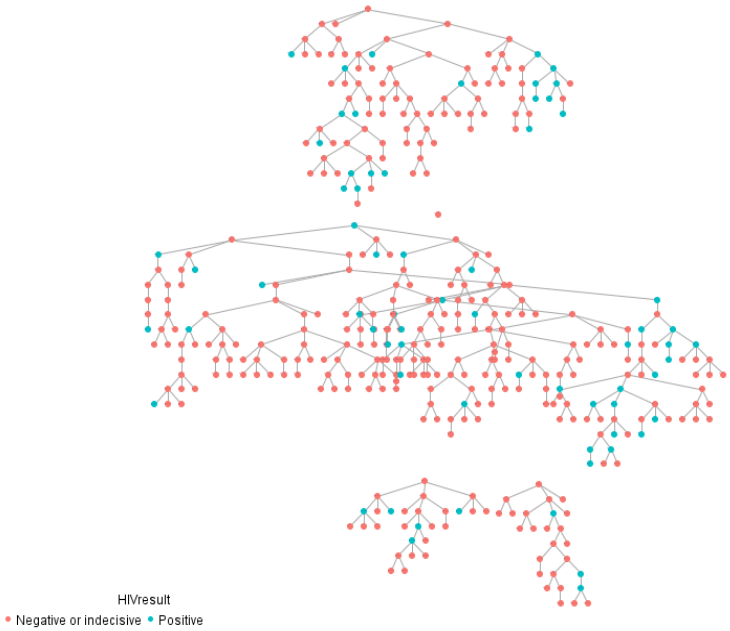


Regional indicators

Bila Tserkva

Picture 1. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

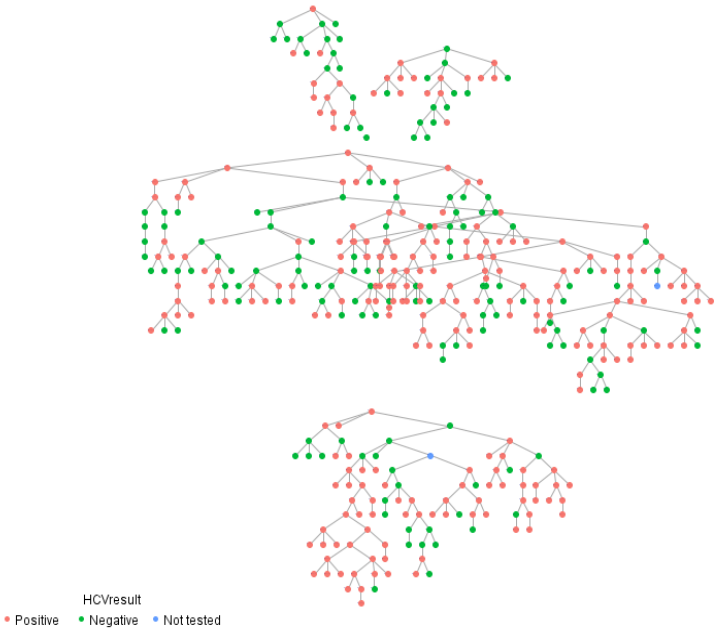


Table 1. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	3.3	1.4	5.2
	25-34 years	37.2	32.2	42.3
	35-44 years	44.1	39.0	49.3
	45 years and older	15.4	11.1	19.7
Gender	Male	85.6	83.0	88.2
	Female	14.4	11.8	17.1
Marital status	Officially married or have a steady sex partner	49.4	40.9	58.0
	Single and do not have a steady sex partner	50.6	46.9	54.2
Education level	Elementary (incomplete 9 grades)	0.5	0.0	1.0
	Junior high (complete 9 grades)	10.1	7.6	12.5
	Senior high (full 11	48.1	43.7	52.6
	Incomplete higher education (less than 4 years)	20.4	17.4	23.4
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	8.3	5.6	11.0
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	12.0	8.1	15.8
	Other (specify)	0.7	-0.2	1.5
Personal income for the last 30 days, UAH	<UAH 2200	21.7	18.6	24.9
	UAH 2200-11500	60.9	56.3	65.6
	> UAH 11500	17.4	13.9	20.9

**Calculated according to Gile's SS.*

Table 2. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	3.5	2.1	5.0
	3-5 years	8.9	5.8	12.1
	6-10 years	18.9	15.4	22.5
	11 years or more	68.6	63.8	73.4
Type of drug used in the last 30 days	Only opioids	87.4	82.7	92.0
	Only stimulants	4.1	1.5	6.8
	Drugs mixing	5.6	3.2	8.1
	A non-sterile (not new) needle/syringe was used during the last injection	3.1	0.8	5.4
	Injected with a syringe previously used by another person**	3.9	3.2	4.6
	Reused their own syringe**	35.1	31.5	38.6
	Bought drugs in a pre-filled syringe**	6.5	3.7	9.2
Gender	Used shared devices for the drug preparation and administration**	15.9	10.6	21.2

**Calculated according to Gile's SS.*

*** Within the last 30 days.*

Table 3. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		39.3	32.8	45.7
Number of partners in the last 30 days	Had no partners	36.8	31.7	42.1
	1 partner	50.4	45.4	55.2
	2-5 partners	10.4	7.5	13.4
	6 or more partners	2.3	1.2	3.5
HIV status of sex partner (self-declared by PWID)	HIV-negative	24.7	20.5	29.1
	HIV-positive	4.5	2.2	6.7
	Unknown	23.4	17.9	28.9
	Have no steady sex partner	47.4	42.0	52.7

**Calculated according to Gile's SS.*

Table 4. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	4.8	2.6	6.9
Were imprisoned and released over a year ago	28.7	23.3	34.3
Were not imprisoned	63.9	57.8	69.9

**Calculated according to Gile's SS.*

Table 5. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	32.6	27.8	37.4

**Calculated according to Gile's SS.*

Table 6. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	15.9	12.3	19.5
	63.4	57.1	69.8

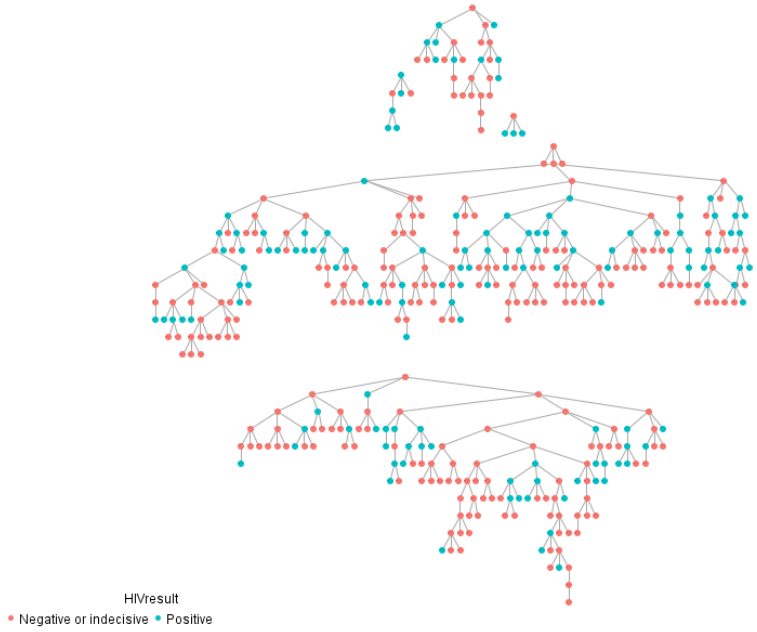
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Cherkasy

Figure 2. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

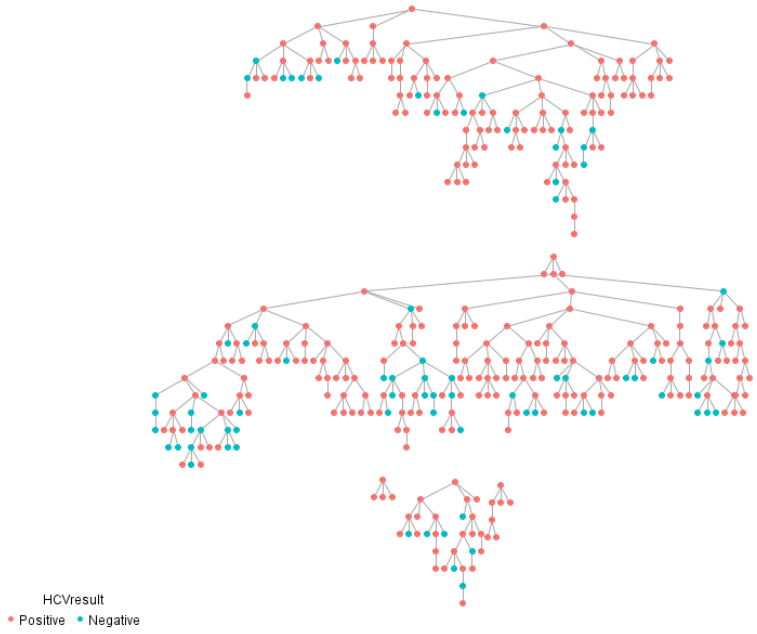


Table 7. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	5.5	2.2	8.9
	25-34 years	23.7	19.0	28.6
	35-44 years	50.8	45.3	56.3
	45 years and older	19.9	15.5	24.3
Gender	Male	79.5	75.3	83.6
	Female	20.5	16.4	24.7
Marital status	Officially married or	55.4	44.1	64.8
	Single and do not have a steady sex partner	45.6	40.5	50.7
Education level	Elementary (incomplete 9 grades)	1.0	0.1	1.9
	Junior high (complete 9 grades)	13.3	10.1	16.5
	Senior high (full 11 grades)	52.7	47.6	57.7
	Incomplete higher education (less than 4 years)	5.6	3.7	7.5
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	15.9	12.4	19.5
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	7.5	4.9	10.1
	Other (specify)	4.0	2.0	6.0
Personal income for the last 30 days, UAH	<UAH 2200	20.8	17.1	24.6
	UAH 2200-11500	68.3	63.3	73.2
	> UAH 11500	10.9	7.1	14.7

