



# MAIN RESULTS OF BIO-BEHAVIORAL SURVEILLANCE AMONG KEY POPULATIONS



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KYIV – 2018

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# BRIEF DESCRIPTION OF THE SURVEY METHODOLOGY

**The aim** of this survey is to monitor the behavioral and epidemiological indicators' prevalence among key populations for HIV-infection

## TARGET GROUPS OF THE SURVEY:

- People who inject drugs (PWID);
- Men who have sex with men (MSM);
- Sex workers (SW)

The survey is cross-sectional on its design. RDS was the main recruiting method for PWID and MSM in all survey cities. A group of Sex workers used RDS and TLS methods for different surveys cities.

The size of implemented sampling is the following: for PWID – 10,076 respondents, for SW – 5,043 respondents, for MSM – 5,972 respondents.

## SURVEY GEOGRAPHY

**Survey among PWID (30 cities):** Vinnytsa, Dnipro, Kryvyi Rih, Donetsk, Zhytomyr, Zaporizhia, Melitopol, Ivano-Frankivsk, Kyiv, Bila Tserkva, Vasylkiv, Fastiv, Kropyvnytskyi, Severodonetsk, Lutsk, Lviv, Mykolaiv, Odessa, Poltava, Rivne, Sevastopol, Sumy, Ternopil, Uzhhorod, Kharkiv, Kherson, Khmelnytskyi, Cherkassy, Chernivtsi, Chernihiv.

**Survey among MSM (27 cities):** Vinnytsa, Dnipro, Donetsk, Mariupol, Zhytomyr, Zaporizhia, Ivano-Frankivsk, Kyiv, Bila Tserkva, Kropyvnytskyi, Lutsk, Lviv, Mykolaiv, Odessa, Poltava, Rivne, Sevastopol, Simferopol, Sumy, Ternopil, Uzhhorod, Kharkiv, Kherson, Khmelnytskyi, Cherkassy, Chernivtsi, Chernihiv.

**Survey among SW (25 cities):** Vinnytsa, Dnipro, Mariupol, Zhytomyr, Zaporizhia, Ivano-Frankivsk, Kyiv, Bila Tserkva, Kropyvnytskyi, Lutsk, Lviv, Mykolaiv, Odessa, Poltava, Rivne, Simferopol, Sumy, Ternopil, Uzhhorod, Kharkiv, Kherson, Khmelnytskyi, Cherkassy, Chernivtsi, Chernihiv.

The survey algorithm included structured interview, rapid tests for HIV and hepatitis C detection, laboratory testing for early HIV infection verification and determination of viral load levels for HIV-positive participants.

**Data collection duration:** direct data collection lasted from November 2017 to March 2018.

## BASIC DEFINITIONS:

**Bio-behavioral surveillance** – behavioral and biological research, related in time and place to the same respondent.

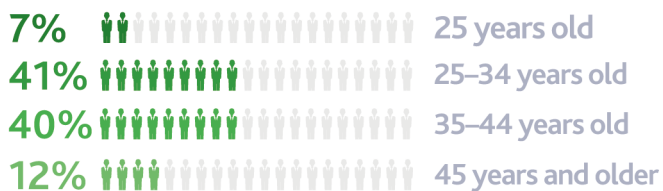
**RDS (Respondent Driven Sampling)** – sample guided and realized by the respondents.

**TLS (Time Location Sampling)** – a kind of cluster sampling aimed at forming geographical list of spots frequented by representatives of the target group.

# PEOPLE WHO INJECT DRUGS (PWID)

## SOCIO-DEMOGRAPHIC PROFILE

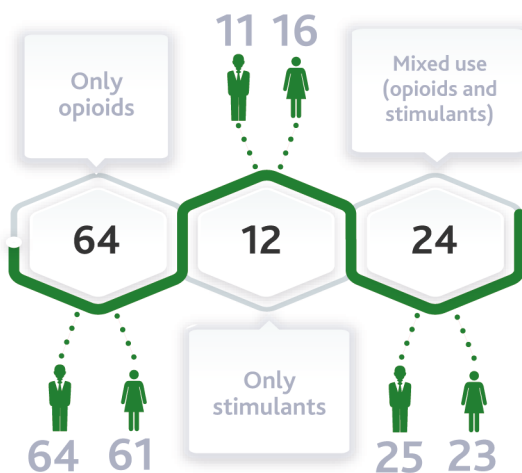
### AGE GROUPS, %



### SEX



### TYPES OF DRUGS, %:



### AVERAGE AGE, YEARS



### AVERAGE MONTHLY INCOME, UAH.



### AVERAGE DURATION OF INJECTING DRUG USE, YEARS



### MEDIAN NUMBER OF INJECTING DRUG USE DURING THE LAST 24 HOURS

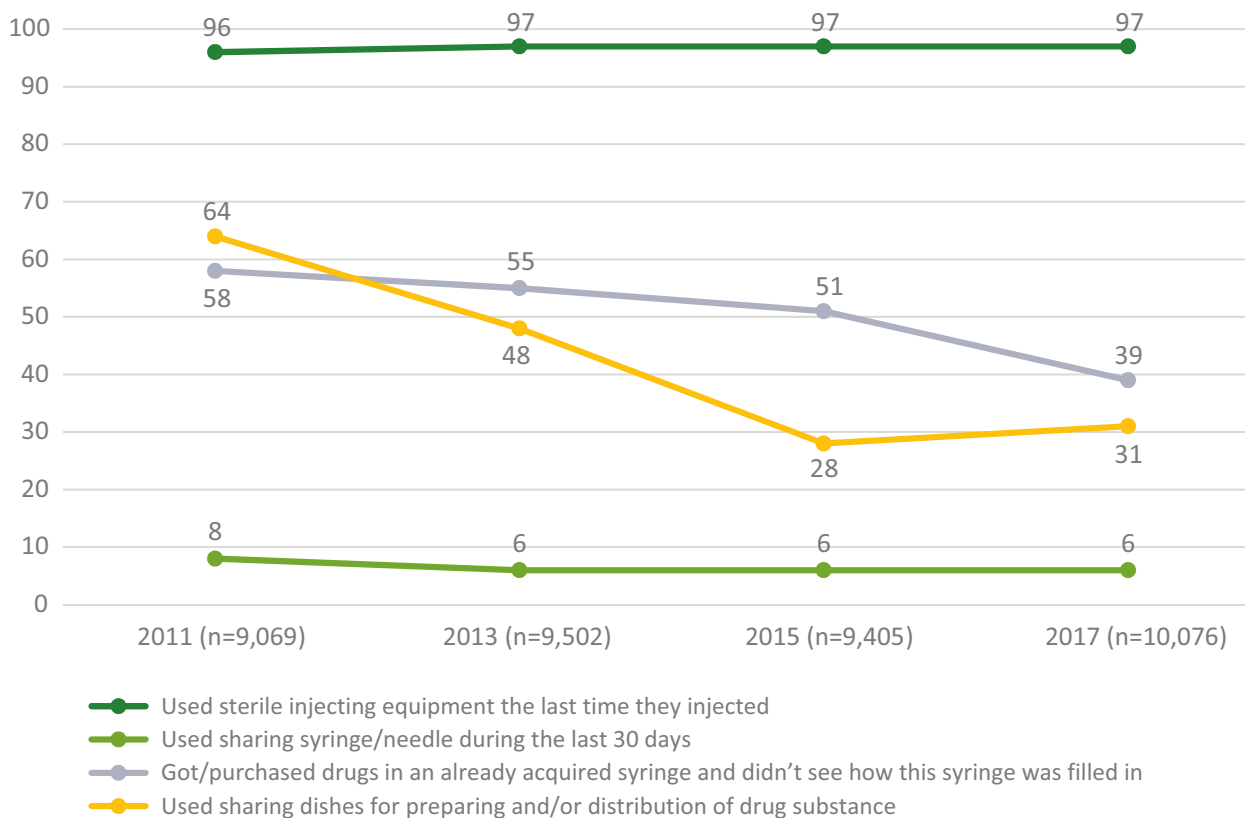


### MEDIAN NUMBER OF DAYS WHEN YOU INJECTED DRUGS DURING THE LAST MONTH



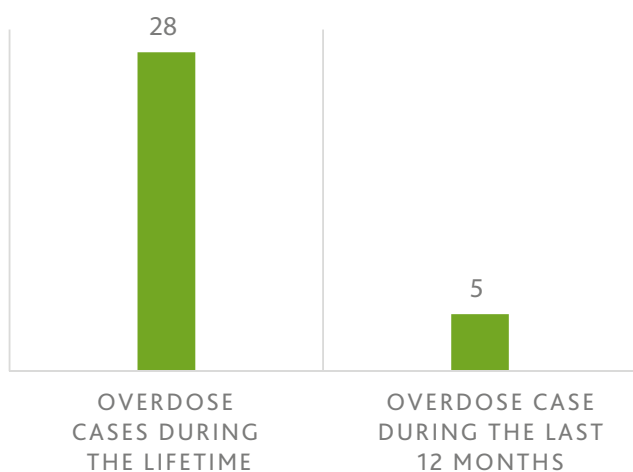
## INJECTION BEHAVIOR PRACTICES

Consistently high indicators on clean injecting equipment for drug use have been recorded since 2011. The indicators on use of sharing dishes/equipment for drugs preparing or distribution or their purchase in an already acquired syringe have exceeded 50%. However, over the years, these indicators have a steady trend to decrease.



