SUMMARY ON INTEGRATED BIO-BEHAVIOURAL STUDY IN KEY POPULATIONS AT HIGHER RISK, 2016

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# Methods

# Goal

The study goal was to gather strategic information regarding the risk factors contributing to transmission of HIV, virus of Hepatitis B and C, and Sexually Transmitted Diseases in key populations as people who inject drugs (PWID), commercial sex workers (SWs), men who have sex with men (MSM) and prisoners for a better advocacy, planning, and design of the future prevention programs.

# The objectives:

- 1. To assess knowledge, attitudes and practices related to HIV/AIDS, viral hepatitis B (HVB) and C (HVC), and sexually transmitted infections (STI) among people who inject drugs, sex workers and men who have sex with men.
- 2. Evaluation of main risk behaviors and identifying the factors that influence the risk associated with HIV and hepatitis transmission and syphilis among key populations.
- 3. Estimate the level of stigma and discrimination related to HIV in the key populations.
- 4. Measuring the prevalence of antibodies to HIV, hepatitis C virus, hepatitis B antigen and an antibody to Treponema Pallidum among target populations.
- 5. Contribution with date for population size estimations of key populations in the Republic of Moldova, including estimation of PWID group marks among prisoners on the right bank of the Dniester.
- 6. Collecting data for epidemiological non routine surveillance of HIV infection among key populations.

# Target groups

- 1. People who inject drugs is a man or woman aged 16 and older who injected any type of drugs at least once during the last 12 months.
- 2. Sex worker is a female aged 16 and older who offered sex in exchange for money or drugs at least once during the last 12 months.
- 3. Man who has sex with a man is considered to be a person of the male sex who had at least one homosexual contact within the last 6 months before the study was launched.
- 4. Prisoners from all prisons on the right bank of Nistru river.

# Study Type

#### The study is:

- Multi-centric (4 implementation sites for IDUs municipality of Chisinau, municipality of Balti, Tiraspol town and Ribnita town; 2 implementation sites for CSW and for MSM – municipality of Chisinau, municipality of Balti)<sup>1</sup>
- Population-based
- Cross sectional
- Questionnaire-based,
- Anonymous and linked with the qualitative testing for antibodies to HIV, HCV, HBV and Treponema Pallidum.

The study protocol was approved by the National Ethics Expert Committee of the Clinical Study (Decision No 210 dated June, 29th 2016).

#### Data Collection

Respondent Driven Sampling was applied for PWID, SW and MSM. The recruitment was conducted independently in four established study areas (municipality of Chisinau, municipality of Balti, Tiraspol city and Ribnita city) for PWID and in two municipalities for SW and MSM. Sampling was random among inmates in a two-stage nests.

<sup>&</sup>lt;sup>1</sup> Data bases were not merged Organizația implementatoare for analysis. Analysis was caried out for each site separately.

Table 1. Samples recruited in the localities implementing the study, Republic of Moldova, IBSS 2016

No	Key group	The organization that	Site	Sample size		No of waves
		collected the data		Planed	Recruited	
1.	PWID	NGO "New Life"	Chișinău	362	362	10
2		NGO " Youth for Right to Life"	Bălți	342	342	10
3.		NGO "Healthy Generation"	Tiraspol	334	334	9
4.		NGO "Trinity"	Râbniţa	300	300	10
5.	SW	NGO "Medical Reforms"	Chișinău	323	323	9
6.		NGO " Youth for Right to Life"	Balti	317	317	9
7.	MSM	IC "GenderdocM"	Chișinău	356	361	10
8.		NGO " Youth for Right to Life"	Bălți	292	292	10
9.	prisoners	Department of Penitentiary institutions	Right bank of Nistru river	492	495	

The data collection was carried out during the period on September, 2016 – February 2017 among all sites and groups.

The questionnaire was available in Romanian and Russian. The questionnaire was developed on the basis of the recommendations developed by *Family Health International for the Behavior Surveillance Survey among Population most at risk*<sup>2</sup> and the questionnaires applied in 2009/2010 and 2012/2013 within the integrated bio-behavioral study. The chapter on drug use initiation and overdoses was developed by UNICEF and LSHTM consultants.

According to the method, after the questionnaire, each respondent was followed by a biological component of the study. They have used blood rapid tests for the qualitative determination of antibodies to HIV, HBV, HCV and Treponema pallidum. Testing is performed in places designed for this purpose, according to the protocol of testing and counseling by trained medical worker for the use of rapid blood tests. Respondents receive the test results within 15 minutes and the counseling.

# Confidentiality/Anonymity

The survey was carried out properly observing confidentiality/anonymity conditions. The following measures were applied:

- 1. Respondent's name and surname were not used throughout the entire participation in the survey. No records with the respondent's name and surname were taken,
- 2. Respondent's name and surname did not serve as basis for the formula generating the questionnaire's unique code, thus it is not possible to identify the respondent directly or indirectly,
- 3. Every person involved in survey implementation signed an agreement, committing himself/herself to respect the survey framework of confidentiality/anonymity.

# **Data Quality Assurance**

Several procedures were used within the study to ensure data quality:

- 1. Staff training,
- 2. Progress reports on study implementation,
- 3. Field visits,
- 4. Different colors coupons for each of target groups,
- 5. Regular verifications of the coupon management data base,
- 6. Questionnaire completion verification,
- 7. Double data entry,
- 8. Statistical data comparison.

<sup>&</sup>lt;sup>2</sup> Family Health International. "Behavior Surveillance Surveys: Guidelines for Repeated Behavioral Survey in Population at Risk for HIV." 2004.

# Data analysis

The data collected in most at risk populations were analyzed using the RDSAT software version 5.6.0. For generation of numeric averages, the weighted data were exported into SPSS software version 18.0.

# **Study limitations**

All data were collected based on self-reporting and hence may be affected by social desirability bias. Recall bias might have affected answers of respondents who practiced less frequently the events the questionnaire mentioned in the respective time frame of last year and last month (such as last injection, last sexual intercourse, number of partners, etc.).

# Injecting drug users: results on key indicators People who inject drugs living in Chisinau municipality

# Socio-Demographic Structure

The study sample consists of 83.5% males and 16.5% females. The respondents' ages vary between 18 and 63 years old. The mean age is 35.9 years old and the median age is 35 years old. The majority of the study respondents belong to the group aged 25 years old and over (93.6%).

Every fifth respondent of the sample (22%) reported permanent employment. 56.6% of respondents reported to be unemployed at the interview time.

Table 2. Socio-Demographic Structure of the Sample, people who inject drugs living in Chisinau municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Males	81.0	87.8	83.5
Females	19.0	12.2	16.5
Under 25 years old	14.6	8.3	6.4
25 years and older	85.4	91.7	93.6
Mean age, years	30.3	32.4	35.9
Median age, years	29	31	35

# Drug use

According to the respondents' answers, the average period of their drug use generally varies between two and 50 years. The mean length of injecting drug use within the sample studied is of 14.3 years (median - 14.0, SD= $\pm$ 8.8).

When asked about the last time they had injected drugs, 84.1% of the sample mentioned the last month. The most commonly injected drug during the last month prior to the interview was the heroine in 40.0% of cases, followed by methamphetamines with 28.8% and opium with 13.9%.