**Calculated according to Gile's SS.*

Table 8. Experience of injection drug use, typology of drugs and risky injecting practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	7.0	4.6	9.4
	3-5 years	8.8	5.7	11.9
	6-10 years	11.6	8.3	14.9
	11 years or more	72.6	67.4	77.8
Type of drug used in the last 30 days	Only opioids	63.5	58.0	68.9
	Only stimulants	21.2	16.6	25.9
	Drugs mixing	13.3	8.6	18.0
	A non-sterile (not new) needle / syringe was used during the last injection	2.7	1.2	4.2
	Injected with a syringe previously used by another person**	0.6	-0.2	1.4
	Reused your syringe**	18.9	14.7	23.2
	Bought drugs in a filled syringe**	4.2	1.7	6.6
Gender	Used a common toolkit for the preparation and distribution of the narcotic drug**	22.3	17.6	27.0

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 9. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among sexually active people in the last 30 days)		40.7	36.4	45.1
Number of partners in the last 30 days	There were no partners	39.2	33.9	44.4
	1 partner	54.4	49.2	59.7
	2-5 partners	5.6	3.3	7.8
	6 or more partners	0.9	0.1	1.6
Sex partner's HIV status (self-declared by PWID)	HIV-negative	31.9	27.4	36.4
	HIV-positive	8.7	5.8	11.5
	Unknown	36.0	31.1	41.0
	Have no steady sex partner	23.4	18.9	28.0

**Calculated according to Gile's SS.*

Table 10. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	4.5	2.6	6.5
Were imprisoned and released over a year ago	40.1	35.0	45.2
There were no prisoners	55.1	49.9	60.4

**Calculated according to Gile's SS.*

Table 11. Getting tested for HIV

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	38.1	32.9	43.3

**Calculated according to Gile's SS.*

Table 12. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	34.6	29.3	40
Test positive for HCV antibodies**	80.6	76.0	85.3

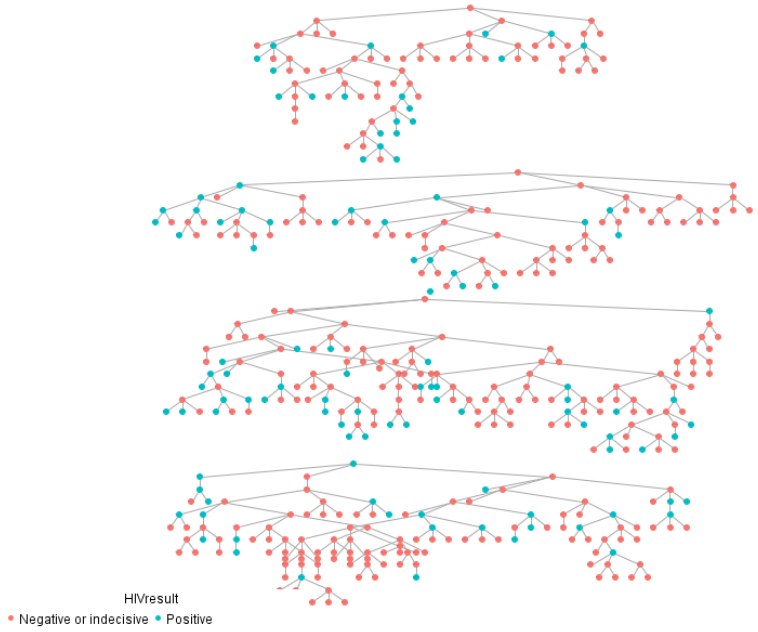
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Dnipro

Figure 3. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

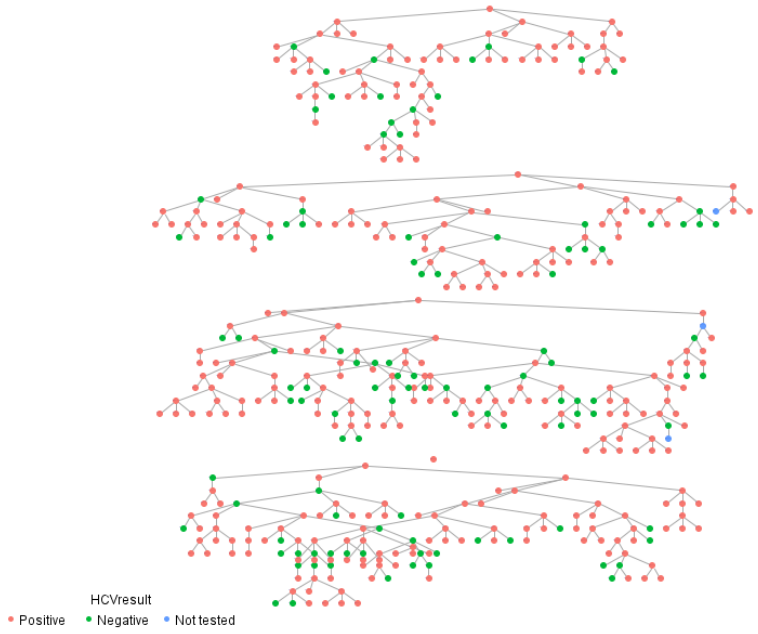


Table 13. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	2.8	1.0	4.6
	25-34 years	25.2	19.6	30.7
	35-44 years	39.7	34.6	44.7
	45 years and older	32.3	26.9	37.9
Gender	Male	81.7	79.1	84.4
	Female	18.3	15.7	20.9
Marital status	Officially married or	65.2	52.0	78.4
	Single and do not have a steady sex partner	34.8	31.1	38.6
Education level	Elementary (incomplete 9 grades)	11.0	8.6	13.4
	Junior high (complete 9 grades)	17.3	14.8	19.8
	Senior high (full 11 grades)	44.7	40.6	48.8
	Incomplete higher education (less than 4 years)	7.1	5.0	9.2
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	13.2	9.6	16.8
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	2.6	-1.5	6.7
	Other (specify)	4.1	1.2	6.9
Personal income for the last 30 days, UAH	<UAH 2200	25.1	21.8	28.4
	UAH 2200-11500	58.1	53.5	62.7
	> UAH 11500	16.8	12.8	20.9

**Calculated according to Gile's SS.*

Table 14. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	3.7	2.0	5.3
	3-5 years	7.39	4.9	9.9
	6-10 years	13.6	10.0	17.3
	11 years or more	75.31	70.7	79.9
Type of drug used in the last 30 days	Only opioids	59.4	52.8	66.0
	Only stimulants	23.92	19.0	28.8
	Drugs mixing	15.5	11.6	19.5
	A non-sterile (not new) needle/syringe was used during the last injection	2.6	0.1	5.1
	Injected with a syringe previously used by another person**	11.1	3.4	18.5
	Reused their own syringe**	44.8	41.1	48.4
	Bought drugs in a pre-filled syringe**	44.4	40.7	48.0
Gender	Used shared devices for the drug preparation and administration**	23.6	19.3	28.0

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 15. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		31.5	26.6	36.4
Number of partners in the last 30 days	Had no partners	35.9	31.1	40.7
	1 partner	50.2	45.2	55.1
	2-5 partners	10.9	7.9	14.0
	6 or more partners	3.0	1.4	4.7
HIV status of sex partner (self-declared by PWID)	HIV-negative	31.3	26.8	35.8
	HIV-positive	4.9	2.7	7.0
	Unknown	45.9	39.2	52.5
	Have no steady sex partner	18.0	14.4	21.7

**Calculated according to Gile's SS.*

Table 16. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	4.6	2.3	6.9
Were imprisoned and released over a year ago	38.2	33.5	43.0
Were not imprisoned	55.9	50.7	61.0

**Calculated according to Gile's SS.*

Table 17. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	15.5	12.0	18.9

**Calculated according to Gile's SS.*

Table 18. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	23.0	19.1	27.0
Received an HCV-positive result within the survey**	76.3	71.7	80.8

