HIV, HBV and HCV Behavioral Surveillance Survey among Injecting Drug Users in Bucharest, Romania
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The views expressed in this report do not necessarily reflect the views and policies of UNODC.
The HIV, HBV and HCV behavioral surveillance survey (BSS) among injecting drug users (IDUs) in Bucharest, Romania was undertaken in 2009 and is an outcome of collaboration between the United Nations Office on Drugs and Crime (UNODC), the National Anti-drug Agency, the Romanian Angel Appeal Foundation and the HIV/AIDS Monitoring and Evaluation Working Group. This is the first baseline BSS ever undertaken among injecting drug users in Romania that measured HIV, HBV and HCV prevalence rates in a representative sample of injecting drug users.

The findings from this survey support observations that the HIV prevalence is still low among injecting drug users from the capital city of Romania when comparing with other capital cities in the Central and Eastern European Countries, but the report reveals also a number of issues of great concern, such as frequent re-use of syringes as a common practice, extremely high prevalence rate for HCV, low number of IDUs tested for HIV and low rates of condom use with sexual partners. The survey further provides evidence that those people that were underage when starting injecting drugs are at highest risk of contracting HCV. It is encouraging that 85% IDUs purchased/received sterile injecting equipments from safe providers and more than 50% have been enrolled in needle and syringe programs. However, the results show that the percent of IDUs accessing drug treatment services was only 20%.

It is my satisfaction that I now see the first published report of the 2009 BSS and I am very delighted to introduce this report to policy makers, managers, scientists, and researchers, national and international organizations who are interested in HIV, HBV and HCV behavioral surveillance among IDUs communities.

This report makes an important and vital contribution in the national efforts of preventing HIV among injecting drug users in Romania and provides data for policy planning for HIV strategic and drug treatment programs. Policy makers and practitioners now have the data by which to measure progress over time. I acknowledge here the complex responsibility of continuing to provide this important data, at least every three years, as we strive to improve our efficiency in providing appropriate interventions and strategies for HIV prevention and drug treatment in Romania.

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The writing of this report is the result of a joint effort by the Survey Coordination Team.

The technical content of this report has been technically reviewed by Prof. Dr. Marian Preda, Dean, and Conf. Univ. Dr. Doru Buzducea, Deputy Dean, Faculty of Sociology and Social Work, University of Bucharest and has been endorsed by the National HIV/AIDS Commission of the Ministry of Health.
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<th>Acronym</th>
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<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
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<td>CDC</td>
<td>Centers for Disease Control and Prevention Atlanta</td>
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<td>GFATM</td>
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<td>BSS</td>
<td>Behavioral Surveillance Survey</td>
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<td>HBV</td>
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The Behavioral Surveillance Survey (BSS) is a monitoring and evaluation tool designed to track trends in HIV/AIDS related knowledge, attitudes and behaviors in subpopulations at particular risk of HIV infection, such as injecting drug users (IDUs). BSS consists of repeated cross-sectional surveys conducted systematically to monitor changes in HIV risk behaviors based on HIV surveillance methods.

In 2009, the first round of BSS among IDUs has been conducted in Bucharest metropolitan area, after a series of technical consultations and meetings held under the HIV/AIDS Monitoring and Evaluation Working Group. This report presents a summary of the results of the first round of the HIV, HBV and HCV BSS among IDUs in Bucharest metropolitan area.

The first round BSS endeavored to quantify characteristics and risks behaviors of the IDUs population through a cross-sectional survey using Respondent Driven Sampling (RDS), a probability-sampling technique. Specific standardized indicators were used to allow the measurement of behavioral change over time. A questionnaire was used by trained interviewing teams to collect data on socio-demographic characteristics, injecting and sexual practices, knowledge and beliefs and exposure to services.

The objectives of the survey were (a) to provide baseline information to further assist in the development of a system for tracking IDUs behavioral patterns and (b) to provide information that can guide programme planning. For the first round of the BSS the data was collected in the period of January - March 2009. This first round BSS serves as baseline to benchmark levels of different risk behaviors of the IDUs population. The sample size consisted of 449 IDUs from Bucharest metropolitan area. The survey provides socio-demographic characteristics and risk behaviors patterns, some of them collected for the first time, with fairly representative population-based data on IDUs from Bucharest metropolitan area.