**Figure. 1.** Dynamics of the main indicators on injection behavior among PWID, 2011 – 2017.

## OVERDOSE



Among those who indicated availability of such cases:

- **24,5 years** – the average age of the first episode of overdose;
- **2,7 times** – the average number of overdose cases;
- **1,5 times** – the average number of overdose cases during the last 12 months.

**Figure. 2.** The prevalence of overdose cases among PWID throughout the life and during the last 12 months, 2017.

## SEXUAL BEHAVIOR PRACTICES

	2011	2013	2015	2017
<b>Using a condom during the last sexual contact with a partner*, %</b>	<b>48</b>	<b>54</b>	<b>48</b>	<b>44</b>
<i>Type of a partner you had the last sexual contact with*, %:</i>				
<i>regular/permanent</i>	–	71	75	73
<i>casual</i>	–	26	23	25
<i>commercial (who was provided with money or other economic benefits for sex)</i>	–	2	1	2
<i>commercial (who provided money or other economic benefits for sex)</i>	–	1	1	0
<b>Using a condom over the last 90 days, %:</b>				
<b>Indicated the existence of a permanent sex partner (-s)</b>	<b>77</b>	<b>76</b>	<b>63</b>	<b>65</b>
Always used a condom with a permanent sex partner (-s)**	27	29	26	23
<b>Indicated the existence of a casual sex partner (-s)</b>	<b>33</b>	<b>34</b>	<b>30</b>	<b>26</b>
Always used a condom with a casual sex partner (-s)***	53	56	47	50
<b>Indicated the existence of a commercial sex partner (-s), who was provided with money or other economic benefit for sex</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>3</b>
<i>Among men</i>	3	4	4	4
<b>Always used a condom with a commercial sex partner (-s), who was provided with money or other economic benefit for sex§</b>	<b>53</b>	<b>63</b>	<b>63</b>	<b>62</b>
<i>Among men</i>	63	63	67	62
<b>Indicated the existence of a commercial sex partner (-s), who provided money or other economic benefit for sex</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>
<i>Among women</i>	9	6	7	3
<b>Always used a condom with a commercial sex partner (-s), who provided money or other economic benefit for sex§§</b>	<b>58</b>	<b>62</b>	<b>53</b>	<b>20</b>
<i>Among women</i>	60	44	54	46

\* Among those who had sex during the last 30 days: 2011 n=7,042, 2013 n=8,074, 2015 n=6,808, 2017 n=6,733;

\*\* Among those, who indicated the presence of a permanent sex partner over the last 90 days: 2011 n=6,221, 2013 n=6,048, 2015 n=5,893, 2017 n=6,462;

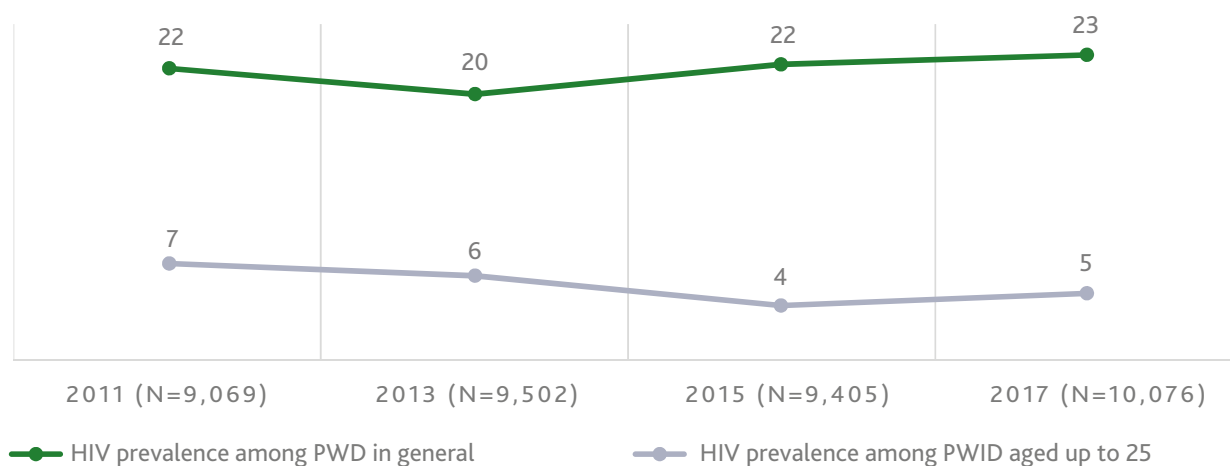
\*\*\* Among those, who indicated the presence of a casual sex partner over the last 90 days: 2011 n=2,592, 2013 n=2,280, 2015 n=2,815, 2017 n=2,608;

§ Among those, who indicated the presence of a commercial sex partner that was provided with money or other economic benefit for sex over the last 90 days: 2011 n=219, 2013 n=165, 2015 n=301, 2017 n=317;

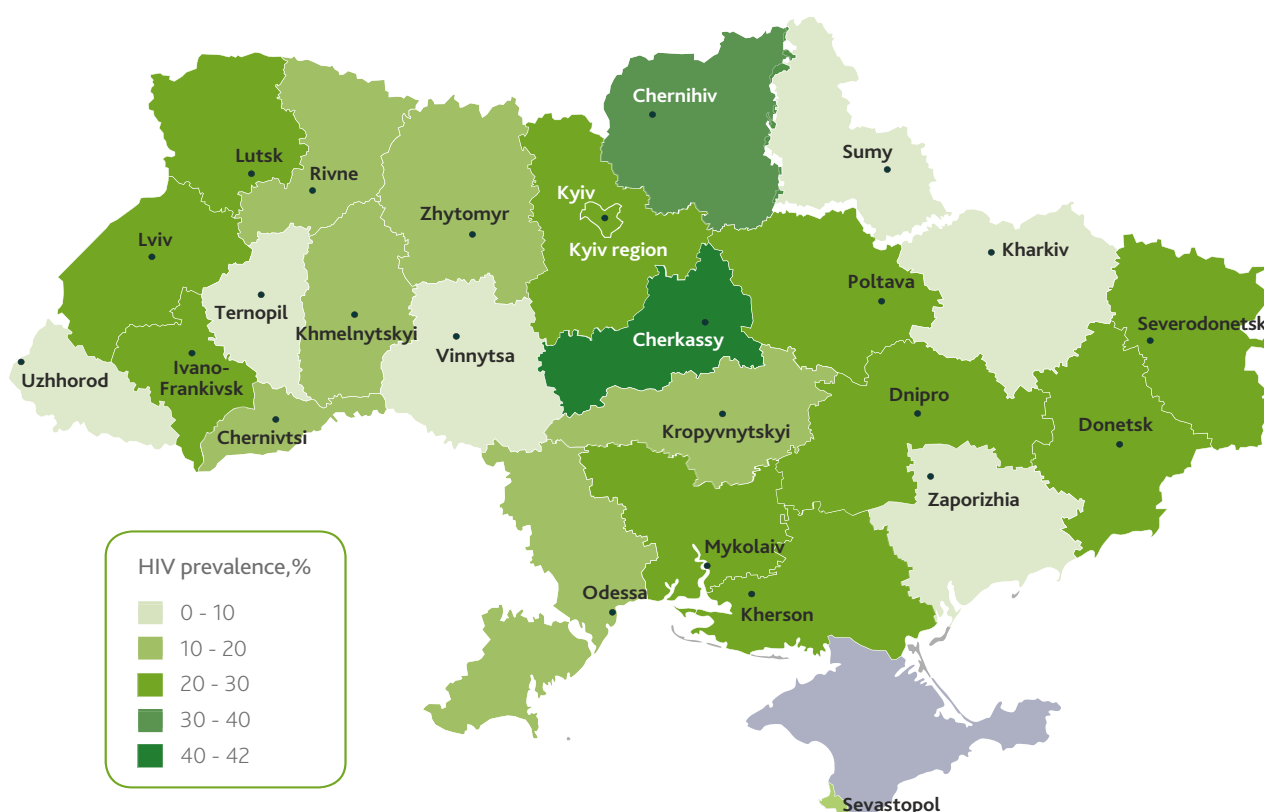
§§ Among those, who indicated the presence of a commercial sex partner that provide money or other economic benefit for sex over the last 90 days: 2011 n=217, 2013 n=314, 2015 n=152, 2017 n=86.