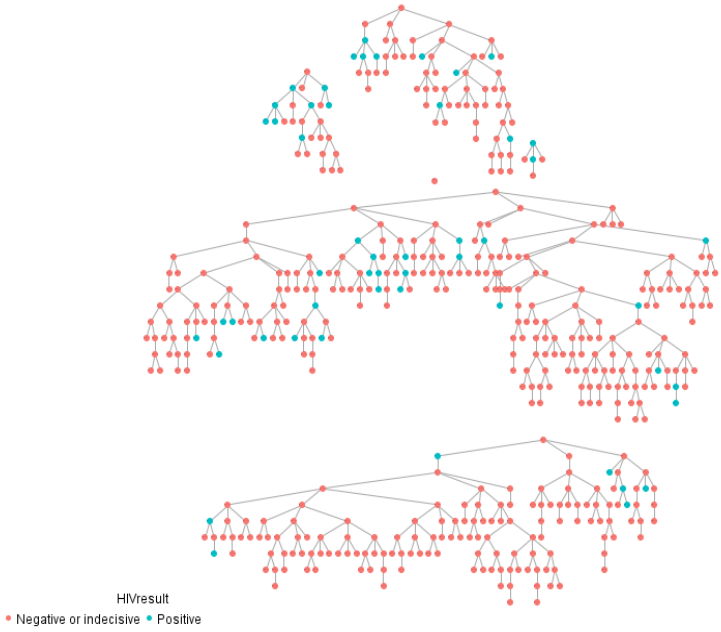
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Ivano-Frankivsk

Figure 4. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

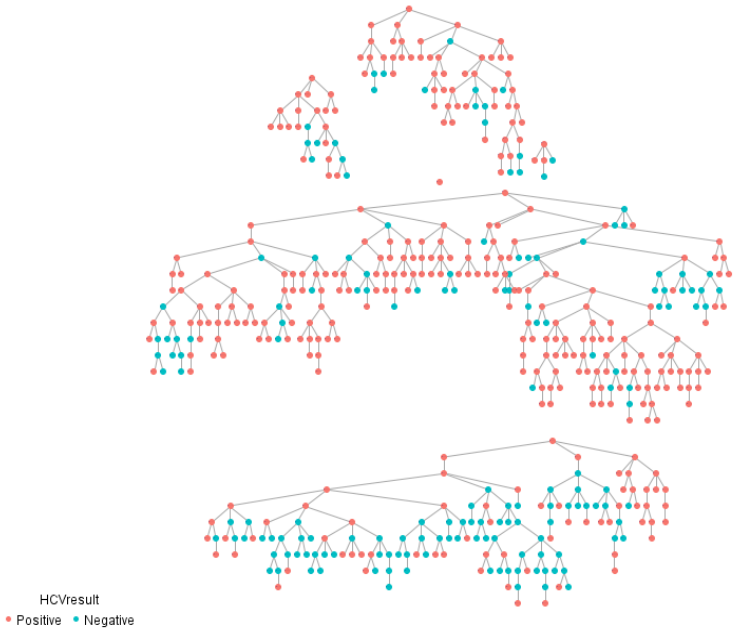


Table 19. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	8.7	6.3	11.2
	25-34 years	43.1	38.3	47.9
	35-44 years	34.0	30.0	38.0
	45 years and older	14.2	10.9	17.5
Gender	Male	89.3	86.5	92.1
	Female	10.7	7.9	13.5
Marital status	Officially married or	50.0	41.2	58.8
	Single and do not have a steady sex partner	50.0	46.5	53.5
Education level	Elementary (incomplete 9 grades)	0.3	0.2	0.4
	Junior high (complete 9 grades)	3.5	2.0	5.1
	Senior high (full 11 grades)	44.3	41.1	47.6
	Incomplete higher education (less than 4 years)	6.9	4.6	9.2
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	38.6	35.7	41.5
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	6.3	4.5	8.1
	Other (specify)			
Personal income for the last 30 days, UAH	<UAH 2200	25.4	21.7	29.1
	UAH 2200-11500	66.2	62.2	70.2
	> UAH 11500	8.4	6.1	10.7

**Calculated according to Gile's SS.*

Table 20. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	6.3	4.5	8.0
	3-5 years	16.7	13.3	20.0
	6-10 years	21.4	18.0	24.8
	11 years or more	55.7	51.1	60.3
Type of drug used in the last 30 days	Only opioids	61.8	56.9	66.8
	Only stimulants	15.8	12.3	19.4
	Drugs mixing	18.3	14.6	22.0
	A non-sterile (not new) needle/syringe was used during the last injection	2.5		
	Injected with a syringe previously used by another person**	1.0	0.7	1.2
	Reused their own syringe**	41.4	38.2	44.5
	Bought drugs in a pre-filled syringe**	11.1	8.7	13.6
Gender	Used shared devices for the drug preparation and administration**	17.3	13.5	21.1

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 21. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		41.3	36.0	46.7
Number of partners in the last 30 days	Had no partners	37.1	32.6	41.2
	1 partner	56.2	51.9	60.5
	2-5 partners	6.7	4.7	8.6
	6 or more partners	–	–	–
HIV status of sex partner (self-declared by PWID)	HIV-negative	31.4	27.4	35.6
	HIV-positive	2.7	1.0	4.5
	Unknown	27.1	20.7	33.5
	Have no steady sex partner	38.7	34.7	42.8

**Calculated according to Gile's SS.*

Table 22. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	3.6	2.0	5.1
Were imprisoned and released over a year ago	40.8	36.4	45.4
Were not imprisoned	51.4	46.6	56.4

**Calculated according to Gile's SS.*

Table 23. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	50.4	45.4	55.3

**Calculated according to Gile's SS.*

Table 24. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	10.8	7.5	14.1
Received an HCV-positive result within the survey**	66.9	60.8	73.1

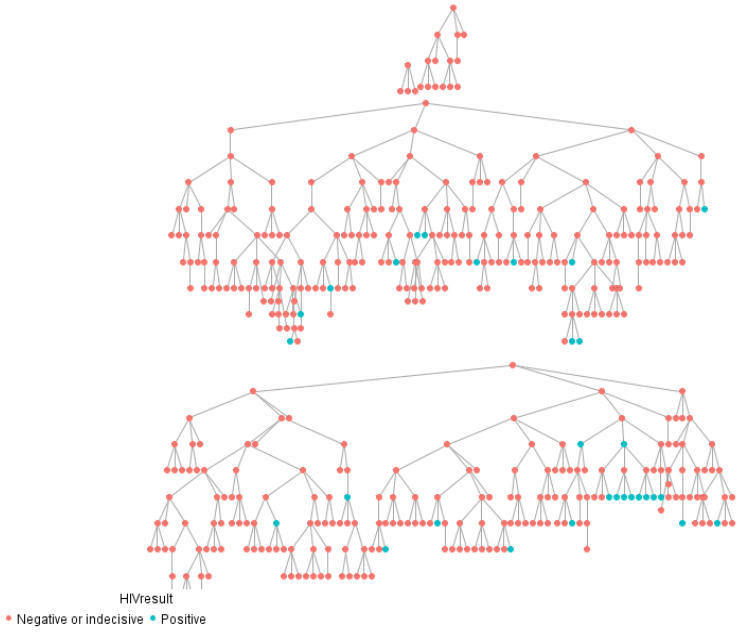
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Kharkiv

Figure 5. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

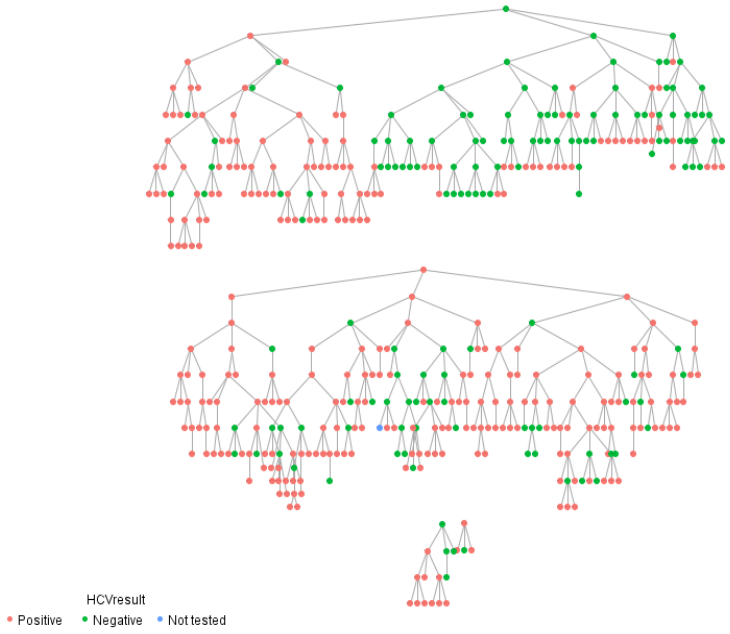


Table 25. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	6.1	3.5	8.6
	25-34 years	28.5	24.5	32.6
	35-44 years	48.7	43.9	53.6
	45 years and older	16.7	12.5	20.9
Gender	Male	74.4	69.4	79.4
	Female	25.6	20.6	30.6
Marital status	Officially married or	63.9	51.1	76.7
	Single and do not have a steady sex partner	36.1	30.1	41.4
Education level	Elementary (incomplete 9 grades)	0.8	0.0	1.6
	Junior high (complete 9 grades)	12.2	9.0	15.4
	Senior high (full 11 grades)	44.5	39.5	49.5
	Incomplete higher education (less than 4 years)	9.3	6.2	12.5
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	21.1	17.3	24.9
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	10.6	7.6	13.7
	Other (specify)	1.4	0.5	2.4
Personal income for the last 30 days, UAH	<UAH 2200	12.9	10.0	15.9
	UAH 2200-11500	73.1	68.8	77.4
	> UAH 11500	14.0	10.7	17.2