**Study population**

The BSS targeted IDUs complying with the following eligibility criteria: aged 18 or above, who were living in Bucharest metropolitan area, had injected drugs for at least 12 months prior to the date of survey and had not previously been interviewed for the study.

**Sample size**

The sample size was determined by using a statistical calculator for determining sample sizes for a 95% confidence interval (CI). The calculated required sample size for this survey was 400. The total collected sample size in this survey was 450. Only one response was invalidated due to the lack of compliance with the eligibility criteria.

**Summary of major findings**

The IDUs in Bucharest metropolitan area consists largely of young people: 64% were aged between 18 and 29. The proportion of male IDUs is more than three quarters (78%). 9% of IDUs are illiterate.

Heroin was the main drug reported, injected by vast majority (75%) more than 2-3 times per day. Seven in ten respondents (69%) had been injecting drugs for more than five years while only a small proportion (4%) had started injecting less than two years ago. More than one in ten respondents (13%) reported passing their used needle/syringe to other IDU at the last injection and 15% used syringes previously used by other IDUs. At the last injection, 85% IDUs reported purchasing/receiving sterile injecting equipments from safe providers (pharmacies and needle and syringe programs).
Overall, four in ten IDUs (40%) have ever been incarcerated and 15 percent of respondents injected drugs while in prison. More than half IDUs (56%) aged 18-24 years, with imprisonment history and reported drug use, declared injecting while in prison as compared to 34% of those aged over 25.

40% of IDUs have a sexual partner which is also an injecting drug user. 17% of the participants reported condom use with either regular or non-regular partner, at the last sexual intercourse. Overall, 13% IDUs (12% male and 14% female) have exchanged sex for money, drugs or other goods.

6% IDUs have correct knowledge on the ways of preventing the transmission of HIV and rejected major misconceptions.

An alarming rate of HCV (83%) and relatively low rates of HIV (1%) and HBV (5%) were found among IDUs. Overall, 85% IDUs have at least one of the blood borne diseases examined during the survey.

This survey revealed that, during the past 12 months, more than a half of respondents (53%) have been enrolled in needle and syringe programs, over one third (35%) have been in contact with a family doctor and 38% received emergency care. Less than 20% IDUs accessed a form of drug treatment services.

The data on recruitment patterns of IDUs (with respect to HIV/HBV/HCV status, gender and HCV virus and age of drug use onset) reveal that the group of IDUs positive to HCV and HIV has a tendency to recruit participants from the same group. The affiliation patterns by age of drug use onset illustrate that IDUs who had started injecting drugs between 15 and 18 years recruited the uppermost number of participants (149). Regardless the age of onset, the general tendency among participants was to recruit men. Men with onset age between 15 and 18 years have the largest population proportion, distantly followed by the men who started drug use at the age of 19-24.

**Conclusions**

The RDS provided the ground of a probabilistic sample of individuals from IDUs population and enabled the study team to recruit 450 IDUs within seven weeks.

The survey results shows that, despite the efforts made to prevent HIV, HBV and HCV among IDUs over the recent years, there is still need for expanding and scaling up the response through coordinated and targeted interventions. Therefore, prompt resource mobilization should be made by the central and local government for HIV/HBV/HCV prevention, treatment and care as well as for impact mitigation. Harm reduction activities such as condom distribution, needle and syringe programs, voluntary counseling and testing and opiate substitution treatment services should be continued and further expanded in Bucharest metropolitan area.

In order to understand the HIV/HBV/HCV dynamics and allow timely interventions, there is essential to closely monitor, at least every three years, the prevalence rates, the risk behaviors and the accessibility and addressability of IDUs to services.
1.1 Background and context

Located in the southeast of Europe, Romania became a member of the European Union in 2007. With a population of 21.9 million inhabitants, the country has experienced in the last 20 years political, social and economic upheaval and transition after the fall of the communist regime. This has resulted in deterioration in many aspects of life, including access to services, educational opportunities, employment and health.