## PREVALENCE OF HIV

The HIV prevalence among people who inject drugs (PWID) is 22,6%. HIV prevalence among representatives of the younger group (up to 25 years old) is 5,0%, while in group aged 25 and older – 23,9%.



**Figure. 3.** HIV prevalence among PWID in general, and among those aged up to 25, 2011–2017.



**Figure. 4.** HIV prevalence among PWID in the survey cities

\* HIV prevalence among PWID in non-regional level towns included into the survey sampling:

- 40,3% (95% CI: 35,9–44,8) – in Kryvyi Rih (Dnipropetrovsk region);
- 6,4% (95% CI: 3,5–9,3) – in Melitopol (Zaporizhian region).

\*\* HIV prevalence presented on Lugansk region map, corresponds to the indicator recorded in Severodonetsk City.

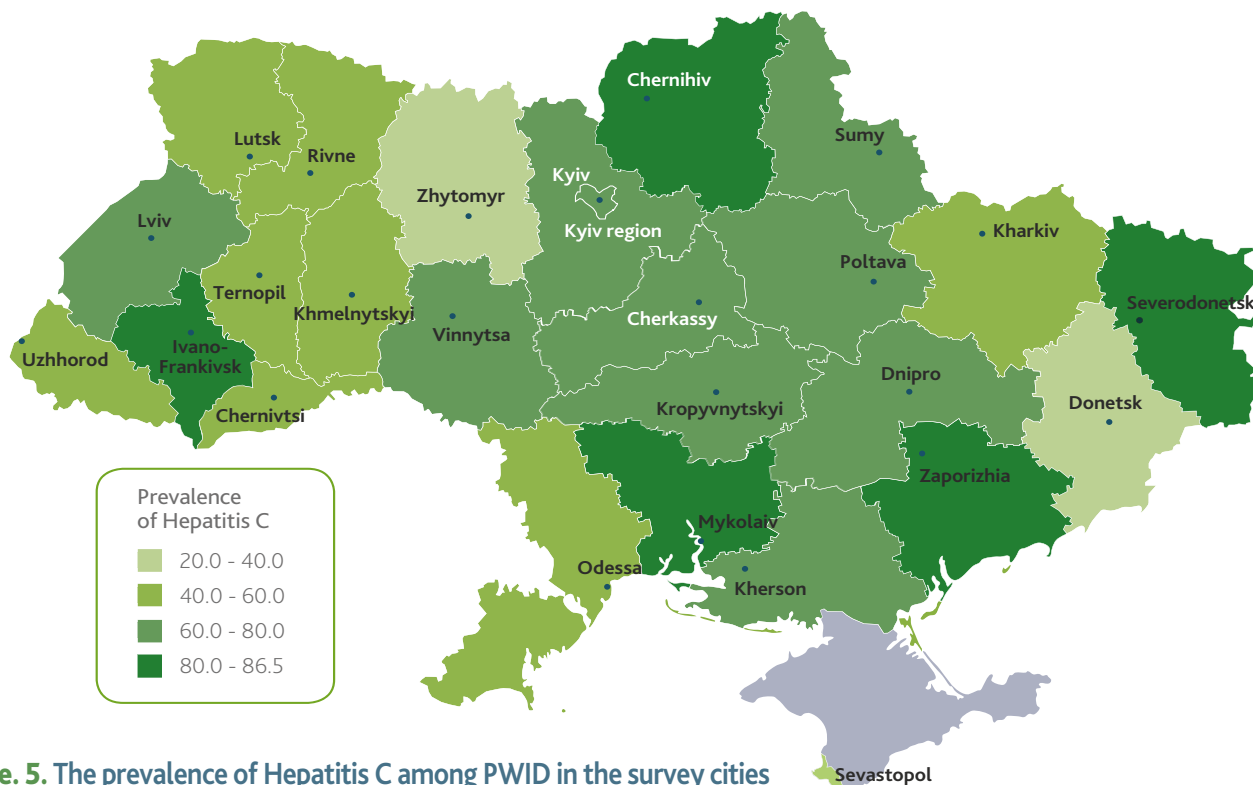
\*\*\* HIV prevalence in Kyiv region is presented as an aggregated indicator of three cities, in which the survey was conducted:

- 40,4% (95% CI: 34,7–46,2) – in Bila Tserkva (Kyiv region);
- 25,3% (95% CI: 19,6–31,1) – in Fastiv (Kyiv region);
- 11,2% (95% CI: 7,8–14,6) – in Vasylykiv (Kyiv region).



## PREVALENCE OF HEPATITIS C

The prevalence of hepatitis C among people who inject drugs is 63,9%. Hepatitis C prevalence among representatives of the younger group (up to 25 years old) is 29,8%, while in the group of PWID aged 25 and older – 66,3%.



**Figure. 5. The prevalence of Hepatitis C among PWID in the survey cities**

\* The prevalence of Hepatitis C among PWID in non-regional level towns included into the survey sampling:

- 72,9% (95% CI: 68,0–77,7) – in Kryvyi Rih (Dnipropetrovsk region);
- 65,2% (95% CI: 59,0–71,6) – in Melitopol (Zaporizhian region).

\*\* The prevalence of Hepatitis C presented on Lugansk region map corresponds to the indicator reported in Severodonetsk City.

\*\*\* The prevalence of Hepatitis C in Kyiv region is presented as an aggregated indicator of three cities, in which the survey was conducted:

- 91,9% (95% CI: 89,3–94,5) – in Bila Tserkva (Kyiv region);
- 56,0% (95% CI: 48,7–63,3) – in Fastiv (Kyiv region);
- 43,4% (95% CI: 36,8–50,0) – in Vasylkiv (Kyiv region).

## THE HIV TREATMENT CASCADE



**Figure. 6. The HIV Treatment Cascade among PWID, 2017 p.**  
(It is calculated among PWID, who received an HIV positive test result,  $n=2,261$ )

## MEN WHO HAVE SEX WITH MEN (MSM)

### SOCIO-DEMOGRAPHIC PROFILE

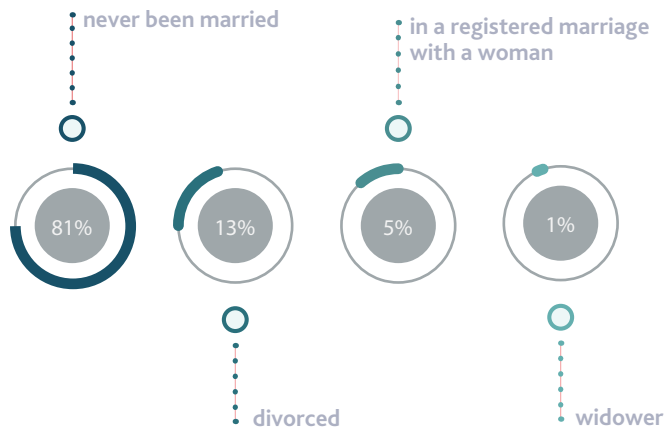
#### AGE GROUPS, %:



#### SEXUAL ORIENTATION, %:



#### MARITAL STATUS:



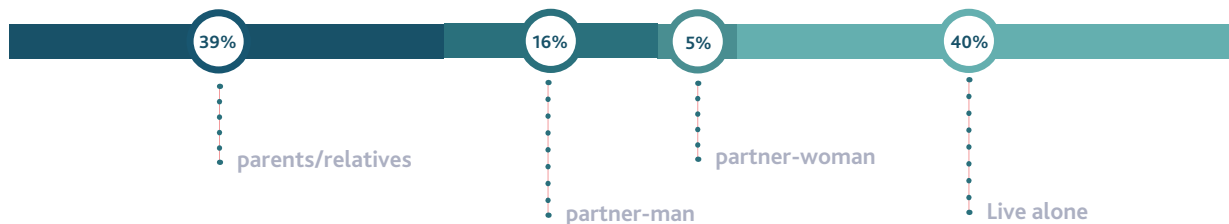
#### AVERAGE AGE, YEARS

29

#### AVERAGE MONTHLY INCOME, UAH.

5,979

#### LIVE WITH...:



## SEXUAL BEHAVIOR PRACTICES

	2011	2013	2016	2018
<b>Condom use during the last anal sex with partner-male, %*</b>	<b>71</b>	<b>72</b>	<b>71</b>	<b>78</b>
<i>Type of a partner you had the last sexual contact with, %*:</i>				
<i>regular/permanent</i>	51	53	52	55
<i>casual</i>	46	42	43	41
<i>commercial (who was provided with money or other economic benefits for sex)</i>	1	2	1	1
<i>commercial (who provided money or other economic benefits for sex)</i>	2	2	2	2
<i>group sex</i>	–	1	2	1
<b>Condom use over the last 30 days, %:</b>				
<b>Indicated the presence of a permanent sex partner (-s)</b>	<b>60</b>	<b>57</b>	<b>57</b>	<b>54</b>
Used a condom during the last sexual contact with a permanent sex partner (-s)**	62	63	67	71
<b>Indicated the presence of a casual sex partner (-s)</b>	<b>54</b>	<b>58</b>	<b>50</b>	<b>45</b>
Used a condom during the last sexual contact with a casual sex partner (-s)***	80	83	88	87
<b>Indicated the presence of a commercial sex partner (-s), who was provided with money or other economic benefit for sex</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>3</b>
Used a condom during the last sex with a commercial sex partner (-s), who was provided with money or other economic benefit for sex§	86	93	89	83
<b>Indicated the presence of a commercial sex partner (-s), who provided money or other economic benefit for sex</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>
Used a condom during the last sex with a commercial sex partner (-s), who provided money or other benefit for sex§§	78	76	80	71
<b>Had sexual contacts with a woman, %</b>	<b>58</b>	<b>54</b>	<b>61</b>	<b>54</b>
Used a condom during the last sexual contact with a woman (among those who have such contacts over the last 6 months), %§§§	65	66	62	67

\* Among those, who had anal sex over the last 6 months: 2011 n=5,618, 2013 n=7,847, 2015 n=4,109, 2018 n=5,410;

\*\* Among those, who indicated the presence of a permanent sex partner over the last 30 days: 2011 n=3,549, 2013 n=4,728, 2015 n=2,499, 2018 n=3,189;

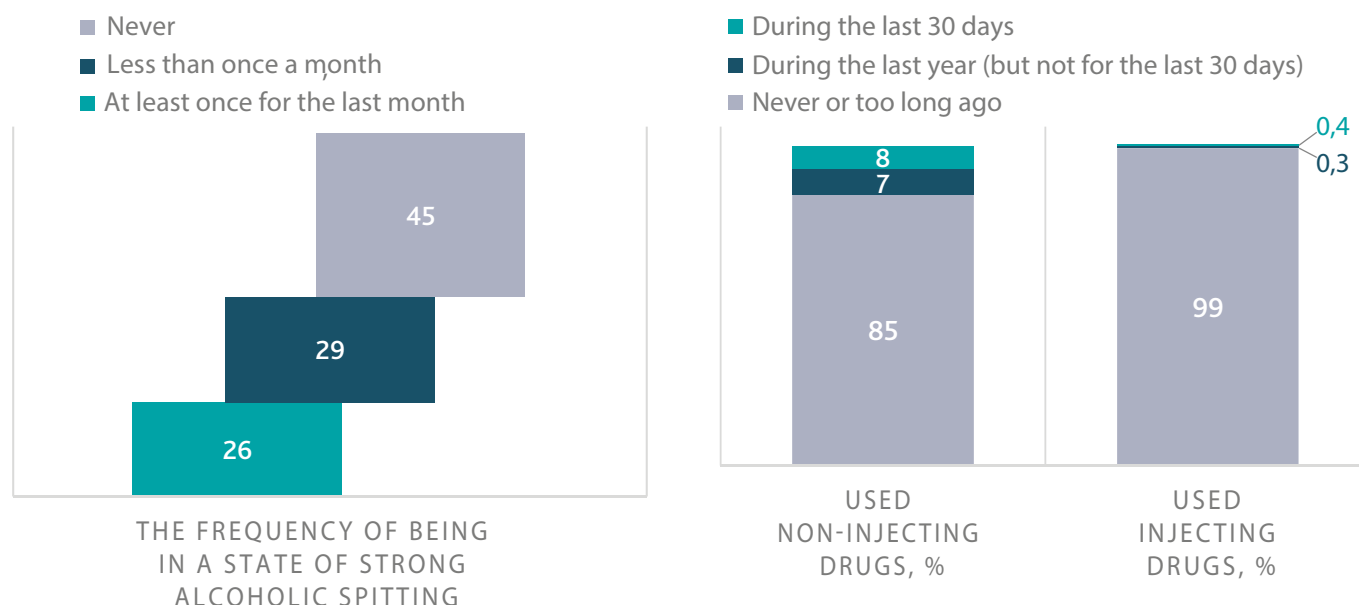
\*\*\* Among those, who indicated the presence of the casual sex partner over the last 30 days: 2011 n=3,216, 2013 n=4,579, 2015 n=2,184, 2018 n=2,620;

§ Among those, who indicated the presence of a commercial sex partner who was provided with money or other economic benefit for sex over the last 30 days: 2011 n=162, 2013 n=371, 2015 n=146, 2018 n=148;

§§ Among those, who indicated the presence of a commercial sex partner who provided money or other economic benefits for sex over the last 30 days: 2011 n=315, 2013 n=463, 2015 n=287, 2018 n=239;

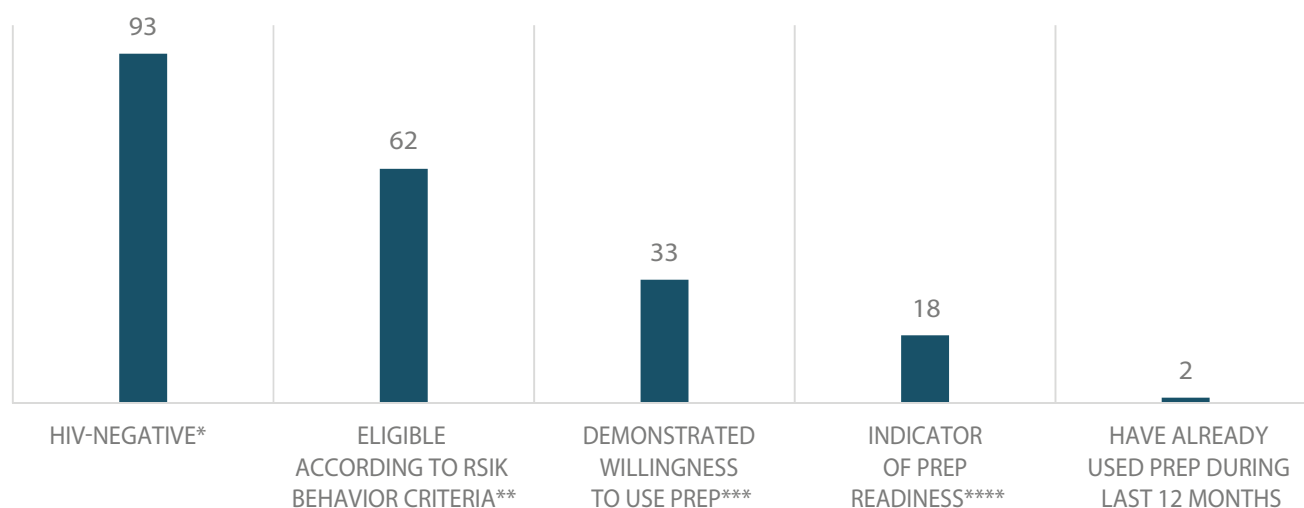
§§§ Among those, who indicated the availability of sexual contacts with a woman over the last 6 months: 2011 n=1,538, 2013 n=4,303, 2015 n=1,080, 2018 n=1,429.