40.3% of the respondents who had injected drugs during the last month reported that they had injected drugs less than once per week. Less than half of them did it 1-6 times per week (43.6%). Daily use was reported by 16.1% of respondents.

Table 3. Drug use, people who inject drugs living in Chisinau municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Mean length of drug use, years	13.7	10.8	14.3
Median, years	13	10	14
Last injection in the last month	71.3	63.8	84.1
The most commonly injected drug during the last month			
heroine	8,9	25.7	40.0
methamphetamines	15.3	49.1	28.8
Extract of opium	69.2	20.4	13.9
The frequency of drug injection during the last month			
Less than once per week	21.5	33.7	40.3
1-6 times per week	50.7	46.9	43.6
Daily	27.7	19.4	16.1

#### Sharing of Injecting Equipment

The value of the UNGASS indicator No. 21 is of 99.1%<sup>3</sup>. When asked about the frequency with which they had shared syringes during the last month, 97.1% of the respondents reported that it had never happened.

<sup>&</sup>lt;sup>3</sup> UNGASS Indicator 21 takes into account only those respondents who had injected drugs during the last month and had used sterile equipment for their last injection. "National Report. Monitoring the Declaration of Commitment on HIV/AIDS." 2010.

The value of the integrated indicator<sup>4</sup> for the indirect sharing of injecting equipment in the last month is of 53.4%.

# Availability of Sterile Syringes

39.5% of the respondents reported that they had received syringes for free during the last 12 months. When asked about their main source of sterile syringes, the majority of the respondents reported buying syringes from pharmacies (71.3%), followed by those who reported using needles exchange services (26.6%) and friends (1.5%).

#### **Overdoses**

Of the 362 respondents, 37.0% have ever had overdoses and 7.4% had it in the last 12 months.

#### **Drug Addiction Treatment**

More than half of the respondents (61.0%) reported to be under narcological surveillance and in 83.1% they were brought to the narcologist by the police.

Of the sample, 52% reported that they had undergone drug addiction treatment at some point in time.

Table 4. Sharing of injecting equipment, overdoses and drug addiction treatment, people who inject drugs living in Chisinau municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
UNGASS indicator No. 21	98.8	99.4	99.1
Have never shared syringes during the last month	98.8	98.8	97.1
Integrated indicator for the indirect sharing of injecting equipment in the last month	65.6	58.0	53.4
Received syringes for free during the last 12 months	9.3	22.9	39.5
Main source of sterile syringes			
pharmacies	96.2	85.1	71.3
needles exchange services	2.7	9.9	26.6
friends	-	2.7	1.5
Overdoses			
have ever had overdoses	40.5	40.5	37.0
had it in last 12 months	7.9	5.7	7.4
Drug addiction treatment			
Are under narcological surveillance	63.5	50.1	61.0
Drug addiction treatment at some point in time	36.6	39.1	52.0

#### Sexual Behavior

Of the sample, 87.9% had had sexual intercourse during the last year. When asked about the number of sexual partners they had had during the last year, 50.2% of the respondents reported one partner and 49.8% had had more sexual partners. The mean number of partners is of 2.8 and the median is 2 partners (SD±4.9 partners). When asked if their cohabitating partner had ever injected drugs, 49.5% of the respondents answered affirmatively.

#### Condom use

30.6% of the respondents reported to use condoms the last time they had sexual intercourse; the value of UNGASS indicator No. 20 is 18.1%<sup>5</sup>.

Table5. Sexual behavior and condom use, people who inject drugs living in Chisinau municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Had sexual intercourse during the last year	94.3	94.4	87.9
Number of sexual partners during the last year			
One partner	54.9	46.4	50.2
Two and more partners	45.1	53.6	49.8

<sup>&</sup>lt;sup>4</sup> The respondents who reported at least once of the following practices during the last month: drawing up a drug solution from a common jar, injecting drugs using a preloaded syringe, or front-/back-loading.

<sup>&</sup>lt;sup>5</sup> UNGASS indicator No. 20, takes into account only the respondents who injected drugs and had sexual intercourse in the last month.

Mean number of partners	2.5	2.7	2.8
Median	1	2	2
Cohabitating partner had ever injected drugs	36.5	34.7	49.5
Use of condoms during the last sexual intercourse	34.9	35.1	30.6
UNGASS indicator No 20	36.1	25.9	18.1

#### **Condoms Availability**

39.0% of respondents reported that had received condoms for free in the last year. When asked about their main source of condoms, the most frequently mentioned source was the pharmacy (57.9%), followed by outreach workers (22.9%) and needles exchange services on site (5.7%).

# Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV has a value of 63.1%.

# Knowledge about viral hepatitis B and C

Being asked about the symptoms of the viral hepatitis B and C, every fourth respondent answered correctly to all questions. Thus, the integrated indicator of knowledge on symptoms of the viral hepatitis reached 22.1%.

#### **HIV Testing**

During the last year, 41.2% of the sample took an HIV test and know the result of the last test.

## HIV, HVC, HBV Prevalence, and Treponema Pallidum antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 6. HIV, HCV, HBV, and TP antibodies prevalence (weighted in RDSAT), people who inject drugs from Chisinau municipality, %, Republic of Moldova, 2009, 2012, 2016

	HIV Pre	evalence	HCV Pr	revalence HBV Prevalence TP Antibodies		HBV Prevalence		ibodies
	#	%	#	%	#	%	#	%
2009	48	14.6	225	74.8	34	11.3	7	2.3
2012	41	8.5	231	65.4	25	6.6	32	12.7
2016	57	13.9	221	60.4	16	4.9	23	7.4

# People who inject drugs living in Balti municipality

# Socio-Demographic Structure

The study sample consists of 91.5% males and 8.5% females. The respondents' ages vary between 16 and 57 years old. The mean age is 32.7 years old and the median age is 33 years old. The majority of the study respondents belong to the group aged 25 years old and over (80.9%).

10.8% of respondent of the sample reported permanent employment. 44.9% of respondents reported to be unemployed at the interview time.

Table 7. Socio-Demographic Structure of the Sample, people who inject drugs living in Balti municipality, Republic of Moldova, 2009, 2012, 2016

	2009	2012	2016
Males	81.0	80.0	91.5
Females	19.0	20.0	8.5
Under 25 years old	14.6	8.0	19.1
25 years and older	85.4	92.0	80.9
Mean age, years	31.9	35.7	32.7
Median age, years	32	35.5	33
Permanent employed	14.5	14.2	10.8
Unemployed	50.6	42.4	44.9

#### Drug use

According to the respondents' answers, the average period of their drug use generally varies between one and 40 years. The mean length of injecting drug use within the sample studied is of 12.7 years (median – 11.0,  $SD=\pm9.6$ ).

When asked about the last time they had injected drugs, 99.7% of the sample mentioned the last month. The most commonly injected drug during the last month prior to the interview was methamphetamines in 54.4% of cases, followed by opium with 35.3% and the heroine with 6.1%

7.3% of the respondents who had injected drugs during the last month reported that they had injected drugs less than once per week. Most of them did it 1-6 times per week (53.1%). Daily use was reported by 8.8% of respondents.

Table 8. Drug use, people who inject drugs living in Balti municipality, Republic of Moldova, 2009, 2012.