**Calculated according to Gile's SS.*

Table 26. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	3.6	2.3	5.0
	3-5 years	9.3	6.2	12.5
	6-10 years	12.9	9.4	16.4
	11 years or more	74.2	69.1	79.2
Type of drug used in the last 30 days	Only opioids	77.2	73.0	81.3
	Only stimulants	12.9	9.7	16.1
	Drugs mixing	9.2	5.9	12.5
	A non-sterile (not new) needle/syringe was used during the last injection	2.5	1.0	3.9
	Injected with a syringe previously used by another person**	4.8	2.4	7.1
	Reused their own syringe**	48.7	43.2	54.2
	Bought drugs in a pre-filled syringe**	5.9	3.7	8.0
Gender	Used shared devices for the drug preparation and administration**	30.1	25.8	34.3

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 27. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		38.5	33.3	43.8
Number of partners in the last 30 days	Had no partners	25.1	20.7	29.6
	1 partner	63.1	58.4	67.9
	2-5 partners	10.8	7.9	13.7
	6 or more partners	1.0	0.1	1.8
HIV status of sex partner (self-declared by PWID)	HIV-negative	27.1	23.0	31.3
	HIV-positive	0.7	0.1	1.2
	Unknown	43.0	38.5	47.6
	Have no steady sex partner	29.1	24.7	33.5

**Calculated according to Gile's SS.*

Table 28. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	1.7	0.6	2.7
Were imprisoned and released over a year ago	29.9	25.4	34.4
Were not imprisoned	68.2	63.6	72.8

**Calculated according to Gile's SS.*

Table 29. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	30.7	25.9	35.5

**Calculated according to Gile's SS.*

Table 30. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	7.1	4.5	9.4
Received an HCV-positive result within the survey**	69	61.3	76.6

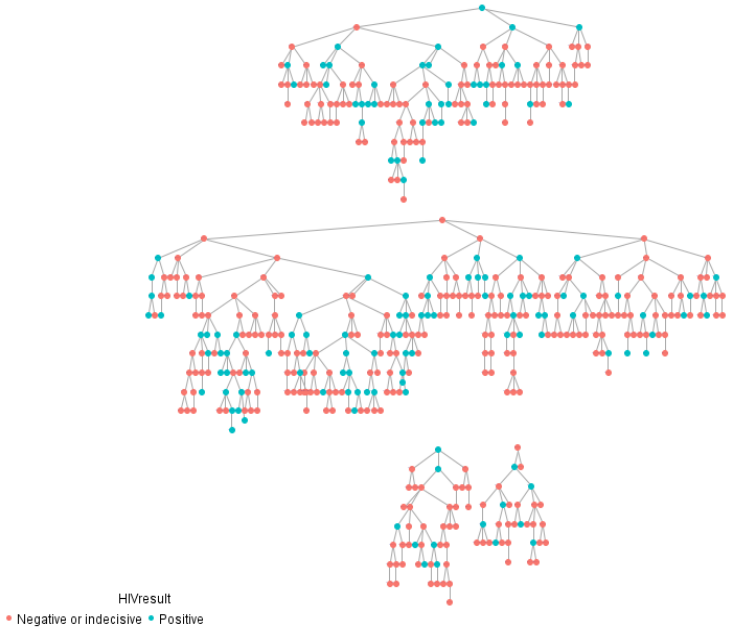
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Khmelnytskyi

Figure 6. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

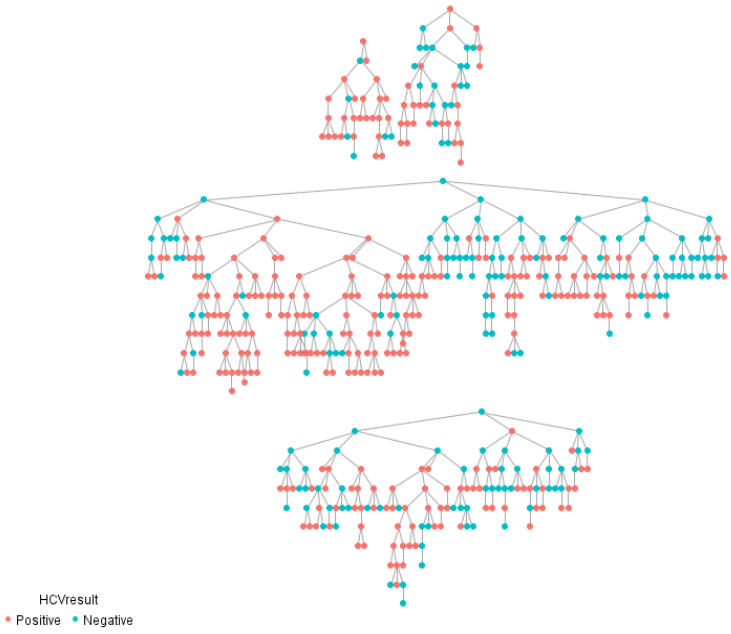


Table 31. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	2.1	0.8	3.3
	25-34 years	20.9	17.1	24.6
	35-44 years	44.3	40.2	48.5
	45 years and older	32.7	28.7	36.8
Gender	Male	76.6	72.6	80.6
	Female	23.4	19.5	27.4
Marital status	Officially married or	59.4	48.9	
	Single and do not have a steady sex partner	40.6	36.3	45.0
Education level	Elementary (incomplete 9 grades)	–		
	Junior high (complete 9 grades)	6.3	4.1	8.4
	Senior high (full 11 grades)	52.4	47.6	57.1
	Incomplete higher education (less than 4 years)	22.0	18.2	25.7
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	14.7	11.8	17.6
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	4.8	2.9	6.7
	Other (specify)	–		
Personal income for the last 30 days, UAH	<UAH 2200	18.3	15.8	20.8
	UAH 2200-11500	77.0	73.3	80.7
	> UAH 11500	4.7	2.2	7.2

**Calculated according to Gile's SS.*

Table 32. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	2.1	0.7	3.5
	3-5 years	4.6	2.7	6.4
	6-10 years	4.8	2.9	6.6
	11 years or more	88.6	85.8	91.4
Type of drug used in the last 30 days	Only opioids	66.8	62.2	71.4
	Only stimulants	15.7	12.1	19.3
	Drugs mixing	17.3	13.7	20.9
	A non-sterile (not new) needle/syringe was used during the last injection	0.3	-0.1	0.6
	Injected with a syringe previously used by another person**	1.2	0.2	2.1
	Reused their own syringe**	23.8	19.8	27.8
	Bought drugs in a pre-filled syringe**	35.9	31.0	40.9
Gender	Used shared devices for the drug preparation and administration**	21.3	17.3	25.3

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 33. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		56.2	50.0	62.2
Number of partners in the last 30 days	Had no partners	34.6	30.0	39.2
	1 partner	50.8	45.8	55.8
	2-5 partners	14.3	10.8	17.7
	6 or more partners	0.4	-0.1	0.8
HIV status of sex partner (self-declared by PWID)	HIV-negative	38.3	33.6	43.2
	HIV-positive	6.5	4.0	9.1
	Unknown	16.6	13.0	20.1
	Have no steady sex partner	38.6	34.1	43.0

**Calculated according to Gile's SS.*

Table 34. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	2.6	1.2	3.9
Were imprisoned and released over a year ago	38.4	33.8	43.1
Were not imprisoned	59.0	54.2	63.7

**Calculated according to Gile's SS.*

Table 35. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	52.0	47.9	56.3

**Calculated according to Gile's SS.*

Table 36. HIV and HCV test results

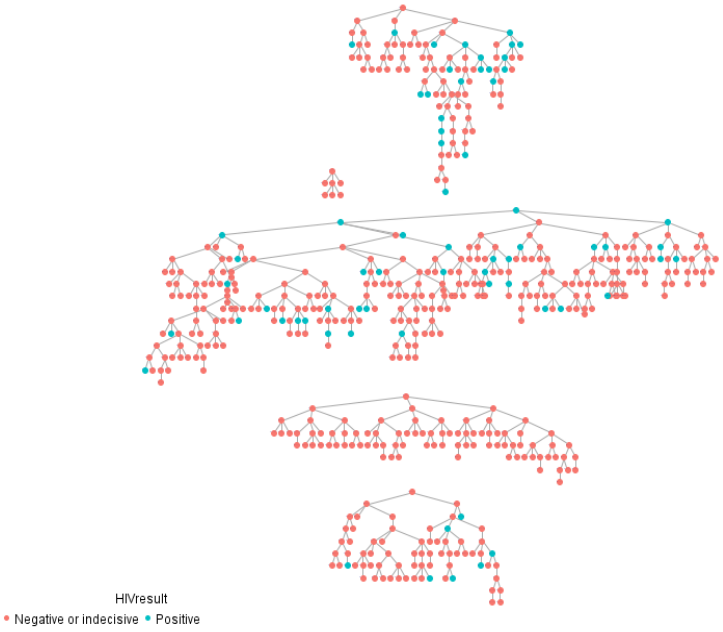
	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	27.5	23.4	31.7
	64	58.1	69.9