## USE OF ALCOHOL AND DRUGS



**Figure. 7.** The frequency of alcohol use and prevalence of drugs use among MSM, %

## WILLINGNESS TO USE PRE-EXPOSURE PROPHYLAXIS (PREP)



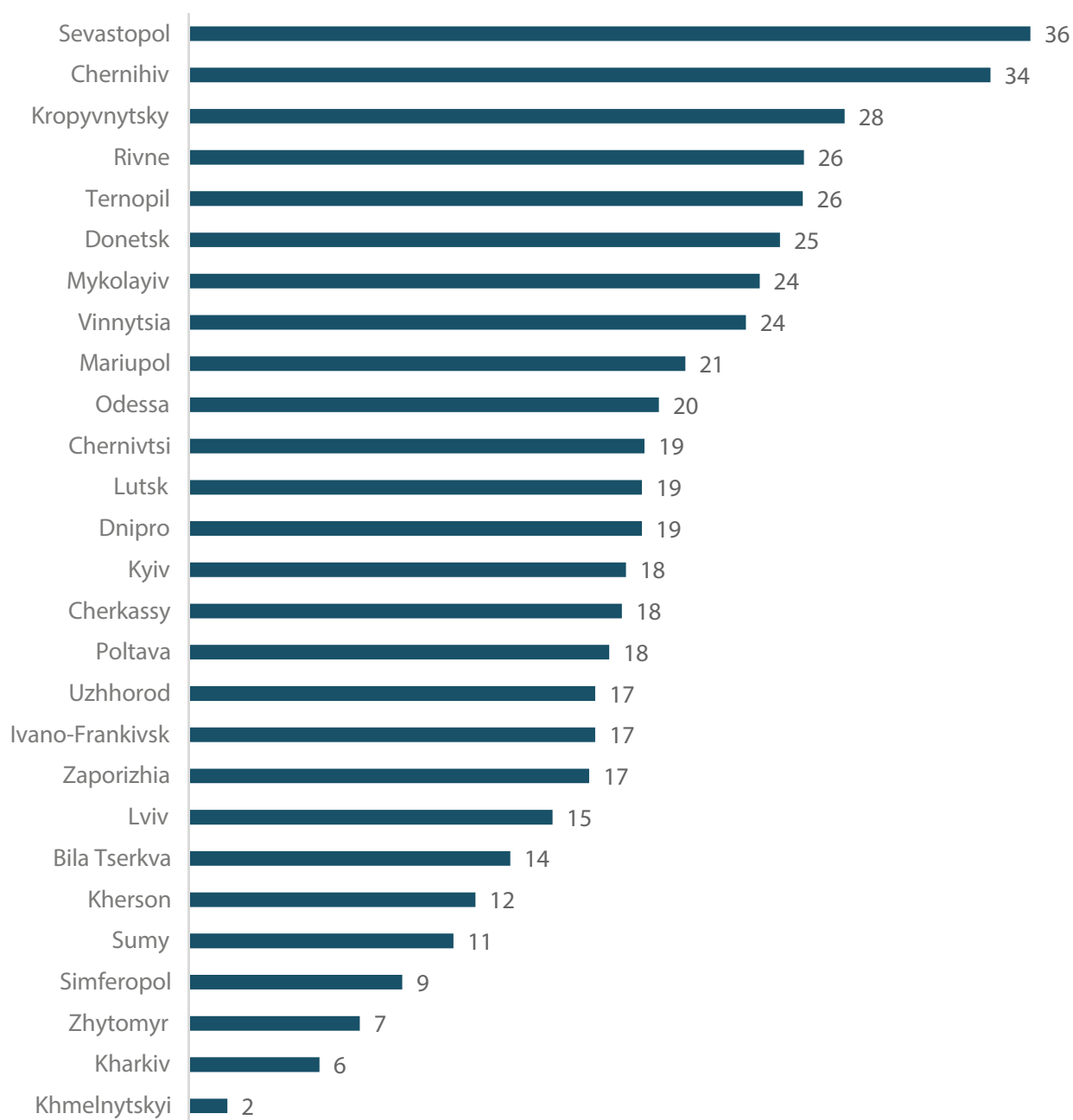
**Figure. 8.** Net weight of those, who want to take PrEP and correspond to prescription criteria (*HIV-negative and have risky sexual behavior*)

\* Received negative HIV test result within IBBS.

\*\* Eligible according to risk behavior criteria: have unsafe sex and/or have sex with more than one partner for the last 30 days, or/and have HIV-positive sex partner.

\*\*\* It was indicated in the framework of the survey, that they want to take PrEP and agree for all conditions of its prescription and monitoring of use.

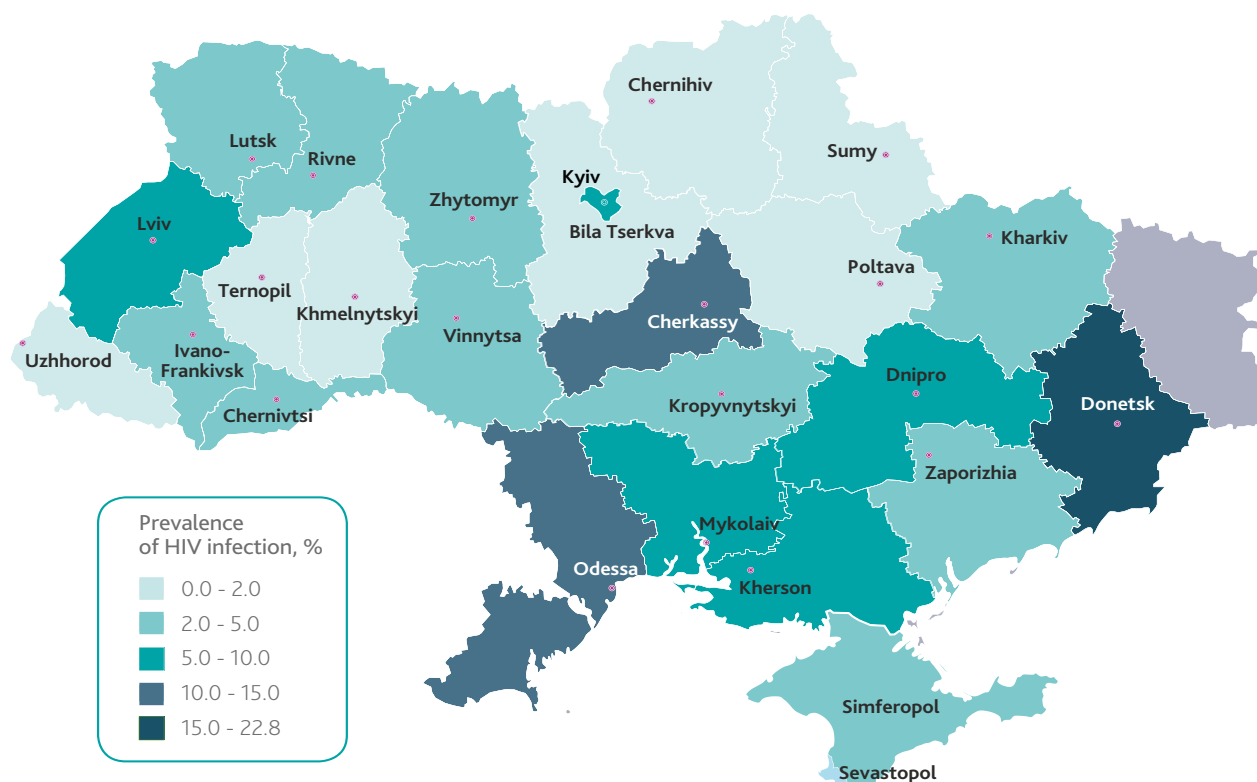
\*\*\*\* Indicator of PrEP Readiness: the proportion of MSM with HIV-negative, eligible according to risk behavior criteria and demonstrated willingness to use PrEP.



**Figure. 9.** Indicator of willingness towards PrEP by survey cities, %

## PREVALENCE OF HIV

The HIV prevalence among men who have sex with men (MSM) is 7,5%. Prevalence of HIV among representatives of the younger group (up to 25 years old) is 6,7%, while in a group of MSM aged 25 and older – 8,0%.



**Figure. 10. The HIV prevalence among MSM in the survey cities**

\* Indicators of HIV prevalence among MSM in non-regional level cities included into the survey sampling:

- 8,8% (95% CI: 5,0–12,6) – in Mariupol (Donetsk region);
- 1,2% (95% CI: 0,1–2,3) – Bila Tserkva (Kyiv region).