	2009	2012	2016
Mean length of drug use, years	10.8	14.9	12.7
Median, years	10.0	15.0	11
Last injection in the last month	79.4	55.2	99.7
The most commonly injected drug during the last mont	th		
methamphetamines	0.3	1.6	54.4
extract of opium	91.7	68.4	35.3
heroine	6.2	28.4	6.1
The frequency of drug injection during the last month			
Less than once per week	38.2	76.3	7.3
1-6 times per week	53.1	19.8	53.1
Daily	8.8	3.9	8.8

#### Sharing of Injecting Equipment

The value of the UNGASS indicator No. 21 is of 97.7%. When asked about the frequency with which they had shared syringes during the last month, 94.6% of the respondents reported that it had never happened and 5.4% of the respondents had shared needles/syringes at least once in the past month.

The value of the integrated indicator<sup>7</sup> for the indirect sharing of injecting equipment in the last month is of 73.8%.

### Availability of Sterile Syringes

Less than half of the respondents (46.7%) reported that they had received syringes for free during the last 12 months. When asked about their main source of sterile syringes, the majority of the respondents reported pharmacies (43.0%) followed by using needles exchange services (39.4%) and those who reported buying syringes from dealers (7.9%).

#### **Overdoses**

Of the 342 respondents, 29.1% have ever had overdoses and 8.7% had overdoses in the last 12 months.

#### **Drug Addiction Treatment**

Less than half of the respondents (48.5%) reported to be under narcological surveillance and in 83.5% they were brought to the narcologist by the police.

Of the sample, 31.8% reported that they had undergone drug addiction treatment at some point in time.

<sup>&</sup>lt;sup>6</sup> UNGASS Indicator 21 takes into account only those respondents who had injected drugs during the last month and had used sterile equipment for their last injection. National Centre of Health Management. "National Report.Monitoring the Declaration of Commitment on HIV/AIDS." 2010.

<sup>&</sup>lt;sup>7</sup> The respondents who reported at least one of the following practices during the last month: drawing up a drug solution from a common jar, injecting drugs using a preloaded syringe, or front-/back-loading.

Table 9. Sharing of injecting equipment, overdoses and drug addiction treatment, people who inject drugs living in Balti municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
UNGASS indicator No. 21	97.7	96.7	97.7
Never had shared syringes during the last month	92.4	98.1	94.6
Had shared needles/syringes at least once in the past month	6.0	1.9	5.4
Integrated indicator for the indirect sharing of injecting equipment in the last month	61.9	37.3	73.8
Received syringes for free during the last 12 months	29.6	59.1	
Main source of sterile syringes			
pharmacies	63.1	35.4	43.0
needles exchange services	25.8	54.9	39.4
friends	2.7	4.7	4.2
Overdoses			
have ever had overdoses	54.2	34.1	29.1
had it in last 12 months	18.5	5.3	8.7
Drug addiction treatment			
Are under narcological surveillance	43.2	50.3	48.5
Drug addiction treatment at some point in time	32.4	27.6	31.8

#### Sexual Behavior

Of the sample, 88.5% had had sexual intercourse during the last year. When asked about the number of sexual partners they had had during the last year, 35.8% of the respondents reported one partner and 64.2% had had more sexual partners. The mean number of partners is of 4.0 and the median is 2 partner (SD±8.6 partners). When asked if their cohabitating partner had ever injected drugs, 26.0% of the respondents answered affirmatively.

#### Condom use

43.9% of the respondents used condoms the last time they had sexual intercourse; the value of UNGASS indicator No. 20 are of 25.8%.

Table 10. Sexual behavior and condom use, people who inject drugs living in Balti municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Had sexual intercourse during the last year	89.9	77.9	88.5
Number of sexual partners during the last year			
One partner	49.7	70.5	35.8
Two and more partners	50.3	29.5	64.2
Mean number of partners	2.6	2.1	4.0
Median	1	1	2
SD	-	2.8	±8.6
Cohabitating partner had ever injected drugs	43.1	24.8	26.0
Use of condoms during the last sexual intercourse	61.2	42.8	43.9
UNGASS indicator No 20	62.4	23.0	25.8

#### Condoms Availability

Less than half of the respondents (42.8%) had received condoms for free in the last year. When asked about their main source of condoms, the most frequently mentioned source was the pharmacy (35.7%), followed by the outreach workers (18.8%) and harm reduction services (18.4%).

Table 11. Condoms availability, people who inject drugs living in Balti municipality, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Received condoms for free in the last year	29.9	55.4	42.8
Main source of condoms			
pharmacy	59.0	19.5	37.5
needles exchange services/outreach workers	25.8	40.0	37.2

#### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV has a value of 64.0%.

# Knowledge about viral hepatitis B and C

Being asked about the symptoms of the viral hepatitis B and C, more than half of respondent answered correctly to all questions. Thus, the integrated indicator of knowledge on symptoms of the viral hepatitis reached 32.0%.

#### **HIV Testing**

During the last year, 31.3% of the sample took an HIV test and know the result of the last test.

# HIV, HVC, HBV Prevalence, and Treponema Pallidum antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 12. HIV, HCV, HBV, and TP antibodies prevalence (weighted in RDSAT), people who inject drugs from Balti municipality, %, Republic of Moldova, 2009, 2012, 2016

	HIV Prev	valence	HCV Pr	evalence	HBV Pre	valence	TP Anti	ibodies
	#	%	#	%	#	%	#	%
2009	152	39.8	249	70.2	41	14.2	13	2.7
2012	170	41.8	164	38.5	36	12.4	4	0.7
2016	76	17.0	175	41.8	18	5.4	13	4.0

# People who inject drugs living in Tiraspol town

#### Socio-Demographic Structure

The study sample consists of 80.5% males and 19.5% females. The respondents' ages vary between 18 and 64 years old. The mean age are 35.1 years old and the median age are 35 years old. The majority of the study respondents belong to the group aged 25 years old and over (91.6%).

Every tenth respondent of the sample (17.8%) reported permanent employment. 45.5% of respondents reported to be unemployed at the interview time.

Table 13. Socio-Demographic Structure of the Sample, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012,2016

	2009	2012	2016
Males	69.4	76.0	80.5
Females	30.6	24.0	19.5
Under 25 years old	29.4	23.6	8.4
25 years and older	70.6	76.4	91.6
Mean age, years	30.5	32.2	35.1
Median age, years	30	31	35
Permanent employed	12.1	10.9	17.8
Unemployed	39.0	29.5	45.5

#### Drug use

According to the respondents' answers, the length of their drug use generally varies between one year and 37 years. The mean length of injecting drug use within the sample studied is of 14.9 years.

When asked about the last time they had injected drugs, 74.1% of the sample mentioned the last month. The most commonly injected drug during the last month prior to the interview was the extract of opium in 66.4% of cases, followed by methamphetamines with 23.1% and morphine with 3.5%.

About third of the respondents who had injected drugs during the last month reported that they had injected drugs less than once per week (34.2% of the cases). About half of them did it 1-6 times per week (51.4%), daily use was reported by 14.4% of respondents.