**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Figure 7. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

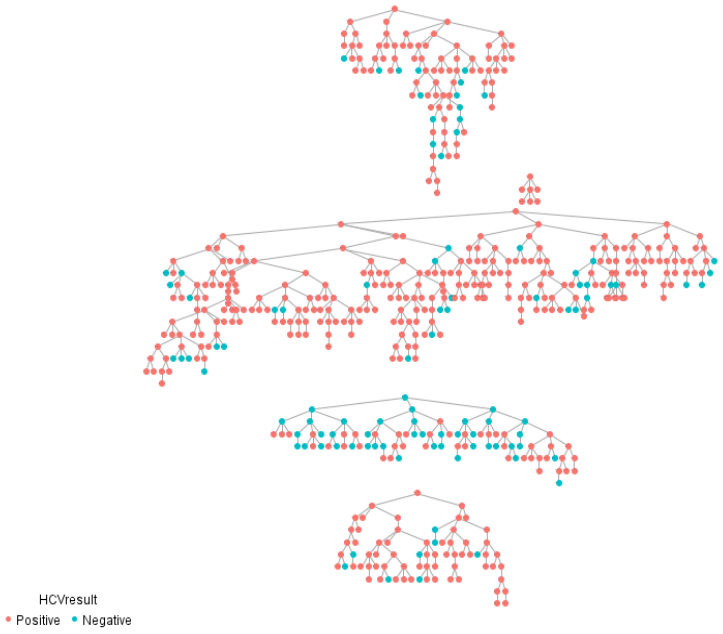


Table 37. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	3.4	2.0	4.7
	25-34 years	37.4	31.8	43.0
	35-44 years	47.9	41.8	54.0
	45 years and older	11.4	7.5	15.3
Gender	Male	85.6	82.9	88.3
	Female	14.4	11.7	17.1
Marital status	Officially married or	44.4	30.5	58.2
	Single and do not have a steady sex partner	55.6	51.1	60.2
Education level	Elementary (incomplete 9 grades)	0.2	0.0	0.3
	Junior high (complete 9 grades)	7.1	4.3	10.1
	Senior high (full 11 grades)	55.1	50.0	60.3
	Incomplete higher education (less than 4 years)	6.2	4.4	8.0
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	25.0	20.9	29.0
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	6.3	1.9	10.7
	Other (specify)	0.1	0.0	0.1
Personal income for the last 30 days, UAH	<UAH 2200	19.4	15.0	24.0
	UAH 2200-11500	71.9	66.3	77.4
	> UAH 11500	8.7	5.1	12.2

**Calculated according to Gile's SS.*

Table 38. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	6.9	4.7	9.0
	3-5 years	4.8	2.5	7.1
	6-10 years	18.6	14.0	23.2
	11 years or more	69.7	64.0	75.4
Type of drug used in the last 30 days	Only opioids	79.8	74.0	85.6
	Only stimulants	5.7	2.2	9.3
	Drugs mixing	12.5	8.7	16.1
	A non-sterile (not new) needle/syringe was used during the last injection	0.6	-0.4	1.6
	Injected with a syringe previously used by another person**	1.1	0.2	2.0
	Reused their own syringe**	17.0	10.9	23.1
	Bought drugs in a pre-filled syringe**	9.1	-1.0	19.1
Gender	Used shared devices for the drug preparation and administration**	5.5	-4.1	15.2

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 39. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		40.8	34.1	47.6
Number of partners in the last 30 days	Had no partners	41.9	37.6	46.2
	1 partner	50.4	45.4	55.3
	2-5 partners	7.6	5.4	9.9
	6 or more partners	0.1	-0.1	0.3
HIV status of sex partner (self-declared by PWID)	HIV-negative	22.0	18.2	25.9
	HIV-positive	2.5	0.7	4.2
	Unknown	30.7	25.2	36.0
	Have no steady sex partner	44.8	39.8	49.9

**Calculated according to Gile's SS.*

Table 40. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	3.8	1.8	5.7
Were imprisoned and released over a year ago	31.7	27.1	36.2
Were not imprisoned	63.7	59.0	68.4

**Calculated according to Gile's SS.*

Table 41. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	34.4	29.9	39.0

**Calculated according to Gile's SS.*

Table 42. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	11.9	8.2	15.7
Received an HCV-positive result within the survey**	82.3	77.2	87.3

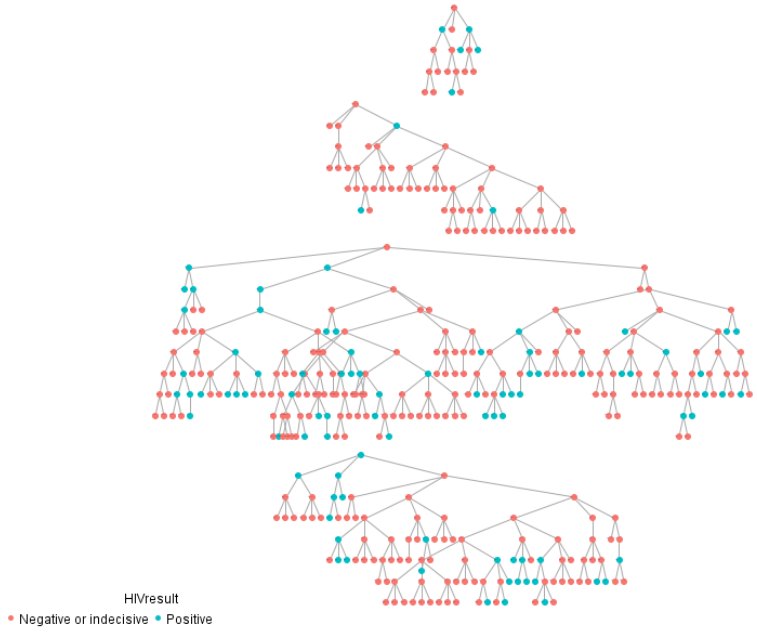
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Kryvyi Rih

Figure 8. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

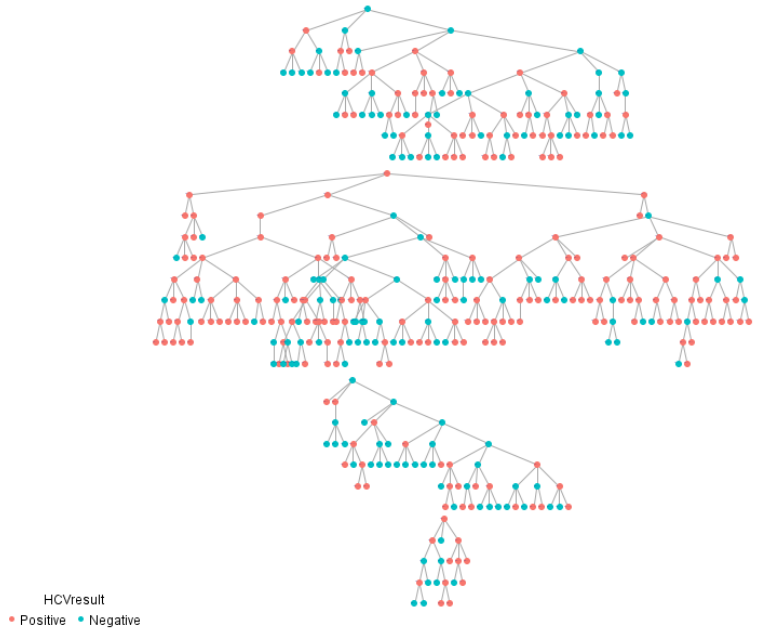


Table 43. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	15.5	11.0	20.0
	25-34 years	18.9	14.7	23.0
	35-44 years	42.5	37.3	47.8
	45 years and older	23.1	18.6	27.7
Gender	Male	77.9	73.1	82.7
	Female	22.1	17.3	26.9
Marital status	Officially married or	36.0	25.4	46.4
	Single and do not have a steady sex partner	64.1	59.5	68.7
Education level	Elementary (incomplete 9 grades)	0.2	-0.1	0.4
	Junior high (complete 9 grades)	11.5	7.7	15.3
	Senior high (full 11 grades)	62.2	57.1	67.2
	Incomplete higher education (less than 4 years)	7.4	4.4	10.5
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	17.0	13.3	20.6
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	1.7	0.4	2.9
	Other (specify)			
Personal income for the last 30 days, UAH	<UAH 2200	18.8	15.5	22.2
	UAH 2200-11500	74.5	69.4	79.5
	> UAH 11500	6.7	3.4	10.1