## THE HIV TREATMENT CASCADE



**Figure. 11. The HIV Treatment Cascade among MSM, 2017–2018.**  
(Calculated among MSM, who received HIV-positive test result, n=312)

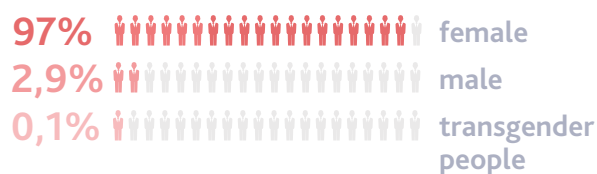
## SEX WORKERS (SW)

## SOCIO-DEMOGRAPHIC PROFILE

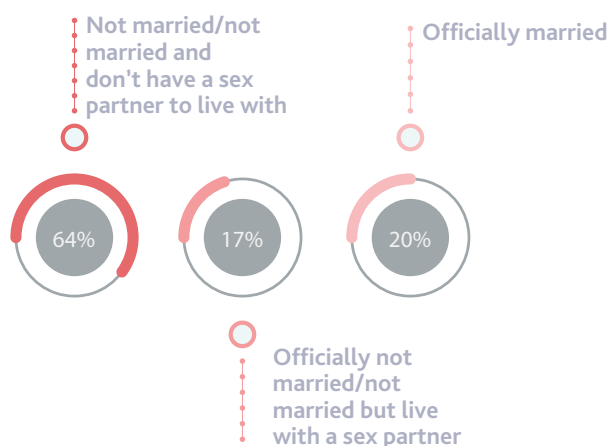
## AGE GROUPS, %



## SEX, %:



## MARITAL STATUS:



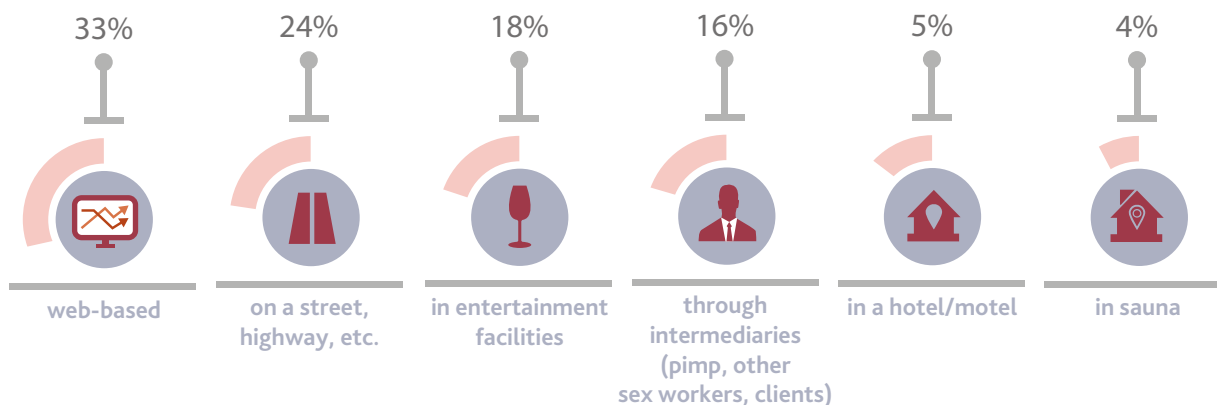
## AVERAGE AGE, YEARS

30

AVERAGE MONTHLY  
INCOME, UAH

12,410

## WAYS OF SEX WORKERS' CLIENTS SEARCHING, %:



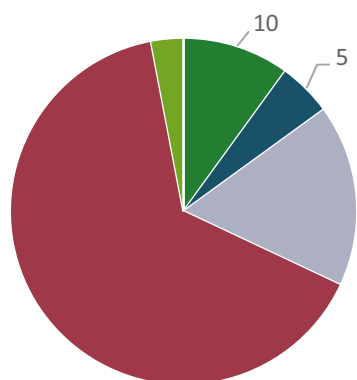
## SEXUAL BEHAVIOR PRACTICES

	2011	2013	2016	2018
<b>Used a condom during sexual contacts with clients, %:</b>				
<i>last sexual contact</i>	92	97	94	94
<i>always during oral sex for the last 30 days</i>	58	68	77	63
<i>always during vaginal sex for the last 30 days</i>	74	85	89	90
<i>always during anal sex for the last 30 days</i>	68	71	83	86
<b>Number and clients' profile who were provided with sexual services for the last 30 days, % :</b>				
<i>Median number of regular clients</i>	–	–	4	3
<i>Median number of casual clients</i>	–	–	20	10
<b>Age characteristics of clients who were provide with sexual services:</b>				
<i>teens (up to 19 years old)</i>	3	3	8	3
<i>young men/women (19–24 years old)</i>	38	40	49	27
<i>young men/women (25–34 years old)</i>	82	86	89	70
<i>men/women of middle age (35–49 years old)</i>	86	90	90	88
<i>men/women (50 years and older)</i>	38	43	43	41
<b>Social and professional groups of clients, who were provided with sexual services:</b>				
<i>military servants</i>	26	31	59	38
<i>students</i>	19	29	36	20
<i>truck divers</i>	33	44	39	33
<i>seamen</i>	10	17	16	13
<i>taxi drivers</i>	40	45	51	39
<i>Other transport workers</i>	30	30	32	17
<i>policemen</i>	32	41	46	24
<i>representatives of a criminal organization or an organized group</i>	–	30	33	21
<i>businessmen</i>	71	77	73	64
<b>Representatives of key population, who were provided with sexual services:</b>				
<i>People who inject drugs</i>	15	21	12	12
<i>Bisexuals and/or homosexuals</i>	10	–	5	11

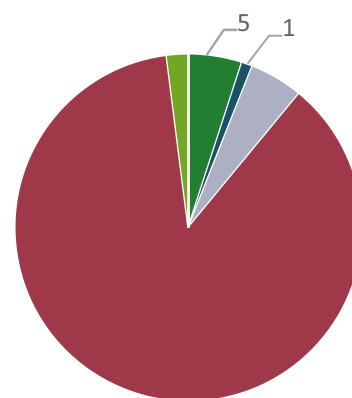
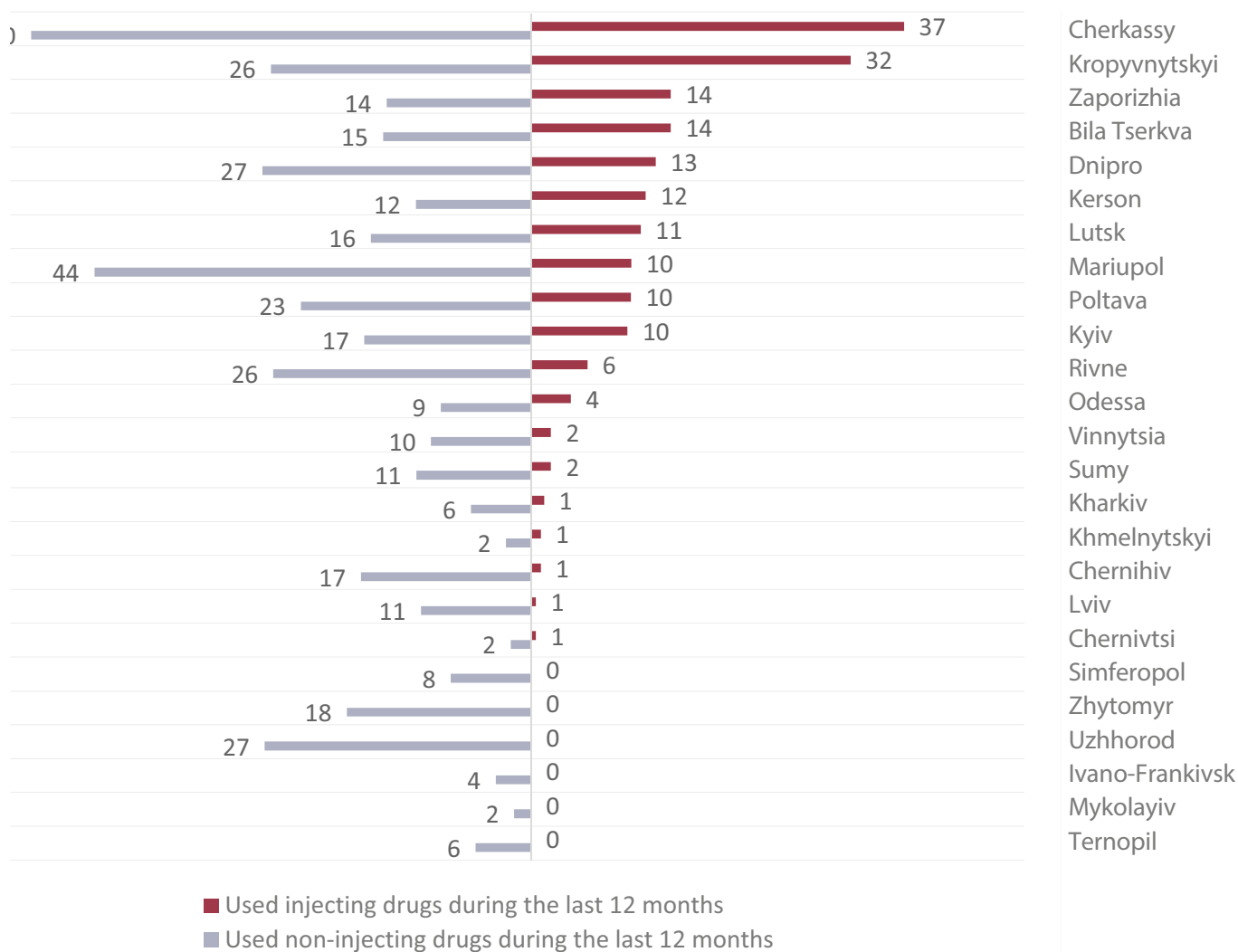