Table 14. Drug use, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Mean length of drug use, years	7.9	12.98	14.9
Last injection in the last month	47.2	14.0	74.1
The most commonly injected drug during the last mo	nth		
extract of opium	87.6	37.0	66.4
methamphetamines	4.0	6.9	23.1
morphine	1.3	3.6	3.5
The frequency of drug injection during the last month	า		
Less than once per week	49.9	38.7	34.2
1-6 times per week	42.0	61.3	51.4
Daily	8.1	-	14.4

# Sharing of Injecting Equipment

The value of the UNGASS indicator No. 21 is of 99.2%. When asked about the frequency with which they had shared syringes during the last month, 98.1% of the respondents reported that it had never happened and 1.9% of the respondents had shared needles/syringes at least once in the past month.

The value of the integrated indicator for the indirect sharing of injecting equipment in the last month is of 44.6%.

#### Availability of Sterile Syringes

28.7% of the respondents reported that they had received syringes for free during the last 12 months. When asked about their main source of sterile syringes, the majority of the respondents reported buying syringes from pharmacies (80.7%), followed by using needles exchange services (16.0%) and those who reported friends (1.1%)

#### Overdoses

Of the 334 respondents 28.6% have ever had overdoses and 3.5% had it in last 12 months.

#### **Drug Addiction Treatment**

About a fourth of the respondents (26.5%) reported to be under narcological surveillance and in 96.0% they were brought to the narcologist by the police.

Of the sample, 17.5% reported that they had undergone drug addiction treatment at some point in time.

Table 15. Sharing of injecting equipement, overdoses and drug addiction treatment, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
UNGASS indicator No. 21	86.0	82.3	99.2
Never had shared syringes during the last month	77.6	70.1	98.1
Had shared needles/syringes at least once in the past month	22.4	29.9	1.9
Integrated indicator for the indirect sharing of injecting equipment in the last month	81.8	81.0	44.6
Received syringes for free during the last 12 months	28.6	41.1	28.7
Main source of sterile syringes			
pharmacies	71.1	79.3	80.7
needles exchange services	12.7	6.8	16.0
friends	-	9.9	1.1

Overdoses			
have ever had overdoses	24.8	34.0	28.6
had it in last 12 months	7.3	3.6	3.5
Drug addiction treatment			
Are under narcological surveillance	32.6	17.5	26.5
Drug addiction treatment at some point in time	12.1	2.8	17.5

#### Sexual Behavior

Of the sample, 96.7% had had sexual intercourse during the last year. When asked about the number of sexual partners they had had during the last year, 55.5% of the respondents reported one partner and 44.5% had had more sexual partners. The mean number of partners is of 2.8 and the median is 1 partner (SD±4.0 parteners). When asked if their cohabitating partner had ever injected drugs, 29.9% of the respondents answered affirmatively.

#### Condom use

31.4% of the respondents used condoms the last time they had sexual intercourse; the value of UNGASS indicator No. 20 are of 25.8%.

Table 16. Sexual behavior and condom use, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Had sexual intercourse during the last year	84.1	89.5	96.7
Number of sexual partners during the last year			
One partner	39.9	34.5	55.5
Two and more partners	60.1	65.5	45.5
Mean number of partners	3.7	3.3	2.8
Median	2	2	1
Cohabitating partner had ever injected drugs	28.8	36.1	29.9
Use of condoms during the last sexual intercourse	38.0	36.5	31.4
UNGASS indicator No 20	45.1	14.5	25.8

#### **Condoms Availability**

33.3% of the respondents had received condoms for free in the last year. When asked about their main source of condoms, the most frequently mentioned sources were the pharmacies (47.0%), followed by needles exchenge services (17.9%), by the shops (8.2%), and outreach workers (4.9%).

Table 17. Condoms availability, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Received condoms for free in the last year	20.3	35.4	33.3
Main source of condoms			
shops	27.4	61.6	8.2
pharmacy	39.7	10.1	47.0
needles exchange services/outrich workers	18.2	10.6	22.8

#### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV has a value of 67.5%.

# Knowledge about viral hepatitis B and C

Being asked about the sympthoms of the viral hepatitis B and C, every eighth respondent answered correctly to all questions. Thus, the integrated indicator of knowledge on sympthoms of the viral hepatitis reached 42.7%.

#### **HIV Testing**

During the last year, 23.4% of the sample took an HIV test and know the result of the last test.

HIV, HVC, HBV Prevalence, and Treponema Pallidum antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 18 HIV, HCV, HBV, and TP antibodies prevalence (weighted in RDSAT), people who inject drugs from Tiraspol town, %, Republic of Moldova, 2009, 2012, 2016

	HIV Pre	valence	HCV Pr	evalence	HBV Pre	valence	TP Ant	ibodies
	#	%	#	%	#	%	#	%
2009	40	12.1	84	20.8	25	7.6	4	1.3
2012	69	23.9	110	35.6	14	4.1	23	8.5
2016	101	29.1	199	62.1	11	4.0	6	1.6

# People who inject drugs living in Ribnita town

#### Socio-Demographic Structure

The study sample consists of 76.9% males and 23.1% females. The respondents' ages vary between 18 and 60 years old. The mean age are 35.2 years old and the median age are 34 years old, SD=±8.8. The majority of the study respondents belong to the group aged 25 years old and over (91.1%).

15.1% of respondents of the sample reported permanent employment. 56% of respondents reported to be unemployed at the interview time.

Table 19. Socio-Demographic Structure of the Sample, people who inject drugs living in Ribnita town, Republic of Moldova, 2012,2016

	2012	2016
Males	77.7	76.9
Females	22.3	23.1
Under 25 years old	17.8	8.9
25 years and older	82.2	91.1
Mean age, years	29.8	35.2
Median age, years	27	34
Permanent employed	16.9	15.1
Unemployed	63.2	56

#### Drug use

According to the respondents' answers, the length of their drug use generally varies between 1 year and 40 years. The mean length of drug use within the sample studied is of 14.4 years (median – 14.5, SD= $\pm 9.3$ ).

When asked about the last time they had injected, 65.3% of the sample mentioned the last month. The most commonly injected drug during the last month prior to the interview was the extract of opium in 47.7% of cases, followed by methamphetamines with 37.5% and by subutex with 6.3%.

57.7% of the respondents who had injected drugs during the last month reported that they had injected drugs less than once per week. About half of them did it 1-6 times per week (36.6%). Daily use was reported by 5.7% of respondents

Table 20. Drug use, people who inject drugs living in Ribnita town, Republic of Moldova, 2012, 2016.

	2012	2016
Mean length of drug use, years	12.58	14.4
Last injection in the last month	34.5	65.3
The most commonly injected drug during the last mont	th	
extract of opium	69.8	47.7
methamphetamines	-	37.5
The frequency of drug injection during the last month		
Less than once per week	14.1	57.7
1-6 times per week	49.2	36.6
Daily	36.7	5.7

#### Sharing of Injecting Equipment

The value of the UNGASS indicator No. 21 is of 100%. When asked about the frequency with which they had shared syringes during the last month, 99.5% of respondents reported that it had never happened.

The value of the integrated indicator for the indirect sharing of injecting equipment in the last month is of 67.2%.

#### Availability of Sterile Syringes

33.6% of the respondents reported that they had received syringes for free during the last 12 months. When asked about their main source of sterile syringes, the majority of the respondents reported the pharmacies (65.1%) followed by those who reported using needles exchange services (29.5%) and frends (4.2%).

#### **Overdoses**

Of the samples 23.2% have ever had overdoses and 2,6% of respondents had it in last 12 months.