Romania is one of the countries in Central and Eastern Europe with a significant number of people affected by HIV/AIDS. Between 1987 and 1989, Romania experienced a unique major HIV epidemic in which more than 10,000 institutionalized children contracted HIV through blood transfusions and infected needles. At the end of 2008, 15,633 cumulative cases of HIV/AIDS were registered and 9,669 people were living with the virus. At that date, Romania had 7,434 patients in antiretroviral therapy, representing one of the largest number of people living with HIV under treatment in all Central and Eastern Europe. Since 1994–1995, there has been a steady increase in the HIV/AIDS incidence rate among adults, mainly related to transmission of the virus via unsafe sexual activities and injecting drug use. Treatment, care and support services have been entirely covered by national resources through national and local budgets. HIV prevention services among vulnerable groups including sex workers, injecting drug users, inmates, street children, Roma, men having sex with men, have been primarily covered in the period 2003 – 2010 by the Global Fund to Fight AIDS, Tuberculosis and Malaria through the Round 2 and 6 Programs and by the UNODC and UNICEF.

In Romania, statistics show that in the last ten years drug use increased significantly. According to national data and reports, injecting drug use has been largely concentrated in Bucharest city and the surrounding suburbs of Ilfov County. The last estimation of the injecting drug user population in 2008 showed that in Bucharest alone there were around 16,800 injecting drug users, representing 0.9% of the population of the capital city. According to a 2007 study, the drug of choice for 93.9% of drug users was heroin and out of them 88.7% had used non sterile injecting equipment in the past twelve months. The HIV prevalence was 1.5% and the HCV 61.5%. There were no cases of co-infection. The National Anti-Drug Agency has also reported low but increasing rates of use of other illegal drugs in recent years, notably ecstasy, amphetamine-type stimulants and, to a lesser extent, cocaine. According to the HIV/AIDS epidemiological data at the end of 2008, the HIV prevalence among IDUs was of 0.78%. In 2008, only 380 HIV tests were performed among IDUs and three of them were found positive to HIV.

At the end of 2008, the coverage of opiate substitution treatment in Romania was of 7.86%. Out of the total number of patients in treatment, 87% had received methadone and 13% suboxone/buprenorphine. In prison settings the coverage of opiate substitution treatment was of 1%. For the same year, the coverage of needle and syringe programs in community was of 43% and of 3.5% in prisons.

To monitor the epidemic in the country, the Ministry of Health set up an HIV/AIDS Monitoring and Evaluation Compartment within the Infectious Diseases Institute “Professor Dr. Matei Bals”, the main infectious diseases hospital in the country.

Comprising national experts in the area of monitoring and evaluation as well as representatives of government and main donor programs, an HIV/AIDS Monitoring and Evaluation Working Group was established in Romania in 2005 and played a leading role in the implementation of most of the researches and surveys focusing on vulnerable groups, including IDUs.

1 Census, Romania, July 1, 2004.
4 Estimation by the Romanian Monitoring Center for Drugs and Drug Addiction, National Anti-drug Agency, (Cl=95%, limits 11,500 – 31,600, age group 18-49).
5 National Anti-drug Agency - “HIV and HCV sero-surveillance among injecting drug users in needle exchange and treatment programs in Bucharest”
1.2 Study justification

According to the 2008 data from the Monitoring and Evaluation Compartment of the Infectious Diseases Institute “Professor Dr. Matei Bals”, the HIV prevalence among the general population in Romania was 0.02%. The prevalence of HBV and HCV among the general population is still unknown. Acknowledging the national efforts for enhancing access of vulnerable groups to HIV, HBV and HCV testing, there is still need to improve the data collection for generating a reliable epidemiological picture. The national infectious diseases monitoring and evaluation systems are disjointed and the data collected at national level is basically confined to treatment indicators and very little oriented towards assessing serological status and behavioral risks among vulnerable groups. Over the years, testing activities among IDUs – primarily in Bucharest – had consistently showed a very high frequency of HCV positive cases (60-80%) and also HBV positive cases of 8-10%.

The national response to HIV, HBV and HCV has been mainly led by treatment interventions. However, the prevention services for vulnerable groups, including for IDUs, registered a significant development and expansion over the past six years, as a result of multilateral donor funding effort and policy review.

The 2009 HIV, HBV, HCV Behavioral Surveillance Survey among IDUs in Bucharest, Romania is the first systematic and rigorous study performed among IDUs in the country. It was designed to enrich the HIV/AIDS and hepatitis surveillance systems. The survey was implemented in the period of June 2008 - August 2009 in collaboration with national and international partners and under the guidance and supervision of the HIV/AIDS Monitoring and Evaluation Working Group.