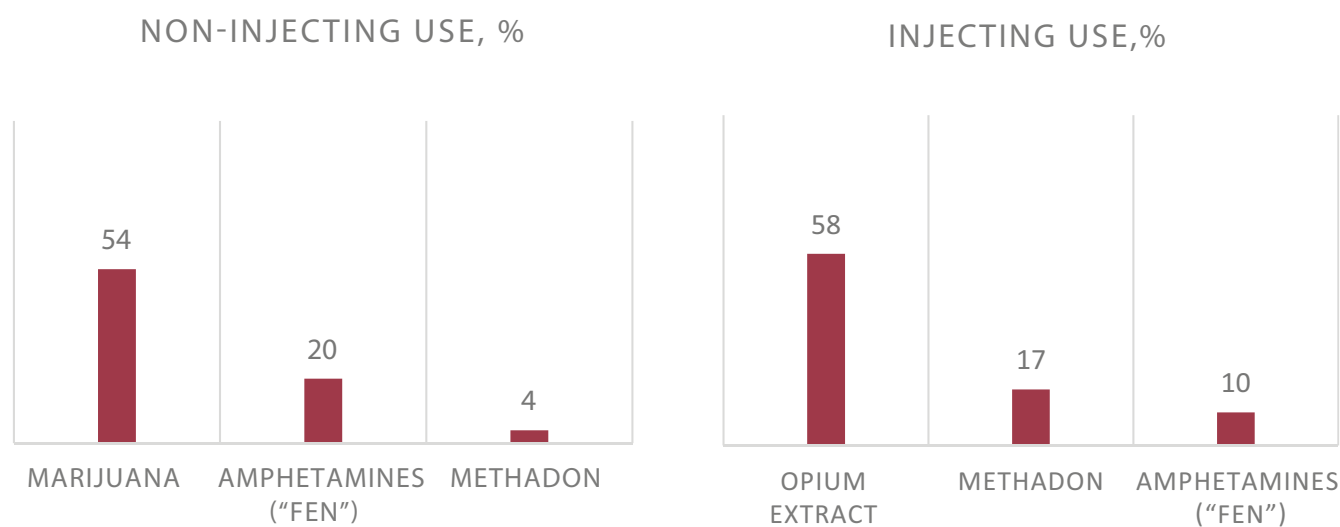
## THE USE OF DRUGS

Non-injecting drug use



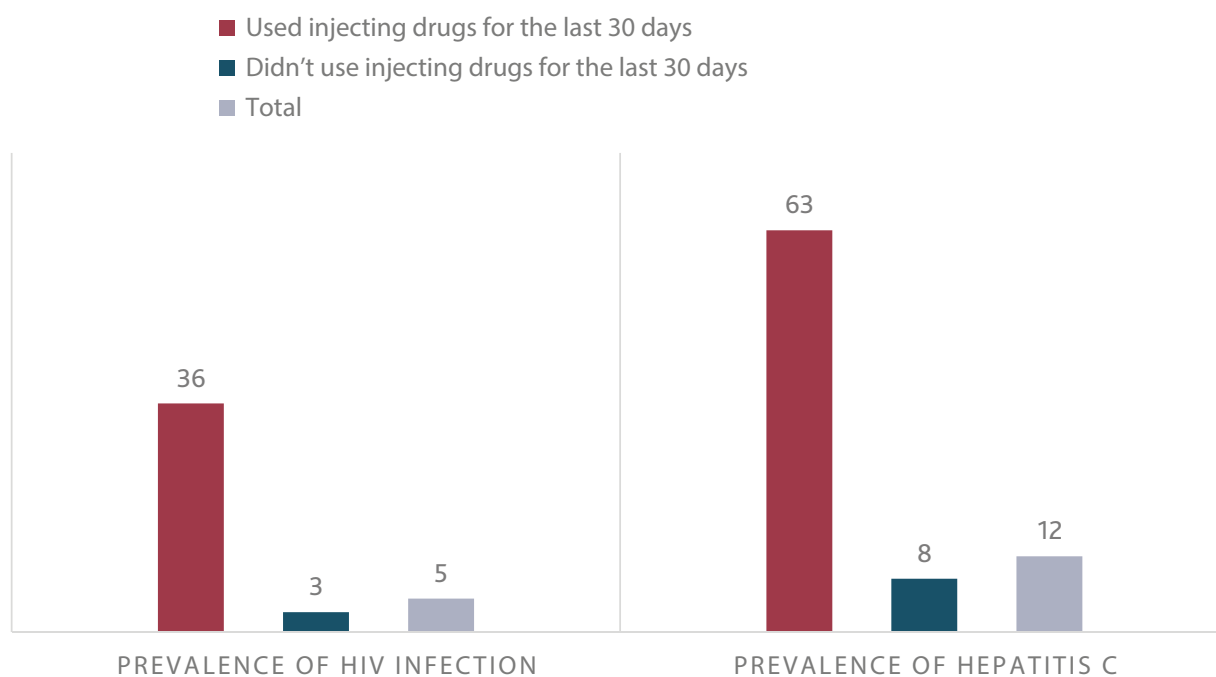
Injecting drug use

**Figure. 12.** The prevalence of injecting and non-injecting drug use**Figure. 13.** The prevalence of injecting and non-injecting drug use in the survey cities, %



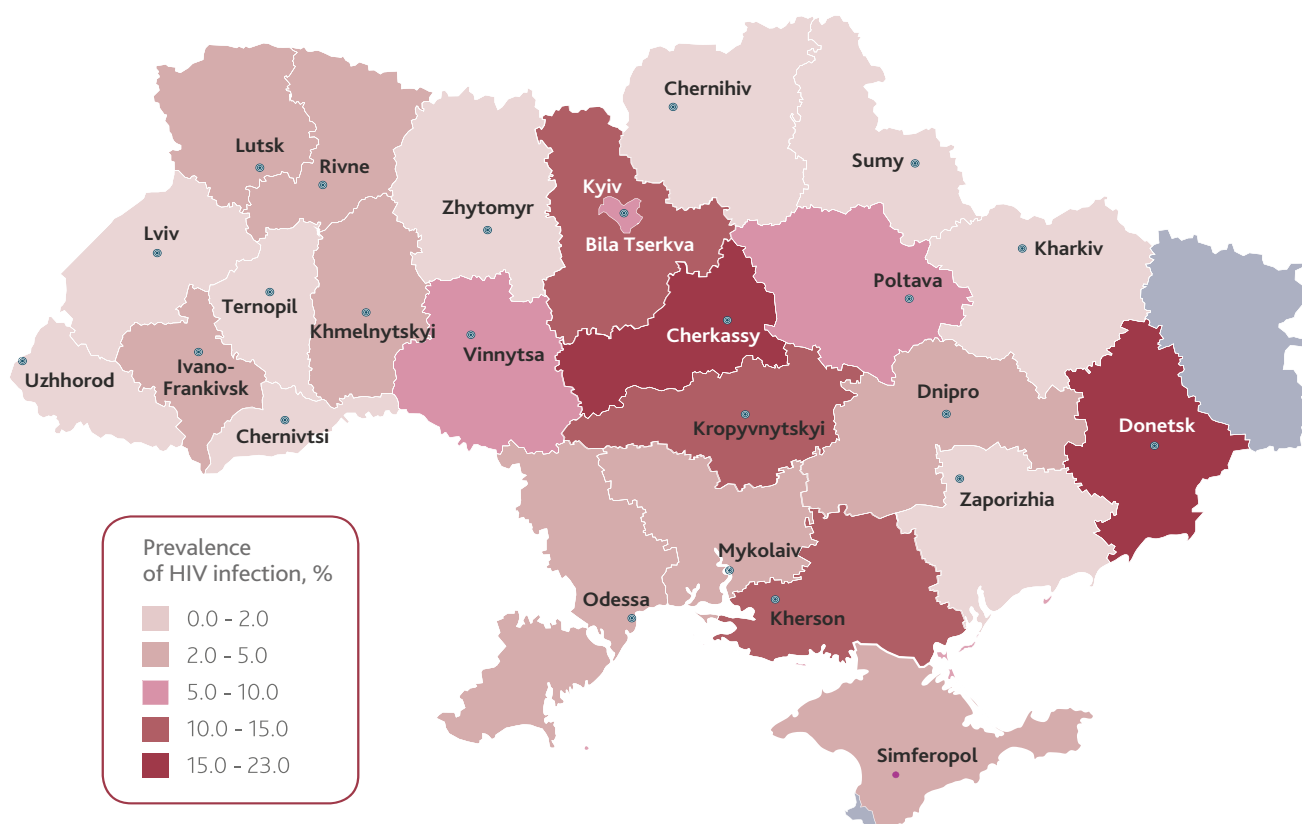
**Figure. 14.** Top 3 of the most commonly used non-injecting and injecting drugs among sex workers (among those, who used drugs at least during the last 12 months)