# **Drug Addiction Treatment**

About a fifth of the respondents (20.6%) reported to be under narcological surveillance and 96.1% reported being brought to the narcologist by the police.

Of the sample, 4.0% reported that they had undergone drug addiction treatment at some point in time.

Table 21. Sharing of injecting equipement, overdoses and drug addiction treatment, people who inject drugs living in Tiraspol town, Republic of Moldova, 2009, 2012, 2016.

	2012	2016
UNGASS indicator No. 21	100	100
Never had shared syringes during the last month	100	99.5
Had shared needles/syringes at least once in the past month	0	0.5
Integrated indicator for the indirect sharing of injecting equipment in the last month	83.8	67.2
Received syringes for free during the last 12 months	57.5	33.6
Main source of sterile syringes		
pharmacies	40.6	65.1
needles exchange services	54.0	29.5
Overdoses		
have ever had overdoses	40.5	23.2
had it in last 12 months	1	2.6
Drug addiction treatment		
Are under narcological surveillance	33.6	20.6
Drug addiction treatment at some point in time	32.8	4.0

#### Sexual Behavior

Of the sample, 93.8% had had sexual intercourse during the last year. When asked about the number of sexual partners they had had during the last year, 57.0% of the respondents reported one partner and 43.0% had had more sexual partners. The mean number of partners is of 3.6 and the median is 1 partner (SD±12,4 parteners). When asked if their cohabitating partner had ever injected drugs, 42.3% of the respondents answered affirmatively.

#### Condom use

31,7% of the respondents used condoms the last time they had sexual intercourse; the value of UNGASS indicator No. 20 is of 27,1%.

# **Condoms Availability**

33,1% of the respondents had received condoms for free in the last year. When asked about their main source of condoms, the most frequently mentioned source was the pharmacies (47,5%), followed by needles exchenge services (25,8%) and shops (8,4%).

Table 22. Sexual behavior and condom use, people who inject drugs living in Ribnita town, Republic of Moldova, 2012, 2016.

	2012	2016
Had sexual intercourse during the last year	71.6	93,8
Number of sexual partners during	the last year	
One partner	69,0	57
Two and more partners	31,0	43
Mean number of partners	1,3	3,6
Median	1	1
Cohabitating partner had ever injected drugs	40,4	42,3
Use of condoms during the last sexual intercourse	52,9	31,7
UNGASS indicator No 20	53,8	27,1
Received condoms for free in the last year	35,9	33,1
Main source of condoms		
pharmacy	20,7	47,5
needles exchange services/outrich workers	37,4	27,6
shops	17,8	8,4

# Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV<sup>8</sup> has a value of 67.8%.

# Knowledge about viral hepatitis B and C

The integrated indicator of knowledge about viral hepatitis B and C has a value of 23.4%.

## **HIV Testing**

During the last year, 22.0% of the sample took an HIV test and know the result of the last test.

#### HIV, HVC, HBV Prevalence, and Treponema Pallidum antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 23. HIV, HCV, HBV, and TP antibodies prevalence (weighted in RDSAT), people who inject drugs from Ribnita town, %, Republic of Moldova, 2012, 2016

	HIV Prevalence		HCV Pi	HCV Prevalence		HBV Prevalence		ibodies
	#	%	#	%	#	%	#	%
2012	34	43.7	51	61.4	0	0	10	8.2
2016	73	22.2	112	32.7	4	1.0	7	1.8

<sup>&</sup>lt;sup>8</sup> UNGASS Indicator No. 14, which takes into account only correct answers to all 5 standard questions (3,4,5,6,and 9 in **Error! Reference source not found.**).

# Sex workers: results on key indicators Sex workers living in Chisinau municipality

## Socio-Demographic Structure

The study sample is composed of females exclusively<sup>9</sup>. The respondents' ages vary between 18 and 58 years old. The mean age is 33.0 years old, median – 31 years old (SD=±8.7). The majority of the study respondents belong to the age groups 25 years old and more (87.5%).

Of the sample, 66.5% are unemployed and providing commecial sex is the only source of income. 42.8% reported having another source of income besides providing commercial sex services. Of the sample, 0.6% reported to be students.

Table 24. Socio-Demographic Structure of the Sample, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016

	2010	2013	2016
Mean age, years old	28.8	31.9	33.0
Median, years old	27	30	31
Under 25 years old	35.8	25.1	12.5
25 years and older	64.2	74.9	87.5
Unemployed, %	61.4	59.7	66.5
Having another source of income, %	39.6	40.2	42.8
Students, %	7.4	5.6	0.6

#### Sexual behaviour

#### Commencement of Sex Life

The mean age at which they first had sex reported by the survey sample is 13.1 years and the median is 13 years (SD= $\pm 0.5$  years). The mean age at which they first had commercial sexual intercourse is 25.2 years old (median – 23, SD= $\pm 7.0$  years).

#### **Commercial partners**

Being asked where mainly they found the clients in the last 12 months, most frequent places mentioned by using phone contacts following anouncement/makler/internet (25.7%), the bars and night clubs (25.0%) throw acquaintances (24.0%), in the street (23.3%).

The mean number of commercial partners during the last 30 days prior to the interview was 20.4 (median – 17, SD $\pm$ 15.9). The mean number of commercial partners during the last 7 days prior to the interview was 6.0 (median – 5, SD= $\pm$ 4.6). The mean number of commercial partners during the last day offering commercial sex was 1.6, median – 1, SD= $\pm$ 1.0.

#### Condom use with commercial partners

In 88.2% of cases, a condom was used at last sexual intercourse with a commercial partner. Of the respondents that had commercial sex in the last month, 46.8% reported consistent condom use during their sexual contacts with commercial partners during the last month. Of the whole sample, 24.2% reported consistent condom use with commercial partners in last 12 months.

Table 25. The condom use during sexual contacts with commercial partners, %, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016

	At last sex			Consistent use during the last 30 days			Consistent use during the last 12 months		
	2010	2013	2016	2010	2013	2016	2010	2013	2016
Regardless of the tipe of sex	91.3	87.5	88.2	59.4	23.7	46.8	52.1	17.0	24.2

<sup>&</sup>lt;sup>9</sup> Study inclusion criteria.

Table 26. Sexual behavior and condom use, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Mean age at first sex	16.2	16.7	13.1
Median age at first sex	16	16	13
Mean age at first commercial sex	24.5	23.6	25.2
Median age at first commercial sex	20	21	23
Places to find clients			
Bars or night clubs	29.6	30.8	25.0
Street	25.4	29.0	23.3
Phone contacts/internet	24.9	30.8	25.7
Acquaintances	18.2	13.6	24.0
Mean number of commercial partners during the last 30 days	22.5	20.6	20.4
Median	14	15	17
Mean number of commercial partners during the last 7 days	5.9	6.4	6.0
Median	4	4	5
Mean number of commercial partners during the last day offering commercial sex	1.9	1.6	1.6
Median	2	1	1

#### **Sexually Transmitted Infections**

Of the sample, 6.3% had had an abnormal vaginal discharge/genital sores during the last 12 months.

# Condoms availability

Of the sample, more than half of respondent (60.7%) received condoms for free in last 12 month. For about third of the sample (36.2%) of respondents, harm reduction sites are the main source of condoms followed by the pharmacy (28.4%), the outreach workers (17.9%) and the shops (13.7%).