**Calculated according to Gile's SS.*

Table 44. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	13.2	10.4	16.0
	3-5 years	16.8	13.0	20.7
	6-10 years	13.3	9.5	17.2
	11 years or more	56.7	51.3	62.2
Type of drug used in the last 30 days	Only opioids	74.0	69.1	78.8
	Only stimulants	24.3	19.4	29.1
	Drugs mixing	1.6	0.4	2.7
	A non-sterile (not new) needle/syringe was used during the last injection	5.5	3.4	7.7
	Injected with a syringe previously used by another person**	4.4	2.5	6.4
	Reused their own syringe**	14.8	11.3	18.4
	Bought drugs in a pre-filled syringe**	45.5	40.6	50.4
Gender	Used shared devices for the drug preparation and administration**	7.3	-0.4	15.0

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 45. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		66.6	60.2	73.0
Number of partners in the last 30 days	Had no partners	42.7	37.4	48.0
	1 partner	46.8	41.4	52.2
	2-5 partners	9.4	6.6	12.3
	6 or more partners	1.1	0.0	2.1
HIV status of sex partner (self-declared by PWID)	HIV-negative	9.6	6.8	12.3
	HIV-positive	1.7	0.5	2.8
	Unknown	55.8	50.6	60.9
	Have no steady sex partner	33.0	28.2	37.8

**Calculated according to Gile's SS.*

Table 46. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	1.6	0.4	2.7
Were imprisoned and released over a year ago	21.1	16.8	25.3
Were not imprisoned	74.6	69.9	79.2

**Calculated according to Gile's SS.*

Table 47. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	11.5	8.0	15.0

**Calculated according to Gile's SS.*

Table 48. HIV and HCV test results

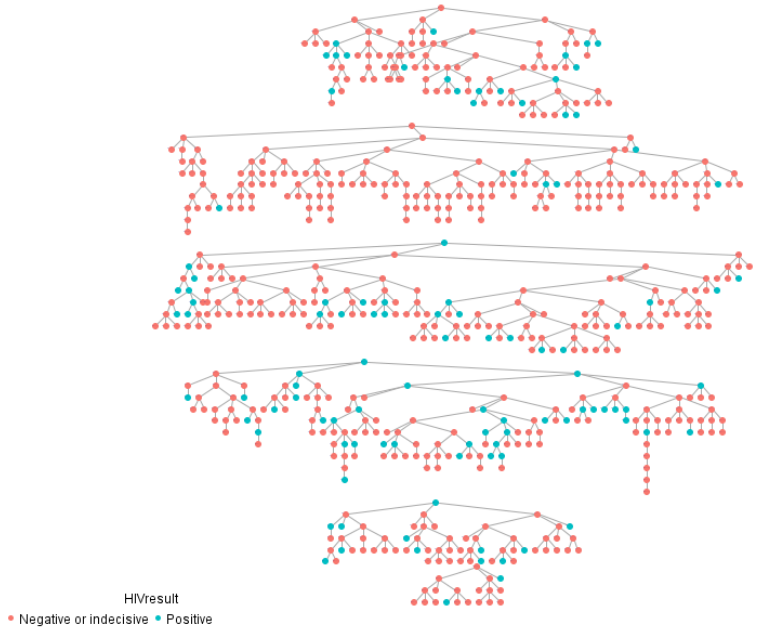
	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	23.7	18.7	28.7
Received an HCV-positive result within the survey**	60.7	55.2	66.2

**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Kyiv

Figure 9. PWID recruitment network using the RDS method with details on the results of and HCV testing



HCV prevalence

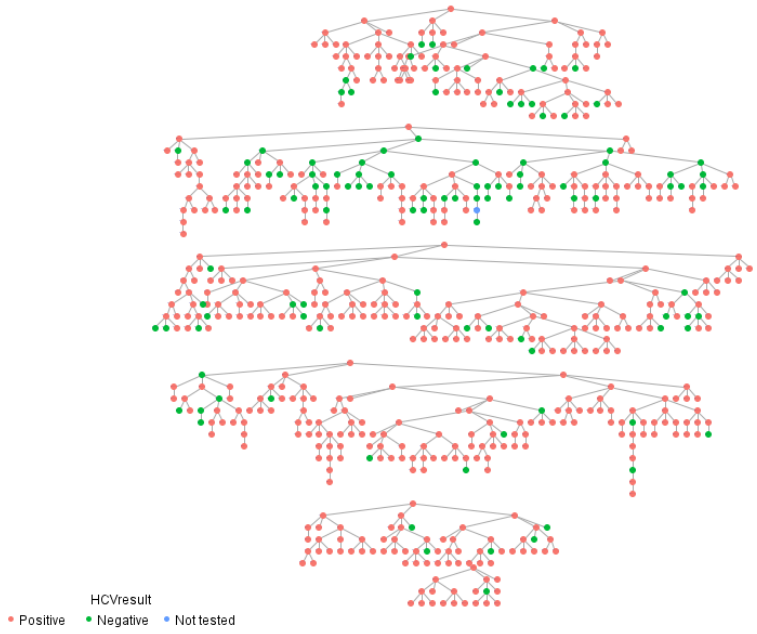


Table 49. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	4.0	1.9	6.0
	25-34 years	33.1	28.7	37.5
	35-44 years	51.2	47.0	55.4
	45 years and older	11.8	9.1	14.5
Gender	Male	82.2	79.1	85.4
	Female	17.8	14.6	21.0
Marital status	Officially married or	53.8	43.8	63.9
	Single and do not have a steady sex partner	46.2	41.3	51.0
Education level	Elementary (incomplete 9 grades)	4.3	2.6	5.9
	Junior high (complete 9 grades)	17.8	14.9	20.8
	Senior high (full 11 grades)	31.8	27.9	35.7
	Incomplete higher education (less than 4 years)	10.0	7.5	12.5
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	26.4	22.5	30.4
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	9.0	6.7	11.2
	Other (specify)	0.3	-0.1	0.7
	Don’t know/don’t remember (ask not to read the list)	0.1	0.0	0.2
	Refused to answer	0.4	-0.1	0.9
Personal income for the last 30 days, UAH	<UAH 2200	15.9	12.9	19.0
	UAH 2200-11500	60.4	56.0	64.9
	> UAH 11500	23.7	19.8	27.5

**Calculated according to Gile's SS.*

Table 50. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	2.4	1.3	3.6
	3-5 years	6.3	4.0	8.6
	6-10 years	11.8	9.0	14.7
	11 years or more	79.5	75.7	83.2
Type of drug used in the last 30 days	Only opioids	69.9	64.7	75.0
	Only stimulants	12.0	8.6	15.5
	Drugs mixing	17.6	14.2	20.8
	A non-sterile (not new) needle/syringe was used during the last injection	5.2	2.6	7.8
	Injected with a syringe previously used by another person**	7.3	-0.1	14.6
	Reused their own syringe**	46.7	43.8	49.6
	Bought drugs in a pre-filled syringe**	11.7	5.6	17.8
Gender	Used shared devices for the drug preparation and administration**	37.7	34.8	40.5

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 51. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		38.8	34.1	43.6
Number of partners in the last 30 days	Had no partners	43.6	39.1	48.2
	1 partner	46.8	42.6	51.0
	2-5 partners	8.6	6.5	10.6
	6 or more partners	1.0	0.1	1.9
HIV status of sex partner (self-declared by PWID)	HIV-negative	28.0	23.9	32.0
	HIV-positive	4.1	2.5	5.6
	Unknown	32.6	28.7	36.5
	Have no steady sex partner	35.3	30.9	39.9

**Calculated according to Gile's SS.*

Table 52. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	4.0	2.2	5.8
Were imprisoned and released over a year ago	28.0	24.2	31.7
Were not imprisoned	65.9	61.7	70.0

**Calculated according to Gile's SS.*

Table 53. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	36.4	32.1	40.7

**Calculated according to Gile's SS.*

Table 54. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	16.6	13.1	20.1
Received an HCV-positive result within the survey**	83	79.1	86.9

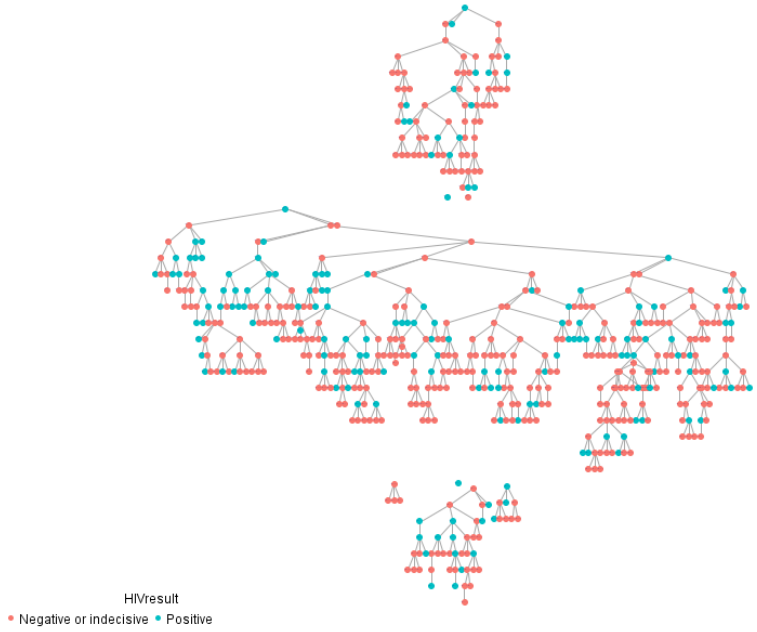
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Mariupol