## PREVALENCE OF HIV



**Figure. 15.** The Prevalence of HIV infection and Hepatitis C among sex workers depending on the current practice of injecting drug use

The HIV prevalence among Sex workers is 5,2%. Prevalence of HIV among representatives of the younger group (up to 25 years old) is 1,3%, while in a group of Sex workers aged 25 and older – 6,4%



**Figure. 16.** The HIV prevalence among sex workers in the survey cities

\* Indicators of HIV prevalence among MSM in non-regional level cities included into the survey sampling:

- 18,1% (95% CI: 13,3–23,9) – in Mariupol (Donetsk region);
- 12,8% (95% CI: 6,4–19,2) – in Bila Tserkva (Kyiv region).

## THE HIV TREATMENT CASCADE



**Figure. 17.** The HIV Treatment Cascade among Sex workers, 2017–2018 pp. (Calculated among SW, who received HIV-positive test result, n=232)

This section presents the laboratory analysis results of dry blood specimens collected in 2013 for the detection of early infections.

Incidence is a **probability** of occurrence of a given medical condition in a definite population within a specified period of time.

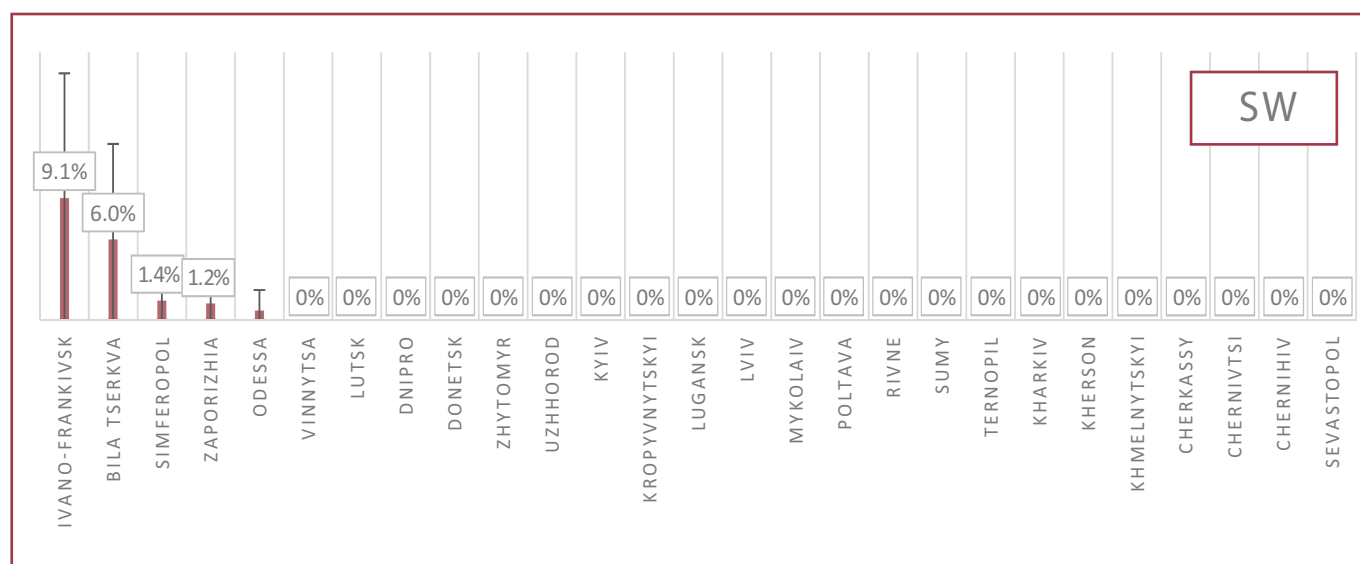
In this case HIV incidence among key populations (SW, MSM, PWID) is calculated for the year preceding the survey.

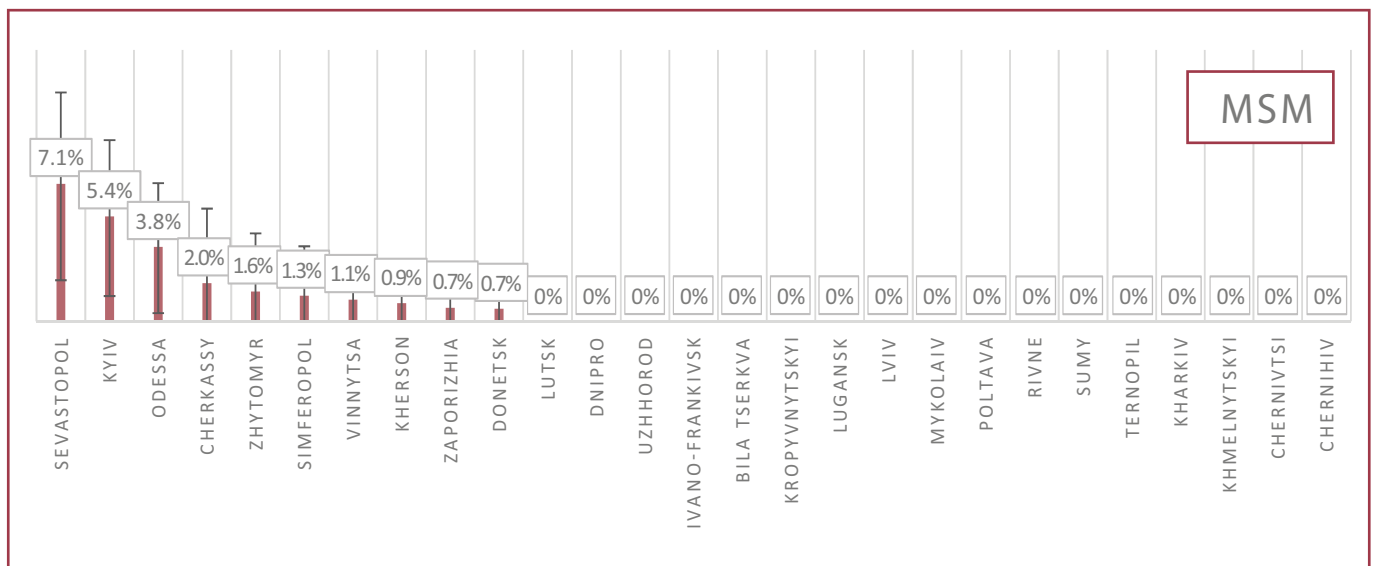
## Aggregated indicators of HIV incidence in key populations, 2013

Group	HIV prevalence % (95% CI)	Incidence % (95% CI)
Sex workers	5.58 (4.92, 6.32)	0.44 (0.09, 0.79)
Men who have sex with men	4.17 (3.70, 4.73)	0.91 (0.54, 1.29)
People who inject drugs	17.89 (16.81, 19.04)	0.74 (0.33, 1.14)

\* CI – confidence interval

**Figure. 18. HIV incidence among SW in the survey cities, 2013.**



**Figure. 19.** Incidence among MSM in the survey cities, 2013.**Figure. 20.** Incidence among PWID in the survey cities, 2013.