Table 27. Condoms availability, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Received condoms for free in the last year	20.2	55.0	60.7
Main source of condoms			
Project	-	36.2	36.2
Pharmacy	69.8	35.5	28.4
outreach workers	-	13.7	17.9
Shops	7.5	9.4	13.7

### Use of the illegal drugs

Out of the total number of respondents, 23.3% had used drugs at some point, and 8.1% (31 respondents) had injected drugs at some point in time. Drug injection within the last 12 months was stated by 4.9% of the respondents (20 respondents).

71.7% of respondebts who reported injecting drugs user used sterile syringes for their last injection and 81.4% reported that they had not shared syringes in the last year. Out of the respondents who injected drugs within the last 12 months (20 respondents), 10 stated that within the last 12 months they had received syringes for free.

Table 28. Use of illegal drugs, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Used drugs at some point	30.1	33.2	23.3
Injected drugs at some point	8.6	14.7	8.1
Drug injection within the last 12 months	2.9	7.9	4.9
Users used sterile syringes for their last	100	100	71.7
injection	(10 resp)	(28 resp)	(19 resp)
Received syringes for free last 12 months	3 resp. from 10	21 resp. from 28	10 resp. from 20

# Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV<sup>10</sup> is estimated at 68.4%.

#### Knowledge about viral hepatitis B and C

Being asked about the sympthoms of the viral hepatitis B and C, the integrated indicator of knowledge on sympthoms<sup>11</sup> of the viral hepatitis reached 43.0%.

#### **HIV Testing**

During the last year 28.9% of the whole sample took an HIV test and know the result of the last test.

# Prevalence of HIV, HCV, HBV, and TP antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 29. Prevalence of HIV, HCV, HBV, and syphilis, sex workers living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016

	HIV prevalence		HCV pre	HCV prevalence		HBV prevalence		itibodies
	#	%	#	%	#	%	#	%
2010	22	6,1	57	16,0	28	8,5	17	8,9
2013	46	11.6	61	17.2	18	4.2	75	20.5
2016	18	3.9	91	28.7	33	10.2	59	20.0

# Sex workers living in Balti municipality

#### Socio-Demographic Structure

The study sample is composed of females exclusively  $^{12}$ . The respondents' ages vary between 16 and 57 years old. The mean age is 44.2 years old, median – 45 years old (SD=±3.8). The majority of the study respondents belong to the age groups 25 years old and more (80.5%).

Of the sample, 41.1% are unemployed and providing commecial sex is the only source of income. 59.4% reported having another source of income besides providing commercial sex services. Of the sample, 5.9% reported to be students.

Table 30. Socio-Demographic Structure of the Sample, sex workers living in Balti municipality, Republic of Moldova, 2010, 2013, 2016

	2010	2013	2016
Mean age, years old	26.2	31.1	44.2
Median, years old	30	30	45
Under 25 years old	51.2	27.2	19.5
25 years and older	48.8	72.8	80.5
Unemployed, %	43.3	54.0	41.1

 $<sup>{}^{10}\,</sup>UNGASS\,indicator\,No.\,14, which\,takes\,into\,account\,only\,correct\,answers\,to\,all\,5\,standard\,questions\,(3,4,5,6,and\,9).$ 

<sup>12</sup> Study inclusion criteria.

Having another source of income, %	44.9	62.6	59.4
Students, %	6.8	5.7	5.9

#### Sexual behaviour

#### Commencement of Sex Life

The mean age at which they first had sex reported by the survey sample is 16.4 years and the median is 16 years (SD=3.3 years). The mean age at which they first had commercial sexual intercourse is 22.2 years old (median – 21, SD=4.7 years).

# **Commercial partners**

Being asked where mainly they found the clients in the last 12 months, most frequently places were mentioned the bars or night clubs (29.4%), following using phone contacts following the anouncement/makler/internet (27.1%), and by acquaintances (26.5%).

The mean number of commercial partners during the last 30 days prior to the interview was 12.2 (median – 6, SD $\pm$ 13.1). The mean number of commercial partners during the last 7 days prior to the interview was 4.1 (median – 2, SD= $\pm$ 5.1). The mean number of commercial partners during the last day offering commercial sex was 1.6, median – 1, SD= $\pm$ 1.5.

#### Condom use with commercial partners

In 85.9% of cases, a condom was used at last sexual intercourse with a commercial partner. Of the respondents that had commercial sex in the last month, 13.8% reported consistent condom use during their sexual contacts with commercial partners during the last month and 6.9% in last 12 months.

Table 31. The condom use during sexual contacts with commercial partners, %, sex workers living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	At last sex			Consistent use during the last 30 days			Consistent use during the last 12 months		
	2010	2013	2016	2010	2013	2016	2010	2013	2016
Regardless of the tipe of sex	90.0	80.1	85.9	79.2	48.0	13.8	66.3	31.3	6.9

Table 32. Sexual behavior, sex workers living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Mean age at firts sex	15.6	16.5	16.4
Median age at first age	16	16	16
Mean age at first commercial sex	21.0	22.8	22.2
Median age at first commercial sex	19	21	21
Places to find clients			
Bars or night clubs	61.2	30.1	29.4
Phone contacts	15.5	26.2	27.1
acquaintances	16.7	29.9	26.5
Mean number of commercial partners during the last 30 days	5.5	8.6	12.2
Median	4	3	6
Mean number of commercial partners during the last 7 days	1.7	1.9	4.1
Median	1	1	2
Mean number of commercial partners during the last day offering commercial sex	1.3	1.2	1.6
Median	1	1	1

#### Sexually Transmitted Infections

Of the sample, 36.4% had had an abnormal vaginal discharge/genital sores during the last 12 months.

#### Condoms availability

Of the sample, 38.7% of respondent received condoms for free in last 12 month. For more than a third of the sample (40.9%) of respondents, the pharmacy is the main source of condoms followed by outreach workers (36.2%), the shops (10.8%), the harm reduction sites (1.5%), friends (1.2%) and bars/hotels (0.9%).

Table 33. Condoms availability, sex workers who living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Received condoms for free in the last year	10.7	22.0	38.7
Main source of condoms			
pharmacy	46.0	35.6	40.9
outreach workers	1.7	5.8	36.2
project	3.8	14.5	1.5
shops	20.0	12.2	10.8

#### Use of the illegal drugs

Out of the total number of respondents, 43.0% had used drugs at some poin in there life, and 18.9% (69 respondents) had injected drugs at some point in time. Drug injection within the last 12 months was stated by 9.9% of the respondents (41 respondents).

Out of 41 reported injecting drugs last 12 months 100% (40 respondents) used sterile syringes for their last injection and 59.1% reported that they had not shared syringes in the last year . Out of the respondents who injected drugs within the last 12 months (41 respondents), 75.2% (35 respondets) stated that within the last 12 months they had received syringes for free.

Table 34. Use of illegal drugs, sex workers who living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Used drugs at some point	22.1	24.2	43.0
Injected drugs at some point	7.3	10.8	18.9
Drug injection within the last 12 months	2.3	5.7	9.9
Users used sterile syringes for their last	100	93.1	100
injection	(20 resp)		(40 resp)
Received syringes for free last 12 months	14 resp. from 20	23 resp. from 31	75.2%
			(35 resp. from 41)

#### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV is estimated at 53.0%.