1.3 Participating institutions and organizations

The BSS was jointly designed and implemented by the UNODC Project Office in Romania, the National Anti-drug Agency and the Romanian Angel Appeal Foundation - as Principal Recipient under the Round 6 Program of the Global Fund to Fight AIDS, Tuberculosis and Malaria - under the leadership of the HIV/AIDS Monitoring and Evaluation Working Group. UNODC coordinated the survey implementation and, along with the Romanian Angel Appeal Foundation provided technical and financial assistance for data collection, analysis and report writing. The National Anti-drug Agency provided field staff, made available the BSS location and was responsible for the organization of data collection process.
2. STUDY DESIGN AND METHODOLOGY

2.1 Goal and specific objectives

The goal of the survey was to establish a periodic HIV surveillance system among IDUs in Bucharest metropolitan area.

Aiming to achieve the goal, the survey tracked the following specific objectives:

- to assess risk behaviors of IDUs in relation to HIV, HBV and HCV;
- to determine HIV, HBV and HCV prevalence among IDUs;
- to obtain data in a standardized format so that to allow comparison over time.

2.2 Method

The BSS among IDUs in Bucharest, Romania employed the Respondent-Driven Sampling (RDS), a method used to draw probability samples of hidden populations such as injecting drug users. RDS is based on the recognition that peers are more able than outreach workers or researchers to locate and recruit other members of a hidden population. This survey involved behavioral investigation through a questionnaire and HIV, HBV and HCV screening.

2.3 Target population

The BSS targeted IDUs complying with the following eligibility criteria: aged 18 or above, who were living in Bucharest metropolitan area and had injected drugs for at least 12 months prior to the date of the survey. At least 400 IDUs were expected to be recruited within the framework of this survey. Injecting drug users were chosen because data from testing activities, other studies and national reports indicated high prevalence of injecting practices, high risk behaviors and high frequency of HCV and HBV positive cases among them.

2.4 Survey site

The BSS was conducted in Bucharest metropolitan area. It includes Bucharest city and Ilfov County. Inclusion of these areas was based on the rationale that the metropolitan area of Bucharest concentrates: (1) the vast majority of IDUs and (2) most of the HIV prevention and care services targeting IDUs, including needle and syringe programs, substitution treatment centers and other drug treatment and counseling services.

The selection of BSS location took into account the following criteria: easy access to public transportation, existence of adequate space for implementing the RDS requirements, presence of health staff, ability and willingness of staff to cooperate and participate in the survey and assurance of confidentiality for the target population. Only one site was selected respectively the Centre for Drug Prevention and Counseling of the National Anti-drug Agency located in Walter Maracineanu Street, district 1 of Bucharest.
2.5 Formative assessment

The development of the sampling frame used through RDS required preliminary qualitative research and mapping of IDUs’ behaviors, practices and daily environment. The goal of the BSS formative assessment was to ensure that during BSS an adequate number of IDUs are recruited and interviewed and the sample represents the broader IDUs community from Bucharest metropolitan area. A set of clear defined objectives supported this goal and aimed to:

- define the target group;
- identify the features of the IDUs’ networks in Bucharest;
- identify the location where the BSS center can be set up for data collection;
- establish the incentives/compensations for the survey participants;
- clarify other operational issues such as interviews schedule, coupons and staffing needed to be considered prior and during the BSS data collection.

The formative assessment took place in the period of 1-31 August 2008 and consisted in organizing two focus groups (one with ten representatives of service providers and one with nine IDUs) and five face-to-face interviews with representatives of service providers and peer educators. The results emphasize some features of the IDUs from Bucharest relevant for the RDS implementation. The community is highly networked, being determined by the drug use life style and the economic interests for covering the drug urge. While the circle of acquaintances is large with an average of 30 different IDUs, the injecting groups are rather small (two to maximum five persons), including mainly male IDUs from the same neighborhoods and, sometimes, relatives. There were reported limited interactions between the users of different drugs. The risk behaviors are primarily consisting in sharing injecting equipments. The participants to interviews and focus groups pointed out that an incentive valued around 150 RON (equivalent of 37 Euro) would be the most appropriate to guarantee participation in the survey. Additionally, the participants made recommendations for the design of coupons, the schedule of interviews and the BSS location.