Figure 10. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

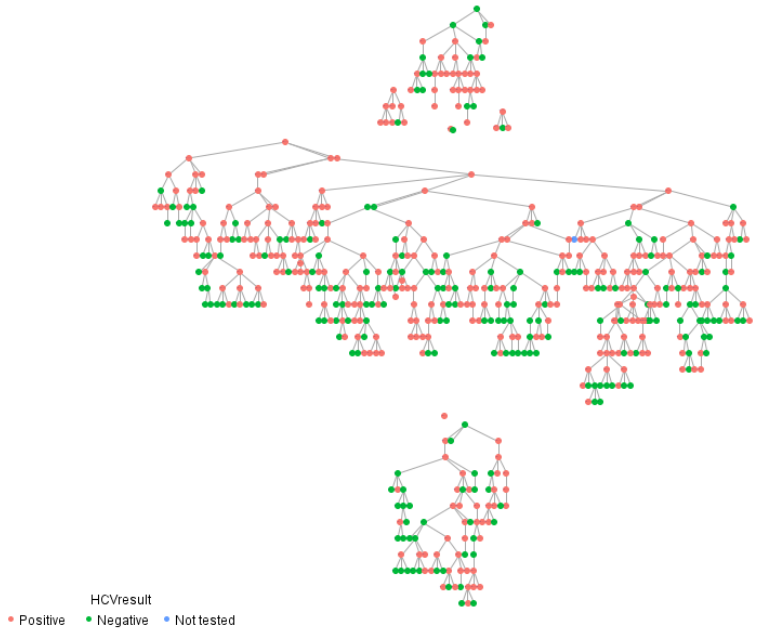


Table 55. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	4.8	3.0	6.6
	25-34 years	32.4	28.1 36.6	
	35-44 years	44.6	40.0	49.2
	45 years and older	18.2	14.7	21.7
Gender	Male	77.6		
	Female	22.4	19.4	25.4
Marital status	Officially married or	57.3	47.7	67.0
	Single and do not have a steady sex partner	42.7	39.2	46.1
Education level	Elementary (incomplete 9 grades)	2.1	0.5	3.6
	Junior high (complete 9 grades)	20.4	17.6	23.3
	Senior high (full 11 grades)	53.3	49.4	57.3
	Incomplete higher education (less than 4 years)	4.4	3.2	5.6
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	14.4	11.3	17.6
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	4.9	0.9	8.9
	Other (specify)	0.4	-0.2	0.9
Personal income for the last 30 days, UAH	<UAH 2200	21.0	17.9	24.0
	UAH 2200-11500	65.5	61.4	69.6
	> UAH 11500	13.6	10.4	16.8

**Calculated according to Gile's SS.*

Table 56. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive			
	3-5 years	6.3	4.3	8.2
	6-10 years	17.8	14.5	21.1
	11 years or more	69.4	65.1	73.8
Type of drug used in the last 30 days	Only opioids	70.5	65.8	75.2
	Only stimulants	11.7	8.2	15.2
	Drugs mixing	7.7	5.3	10.2
	A non-sterile (not new) needle/syringe was used during the last injection	1.2	-0.5	2.8
	Injected with a syringe previously used by another person**	5.8	-4.7	16.2
	Reused their own syringe**	35.9	32.4	39.4
	Bought drugs in a pre-filled syringe**	8.7	-0.4	17.9
Gender	Used shared devices for the drug preparation and administration**	35.1	31.5	38.7

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 57. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		35.3	29.8	40.9
Number of partners in the last 30 days	Had no partners	37.8	33.3	42.4
	1 partner	55.6	51.1	60.2
	2-5 partners	5.3	3.4	7.3
	6 or more partners	1.2	0.3	2.2
HIV status of sex partner (self-declared by PWID)	HIV-negative	26.1	22.9	29.3
	HIV-positive	7.4	4.8	10.1
	Unknown	33.2	27.0	39.4
	Have no steady sex partner	33.2	29.1	37.4

**Calculated according to Gile's SS.*

Table 58. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	5.2	3.5	6.9
Were imprisoned and released over a year ago	30.4	25.8	35.0
Were not imprisoned	58.7	54.0	63.4

**Calculated according to Gile's SS.*

Table 59. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	43.9	39.4	48.5

**Calculated according to Gile's SS.*

Table 60. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	29.4	25.3	33.6
Received an HCV-positive result within the survey**	62.6	58.2	66.9

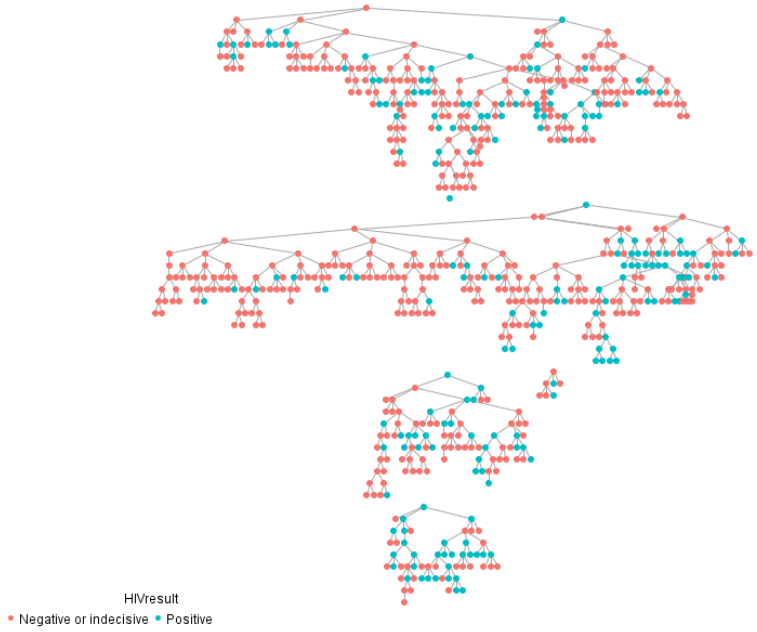
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Mykolaiv

Figure 11. PWID recruitment network using the RDS method with details on the results of and HCV testing

HIV prevalence



HCV prevalence

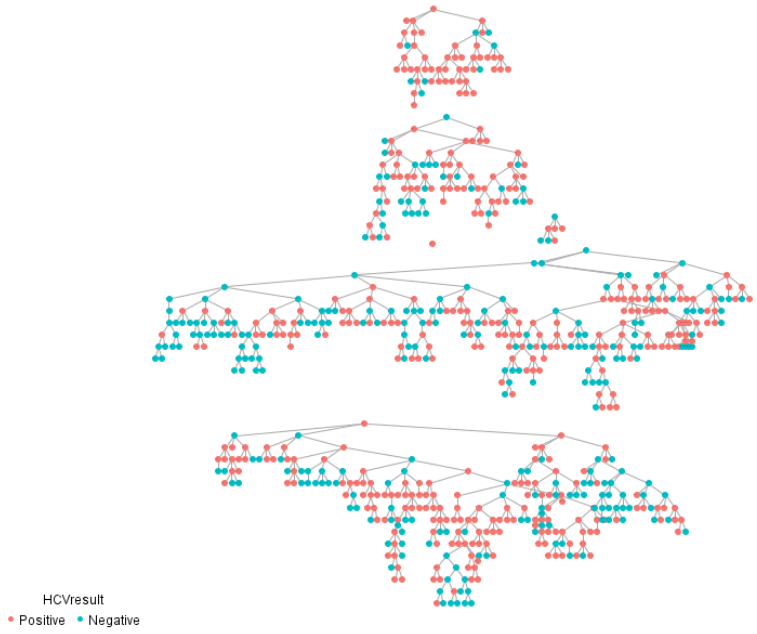


Table 61. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	2.1	1.0	3.2
	25-34 years	26.1	22.2	30.1
	35-44 years	44.3	40.7	48.0
	45 years and older	27.4	23.5	31.3
Gender	Male	77.9	74.9	81.0
	Female	22.1	19.0	25.1
Marital status	Officially married or	53.9	45.6	62.2
	Single and do not have a steady sex partner	46.1	42.6	49.7
Education level	Elementary (incomplete 9 grades)	4.4	2.8	6.0
	Junior high (complete 9 grades)	20.7	17.7	23.8
	Senior high (full 11 grades)	36.2	32.6	39.8
	Incomplete higher education (less than 4 years)	4.1	2.5	5.7
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	28.0	24.8	31.1
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	5.9	4.2	7.5
	Other (specify)	0.8	0.1	1.4
Personal income for the last 30 days, UAH	<UAH 2200	20.0	16.8	23.2
	UAH 2200-11500	67.2	63.5	70.9
	> UAH 11500	12.8	10.5	15.2