## Knowledge about viral hepatitis B and C

Being asked about the symptoms of the viral hepatitis B and C, the integrated indicator of knowledge on symptoms of the viral hepatitis reached 31.3%.

# **HIV Testing**

During the last year 15.9% of the whole sample took an HIV test and know the result of the last test.

#### Prevalence of HIV, HCV, HBV, and TP antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 35. Prevalence of HIV, HCV, HBV, and syphilis, sex workers living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	HIV pre	evalence	HCV pre	valence	HBV pr	evalence	TP ant	ibodies
	#	%	#	%	#	%	#	%
2010	85	23.4	92	22.7	34	9.4	19	7.4
2013	78	21.5	60	15.0	12	3.6	4	2.4
2016	81	22.3	124	36.4	40	11.9	43	12.7

# Men who have sex with men: results on key indicators MSM living in Chisinau municipality

# Socio-Demographic Structure

The study sample is composed of males respondents. The mean age is 33.0 years old, median – 29 years old (SD=±13.2). The majority of the study respondents belong to the age groups 25 years old and more (66.6%).

Of the sample, 56.7% are employed and 10.1% are unemployed. Of the sample, 5.3% reported to be seasonally employed, 19.3% reported to be students.

Table 36. Socio-Demographic Structure of the Sample, men who have sex with men living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016

	2010	2013	2016
Mean age, years old	29.3	31.8	33.0
Median, years old	23	27.5	29
Under 25 years old	74.6	29.3	33.4
25 years and older	25.4	70.7	66.6
Unemployed, %	20.6	19.2	10.1
Employed, %	55.8	47.9	56.7
Students, %	14.6	10.6	19.3

#### Sexual behavior

In the recruited sample the first homosexual intercourse occurred on average at 20.5 years old (median = 18, SD=7.9). In last 6 months, the sample had homosexual sex (oral or anal sex) with 3.1 partners on average (median = 2, SD=4.2).

When asked where they met their male sexual partners in the last 6 months, the most frequently mentioned were internet (48.2%) followed by other unspecified locations (29.4%), the street (open spaces where MSM congregate like parks) (12.6%), the MSM network (6.7%) and bars/ entertainment locations (2.3%).

Almost two thirds of the sample (83.0%) had anal sex with a male partner in last 6 months. As active partner they had 1.9 partners on average (median= 1, SD= 2.9) and 61.2% of them used condoms at last anal sex and 53.5% used condoms consistently in last 30 days. As passive partners they had 1.7 partners on average (median= 1, SD=2.6) and 54.5% of them used condoms at last anal sex and 37.4% used condoms consistent in last 30 days.

Table 37. Sexual behavior and condom use, men who have sex with men living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Mean age at first homosexual intercourse	19.9	23.7	20.5
Median	19	21.0	18
Mean number of partners in last 6 months	2.2	2.0	3.1
Median	1	1	2
Places to find partners			
internet	23.0	22.1	48.2
unspecified locations	-	-	29.4
street	20.9	22.7	12.6
MSM network	17.6	17.9	6.7
bars/ entertainment locations	18.1	11.8	2.3
Had anal sex with a male partner in last 6 months	61.5	61.6	
As active partner			
Number of partners	1.7	1.8	1.9
Median	1	1	1
condom use at last anal sex	-	44.5	61.2

	condom use in last 30 days	-	40.7	53.5
As passive partner				
	Number of partners	1.8	1.3	1.7
	Median	1	0	1
	condom use at last anal sex	-	44.0	54.5
	condom use in last 30 days	-	15.4	37.4

#### Condoms and lubricants availability

Almost two thirds of the respondents (62.3%) had received condoms for free within the last year. When asked what is the main source of condoms, more than half of the sample mentioned the harm reduction project and outreach workers (53.9%) followed by the pharmacy (14.9%) and shops (4.4%). More than a tenth of respondents (12.1%) don't use and don't need condoms.

About two thirds of the respondents (64.1%) had received water based lubricants for free within the last year. When asked what is the main source to get water based lubricants, 32.9% of the sample mentioned the outreach workers and 23.5% mentioned the harm reduction project followed by the pharmacy (8.4%). 8.0% of respondents don't use and don't need water based lubricants.

Table 38. Condoms availability, men who have sex with men living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Received condoms for free in the last year	37.5	27.7	62.3
Main source of condoms			
Harm reduction project	16.4	9.6	22.0
outreach workers	-	1.2	31.9
pharmacy	69.2	57.6	14.9
Received water based lubricants for free in	19.6	21.9	64.1
the last year			
Main source of water based lubricants			
Harm reduction project	56.0	10.5	23.5
outreach workers	-	2.0	32.9
pharmacy	29.7	8.4	8.4

#### Sexually Transmitted Infections

Of the sample, 1.7% had had an abnormal discharge/genital sores during the last 12 months.

#### Use of the illegal drugs

Out of the total number of respondents, 13.8% had used drugs at some point, and one respondent had injected drugs at some point in time.

#### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV<sup>13</sup> is estimated at 61.9%.

#### Knowledge about viral hepatitis B and C

In the recruited sample the composite indicator on hepatitis symptoms reached 78.9%.

#### **HIV Testing**

During the last year 41.2% of the whole sample took an HIV test during the last 12 months and know the result of the last test.

#### Prevalence of HIV, HCV, HBV, and TP antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

<sup>&</sup>lt;sup>13</sup> UNGASS indicator No. 14, which takes into account only correct answers to all 5 standard questions (3, 4, 5, 6, and 9 given in **Error! Reference source not found.**).

Table 39. Prevalence of HIV, HCV, HBV, and syphilis, men who have sex with men living in Chisinau municipality, Republic of Moldova, 2010, 2013, 2016

	HIV pre	evalence	HCV pre	valence	HBV pr	evalence	TP anti	bodies
	#	%	#	%	#	%	#	%
2010	5	1,7	10	3,6	11	5,8	26	12,1
2013	18	5.4	14	4.8	12	4.8	16	5.4
2016	40	9.0	14	4.0	10	2.4	50	13.3

# MSM living in Balti municipality

#### Socio-Demographic Structure

The study sample is composed of males respondents<sup>14</sup>. The respondents' ages vary between 16 and 63 years old. The mean age is 27.8 years old, median – 25 years old (SD= $\pm 9.7$ ). The majority of the study respondents belong to the age groups 25 years old and more (58.9%).

About a third (35.7%) of the sample are employed and 17.7% said they are unemployed. Of the sample, 25.8% reported to be seasonally employed, 8.9% reported to be students.

Table 40. Socio-Demographic Structure of the Sample, men who have sex with men living in Balti municipality, Republic of Moldova, 2010, 2013, 2016

	2010	2013	2016
Mean age, years old	19.3	29.3	27.8
Median, years old	17	28	25
Under 25 years old	86.2	33.7	41.1
25 years and older	13.8	66.3	58.9
Unemployed, %	15.1	29.6	17.7
Employed, %	35.3	48.9	35.7
Students, %	48.0	6.6	8.9

# Sexual behavior

In the recruited sample the first homosexual intercourse occurred on average at 18 years old (median = 17.0, SD= 5.0). In last 6 months, the sample had homosexual sex (oral or anal sex) with 3.4 partners on average (median = 2, SD= 3.3).