2.6 Sample design and sample size

For the selection of respondents, the BSS used the Respondent-Driven Sampling probabilistic method. The RDS was chosen because it provides more representative samples as compared to any other sociological methods used for surveying HIV vulnerable groups, by attempting to overcome biases such as masking, volunteerism and over sampling of groups with large networks. In RDS, the sampling frame is created based on the information collected from the participants during the sampling process itself. This information includes: (1) who recruited whom; (2) the relationship of the participants with the recruiter; (3) the participants’ personal network size.

The sample size was determined by using a statistical calculator for determining sample sizes for a 95% confidence interval (CI). The calculated required sample size for this survey was 400. The total collected sample size in this survey was 450. Only one questionnaire was invalidated by the study team due to the lack of compliance of one study participant with the eligibility criteria.

2.7 Data collection and analysis

There were two techniques used for data collection: the questionnaire and the HIV, HBV and HCV testing.

2.7.1 Questionnaire design

The questionnaire was designed in accordance with the “Behavioral Surveillance Surveys Guidelines for Repeated Behavioral Surveys in Populations at risk of HIV” and incorporates a key set of questions in response to the national agreed indicators on IDUs. The questionnaire was divided into 8 parts, and comprised 45 questions aiming to collect information on individual socio-demographic characteristics (such as age in years, level of education, marital status and employment), drug use history and related behavior, sexual behavior, knowledge on HIV/AIDS and viral hepatitis, HIV/Hepatitis testing and counseling, exposure to medical services, drug related crimes and incarceration including risk behaviors while in prison (see Annex A).

2.7.2 HIV, HBV and HCV testing

Fingerstick blood samples were collected from each study participant by puncturing the skin with a sterile lancet. Whole blood collected by fingerstick was tested immediately for the detection of HBs Ag, antibodies to HCV, HIV-1 and HIV-2. All collected samples were recorded in a laboratory logbook.

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For HIV testing it was used the RapidSignal™ HIV 1&2 Whole Blood/Serum/Plasma Cassette, a single reagent immunoassay based on immunochromatography for the qualitative detection of antibodies to human immunodeficiency virus types 1 and 2 (HIV-1 and HIV-2) in serum/plasma/whole blood. According to the manufacturer (Orgenics) this test has a sensitivity of 99.83% and a specificity of 99.16%. For this study the following algorithm for testing was developed: if the test showed negative result then no further tests would be conducted and the test would be reported as non-reactive. But if the first test showed a positive result, then a second identical test was performed. If the second result confirmed the first result, then the test result was reported as reactive. But if the second result contradicted the first then the participant would be referred to the Infectious Diseases Institute “Professor Dr. Matei Bals” for a confirmation test.

For the qualitative detection of HBs Ag it was used Quick Test™ HBs Ag Serum/Plasma/Whole Blood Cassette, a rapid chromatographic immunoassay. The test, manufactured by Orgenics, has a relative sensitivity >99.0%, relative specificity of 99.7% and accuracy of 99.8%. The following algorithm was used: for any blood sample that was found non-reactive or reactive at the first test no further tests were conducted and the results were reported as negative and respectively positive.

For the qualitative detection of antibodies to Hepatitis C Virus it was used RapidSignal™ HCV Whole Blood/Serum/Plasma Cassette, a rapid chromatographic immunoassay. According to the manufacturer (Orgenics) this test has relative sensitivity >99.0%, relative specificity of 99.6% and accuracy of 99.3%. The following algorithm was used: for any blood sample that was found non-reactive or reactive at the first test no further tests were conducted and the results were reported as negative and respectively positive.

All the participants with positive results were referred to the Infectious Diseases Institute “Professor Dr. Matei Bals” for further investigations and eventually treatment.

2.7.3 Selected indicators
At the recommendation of the HIV/AIDS Monitoring and Evaluation Working Group the following key indicators have been captured through the present survey:

- percentage of IDUs who report using sterile injecting equipment the last time they injected;
- percentage of IDUs who report the use of a condom at last sexual intercourse (with regular and non-regular partner);
- percentage of IDUs, active in the last month, who report sharing injecting equipment the last time they injected;
- percentage of IDUs who are HIV and/or Hepatitis B or C infected;
- percentage of IDUs population with comprehensive knowledge on HIV/AIDS;
- percentage of IDUs population who have been tested for HIV and know the result.