**Calculated according to Gile's SS.*

Table 62. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	4.6	3.4	5.9
	3-5 years	6.8	4.9	8.6
	6-10 years	12.0	9.6	14.5
	11 years or more	76.6	23.3	79.9
Type of drug used in the last 30 days	Only opioids	76.7	73.2	80.2
	Only stimulants			
	Drugs mixing	8.6	6.6	10.6
	A non-sterile (not new) needle/syringe was used during the last injection	2.3	1.2	3.3
	Injected with a syringe previously used by another person**	1.8	0.9	2.7
	Reused their own syringe**	31.5	28.2	34.9
	Bought drugs in a pre-filled syringe**	5.2	3.5	7.0
Gender	Used shared devices for the drug preparation and administration**	25.7	22.6	28.9

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 63. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		50.4	44.8	56.0
Number of partners in the last 30 days	Had no partners	52.0	48.2	55.8
	1 partner	44.5	40.8	48.2
	2-5 partners	2.7	1.4	3.9
	6 or more partners	0.8	0.1	1.6
HIV status of sex partner (self-declared by PWID)	HIV-negative	27.4	24.1	30.6
	HIV-positive	7.5	5.4	9.7
	Unknown	18.3	15.4	21.2
	Have no steady sex partner	46.8	43.3	50.3

**Calculated according to Gile's SS.*

Table 64. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	2.4	1.3	3.6
Were imprisoned and released over a year ago	43.0	38.8	47.2
Were not imprisoned	54.4	50.2	58.5

**Calculated according to Gile's SS.*

Table 65. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	40.9	37.2	44.7

**Calculated according to Gile's SS.*

Table 66. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	27.3	23.5	31.0
Received an HCV-positive result within the survey**	60.1	55.7	64.5

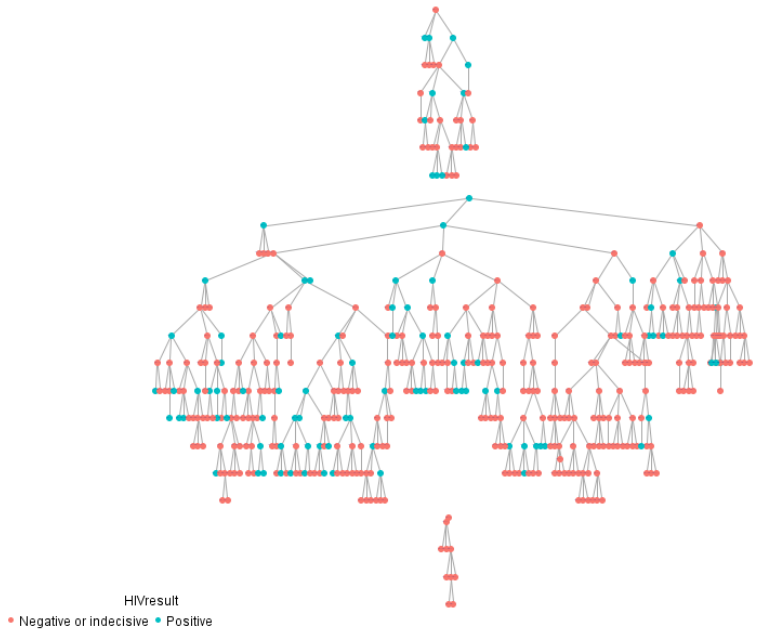
**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

Odesa

Figure 12. ***PWID recruitment network using the RDS method with details on the results of and HCV testing***

HIV prevalence



HCV prevalence

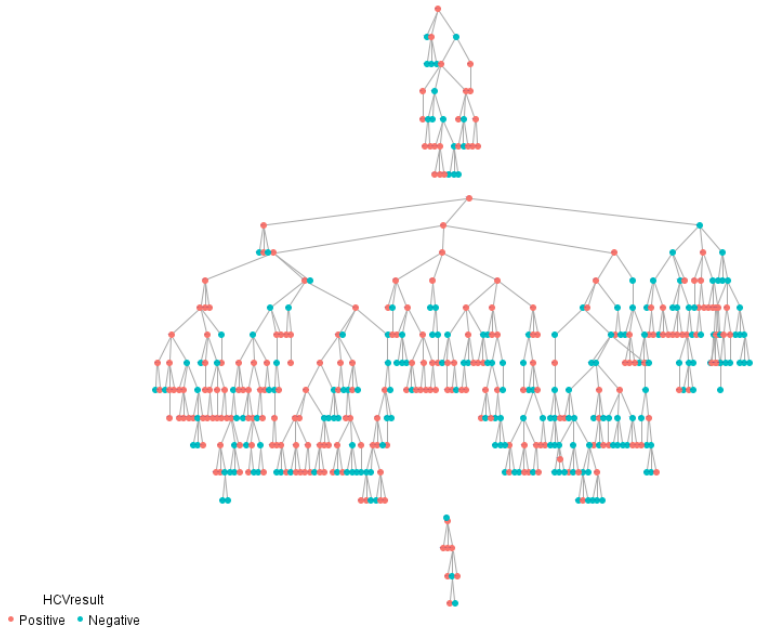


Table 67. Socio-demographic characteristics of PWID

		Population-adjusted indicator*	95% CI	
Age	Under 25 years	7.0	4.4	9.7
	25-34 years	35.8	30.9	40.7
	35-44 years	42.0	37.0	47.0
	45 years and older	15.2	10.9	19.5
Gender	Male	87.2	83.6	90.7
	Female	12.8	9.3	16.4
Marital status	Officially married or	43.1	30.8	55.5
	Single and do not have a steady sex partner	56.9	52.4	61.3
Education level	Elementary (incomplete 9 grades)	2.2	0.2	4.1
	Junior high (complete 9 grades)	12.5	10.0	15.0
	Senior high (full 11 grades)	56.3	52.5	60.0
	Incomplete higher education (less than 4 years)	6.8	3.7	10.0
	Vocational school (higher education institution of I-II levels of accreditation, technical school)	13.9	10.7	17.1
	Higher education (bachelor, master programmes in the universities of III-IV levels of accreditation)	8.3	4.5	12.1
	Other (specify)			
Personal income for the last 30 days, UAH	<UAH 2200	13.6	10.6	16.6
	UAH 2200-11500	64.3	60.2	68.3
	> UAH 11500	22.1	18.5	25.8

**Calculated according to Gile's SS.*

Table 68. Experience of injection drug use, types of drugs and unsafe injection practices

		Population-adjusted indicator*	95% CI	
Experience in injection drug use	Up to 2 years inclusive	6.3	4.3	8.4
	3-5 years	13.7	10.0	17.4
	6-10 years	20.4	15.9	24.8
	11 years or more	59.6	54.2	65.0
Type of drug used in the last 30 days	Only opioids	70.5	65.9	75.1
	Only stimulants	22.8	18.6	27.0
	Drugs mixing	4.0	2.1	5.8
	A non-sterile (not new) needle/syringe was used during the last injection	3.6	0.5	6.6
	Injected with a syringe previously used by another person**	1.4	-14.2	17.0
	Reused their own syringe**	13.3	6.2	20.4
	Bought drugs in a pre-filled syringe**	3.6	-9.5	16.5
Gender	Used shared devices for the drug preparation and administration**	4.3	-8.3	16.9

**Calculated according to Gile's SS.*

***Within the last 30 days.*

Table 69. Key indicators of risky sexual behaviours

		Population-adjusted indicator*	95% CI	
Condom use during the last sexual intercourse (among people sexually active in the last 30 days)		46.3	40.1	52.3
Number of partners in the last 30 days	Had no partners	27.6	23.0	32.3
	1 partner	61.8	57.0	66.6
	2-5 partners	10.2	7.1	13.2
	6 or more partners	0.4	-0.2	0.9
HIV status of sex partner (self-declared by PWID)	HIV-negative	28.1	23.8	32.4
	HIV-positive	7.5	4.4	10.6
	Unknown	33.4	26.6	40.1
	Have no steady sex partner	31.0	26.6	35.5

**Calculated according to Gile's SS.*

Table 70. Experience of incarceration

	Population-adjusted indicator*	95% CI	
Were imprisoned and released less than a year ago	26.4	21.8	30.8
Were imprisoned and released over a year ago	26.4	21.8	30.8
Were not imprisoned	66.4	61.1	71.8

**Calculated according to Gile's SS.*

Table 71. HIV testing

	Population-adjusted indicator*	95% CI	
Have been tested for HIV within the last 12 months and received a result	59.7	54.3	65.0

**Calculated according to Gile's SS.*

Table 72. HIV and HCV test results

	Population-adjusted indicator*	95% CI	
Received an HIV-positive result within the survey**	20.4	16.3	24.5
Received an HCV-positive result within the survey**	55.1	49.95	60.4

**Calculated according to Gile's SS.*

***Based on the results of rapid tests.*

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