When asked where they met their male sexual partners in last 6 months, the most frequently mentioned were internet (64.2%) followed by the MSM network (20.0%).

99.3% of respondents had anal sex with a male partner in last 6 months. As active partner they had 2.9 partners on average (median=2, SD=3.0) and 61.2% of them used condoms at last anal sex and 5.0% used condoms consistently in the last 30 days. As passive partners they had 2.6 partners on average (median= 2, SD=2.9) and 61.6% of them used condom at last anal sex and 6.1% used condom consistently in the last 30 days.

Table 41. Sexual behavior and condom use, men who have sex with men living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Mean age at first homosexual intercourse	15.6	16.3	18
Median	15	15	17
Mean number of partners in last 6 months	1.5	3.6	3.4
Median	1	4	2
Places to find partners			
internet	54.6	85.6	64.2

<sup>&</sup>lt;sup>14</sup> Study inclusion criteria.

MSM network	9.5	8.5	20.0
Had anal sex with a male partner in last 6 months	97.2	100	99.3
As active partner			
Number of partners	1.5	3.6	2.9
Median	1	4	2
Condom use at last anal sex		0	61.2
As passive partner			
Number of partners	0.9	3.7	2.6
Median	1	4	2
Condom use at last anal sex	76.4	85.0	61.6

## Condoms and lubricants availability

38.7% of the respondents had received condoms for free within the last year. When asked what is the main source of condoms, 32.2% mentioned the pharmacy followed by outreach workers and peer educators (25.0%), friends (15.4%) and harm reduction programs (12.5%). 2.2% of respondents don't use and don't need condoms.

39.9% of the respondents had received water based lubricants for free within the last year. When asked what is the main source to get water based lubricants, 32.9% of the sample mentioned the pharmacy, the outreach workers and peer educators (26.1%) followed by friends (16.2%). 1.2% of respondents don't now were they can get water based lubricants.

Table 42. Condoms availability, men who have sex with men living in Balti municipality, Republic of Moldova, 2010, 2013, 2016.

	2010	2013	2016
Received condoms for free in the last year	7.2	88.6	38.7
Main source of condoms			
outreach workers and peer educators	3.3	82.7	25.0
pharmacy	75.7	8.7	32.2
Received water based lubricants for free in the last	5.4	91.2	39.9
year			
Main source of water based lubricants			
outreach workers and peer educators	11.2	86.2	26.1
pharmacy	79.3	2.9	32.9

# Sexually Transmitted Infections

0.8% of respondent reported having an abnormal discharge/genital sores during the last 12 months.

#### Use of the illegal drugs

Out of the total number of respondents, 8.7% (36 respondets) used drugs at some point. None had injected drugs.

### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV is estimated at 68.1%.

#### Knowledge about viral hepatitis B and C

In the recruited sample the composite indicator on hepatitis symptoms reached 69.8%.

#### **HIV Testing**

During the last year 10.4% of the whole sample took an HIV test during the last 12 months and know the result of the last test.

### Prevalence of HIV, HCV, HBV, and TP antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table~43.~Prevalence~of~HIV,~HCV,~HBV,~and~syphilis,~men~who~have~sex~with~men~living~in~Balti~municipality,~Republic~of~Moldova,~2010,~2013,~2016

	HIV prevalence		HCV prevalence		HBV prevalence		TP antibodies	
	#	%	#	%	#	%	#	%
2010	1	0,2	3	1,2	7	3,2	1	0,4
2013	18	8.2	13	6.8	3	1.6	6	5.4
2016	11	4.1	21	6.1	23	7.2	15	4.9

#### **Prisoners**

# Socio-Demographic Structure

he study sample consists of 92.9% male respondents and 7.1% female respondents. The respondents' ages vary between 18 and 75 years. The mean age is 35.9 years old, median – 35 years old (SD= $\pm 10.3$ ). The majority of the study respondents belong to the age groups 25 years old and more (87.1%).

Before current detention, respondents have been in detention on average 0.96 times (median -0 detention, SD±5.6). Average detention length of 5.71 years (median - 4 years, SD±5.56). For more than half of respondents (56.2%) the current detention is the first one.

Table 36. Socio-Demographic Structure of the Sample, prisoners, Republic of Moldova, 2010, 2013, 2016

	2010	2013	2016
Mean age, years old	33.6	34.8	35.9
Median, years old			35
Under 25 years old			12.9
25 years and older			87.1
Mean no of detentions			0.96
Average detention length, years			5.71

#### Sexual Behavior

Of the sample, 31.7% had had sexual intercourse during the last year. When asked about the number of sexual partners they had had during the last year, 83.4% of the respondents reported one partner and 16.6% had had more sexual partners. The mean number of partners is of 1.45 and the median is 1 partner (SD±1.2 partners). Out of the respondents who had been sexually active within the last year, 86.6% had a wife/husband or cohabitee as a sexual partner, 12.7% (20 respondents) had steady sexual partners, but with whom they did not live in the same household, none had commercial sexual partners, and 14.6% casual sexual partners.

Out of the total number of male respondents 6.3% had had homosexual intercourse at some point (29 respondents). 2.2% of them (10 respondents) had had homosexual intercourse during the last 12 months. Halth of them had had homosexual anal intercourse during the last 6 months (5 respondents). 2 of those respondents used a condom during his last episode of anal homosexual intercourse.

#### Condom use

9.6% of the respondents reported to use condoms the last time they had sexual intercourse.

Table 5. Sexual behavior and condom use, prisoners, Republic of Moldova, 2009, 2012, 2016.

	2009	2012	2016
Had sexual intercourse during the last year			31.7
Number of sexual partners during the last year			
One partner			83.4
Two and more partners			16.6
Mean number of partners			1.45
Median			1
Use of condoms during the last sexual intercourse			9.6

# Condoms Availability

Of the sample, 36.8% stated that they never used a condom during sexual intercourse. 16.2% of respondents reported that had received condoms for free in the last year (90.0% received them in prison). When asked about their main source of condoms, the most frequently mentioned source was the prison medical service (20.4%) followed by the hospital (7.5%) and pharmacy (2.4%).

### Knowledge about HIV/AIDS

The integrated indicator of knowledge about HIV has a value of 63.1%.

# Knowledge about viral hepatitis B and C

Being asked about the symptoms of the viral hepatitis B and C, every fourth respondent answered correctly to all questions. Thus, the integrated indicator of knowledge on symptoms of the viral hepatitis reached 22.1%.

# **HIV** Testing

During the last year, 41.2% of the sample took an HIV test and know the result of the last test.

# HIV, HVC, HBV Prevalence, and Treponema Pallidum antibodies

Rapid blood diagnostic tests were applied for testing for HIV, HCV, HBV, and Treponema Pallidum antibodies (syphilis).

Table 6. HIV, HCV, HBV, and TP antibodies prevalence (weighted in RDSAT), people who inject drugs from Chisinau municipality, %, Republic of Moldova, 2009, 2012, 2016

	HIV Prevalence		HCV Prevalence		HBV Prevalence		TP Antibodies	
	#	%	#	%	#	%	#	%
2009	48	14.6	225	74.8	34	11.3	7	2.3
2012	41	8.5	231	65.4	25	6.6	32	12.7
2016	57	13.9	221	60.4	16	4.9	23	7.4