2.7.4 Study management
According to the level of execution, this study was conducted by the following teams:

- survey coordination team responsible also for report writing;
- training team in charge with the scientific preparation of the field survey team;
- field survey team responsible for data collection;
- data entry coding and analysis team responsible for data interpretation.

A three day training program for the field survey team was delivered centrally. The objective of the training was to standardize the survey data collection and to guide accordingly all the staff involved in the survey. The training covered criteria for selection of the seeds, recruitment of participants, questionnaire administration, blood sample collection, labeling, coding, hepatitis and HIV counseling and testing, confidentiality and ethical issues, supervision and quality assurance procedures.

2.7.5 Data collection and field procedures
The data was collected over the period of 28 January - 12 March 2009. In January, the study team recruited four seeds (e.g. initial participants) which then began the chain referral by recruiting their peers into the study. It was decided that the seeds selected to initiate the recruitment process needed to be as diverse as possible (heterogeneous in age, gender, drugs used and ways of drug administration). Each seed was screened for eligibility, provided with three recruitment coupons with which to recruit their peers into the study. They were also required to come back to the survey centre in the same day for an interview and blood testing for HIV, HBV and HCV. Each seed, and subsequent study participant, received 40 RON (equivalent of 10 Euro) as compensation for participation. Additionally, for each eligible participant recruited, the seed received a second compensation valuing 20 RON (equivalent of 5 Euro). Each seed could recruit up to 3 IDUs. Therefore, the total compensation for an IDU that participated into the study (for interview, HIV, HBV and HCV testing, and recruitment of three eligible participants) was 100 RON (equivalent of 25 Euro).

When the participants arrived at the survey centre, they were screened for eligibility. Once they were deemed eligible by the screener, each participant was assigned a unique code. This code was recorded on the coupon, questionnaire and also used for labeling the blood samples/testing results. No names of individuals were taken and recorded.
In order to obtain the informed consent, the participants have been informed about the whole study process including the interview, counseling and testing procedures. Following the written consent, the participants were interviewed for 20 minutes and tested for HIV, HBV and HCV. Each subject was given afterwards three coupons to recruit three other IDUs to participate in the study. They were briefly trained on how to recruit others in order to ensure compliance with the selection criteria.

The coupons contained specific information such as: unique number, survey schedule, coupon validity period and conditions, address of the survey centre and eligibility criteria.

To track the coupons and payment for each respondent, the study team developed a paper recording system. This information enabled the team to link recruiters with recruits and to determine the payment time. On 6 March 2009, the team ceased coupon distribution to give potential subjects two weeks to redeem the remaining coupons. The last two weeks of March were set aside to allow the remainder of subjects to come in for testing results.

**BSS Coupons**

**2.7.6 Data entry and analysis**

The data was entered and cleaned by using Excel and SPSS. For the analysis of data regarding behavior, knowledge and prevalence rates (see chapter 3. Study results) it was used SPSS. The RDS Analysis Tool package was employed to analyze data on networking (see chapter 4. Recruitment features of survey participants). A detailed analysis plan was followed to ensure quality of analyzed indicators. The data entry and analysis were performed in the period of 23 March – 31 August 2009.
This chapter deals with key findings of the BSS. An understanding of current practices among IDUs can help decision makers and program managers from Romania to effectively design strategies to prevent blood borne diseases among IDUs. A total number of 449 questionnaires were validated and a response rate of over 95% was registered among study participants.

3.1 Socio-demographic characteristics

When the present survey was carried out, all the respondents were living in Bucharest metropolitan area. For 97% (n=449) of those interviewed heroin was the main drug of choice.

Respondents were between 18 and 55 years old with a mean age of 28. Age specific characteristics point out that a relatively high proportion of IDUs participating in this survey were quite young: of the total number of 449 respondents, more than half of the respondents (64%) were aged between 18 and 29. Overall, 22% were aged between 30 and 34 and only 14% were aged over 35. The number of male respondents in the survey is more than three quarters (78%).

Figure 1 – Gender and age distribution

![Figure 1](image1)

Figure 2 – Gender distribution among the surveyed population

![Figure 2](image2)
Among respondents (n=448), 9% never attended school, 33% IDUs graduated primary school, 39% secondary school, a low proportion (10%) graduated the high school (males – 11% and females – 6%) and 9% had some academic education. The highest level of education achieved by 86% of the women (n=100) was the graduation of secondary school. The data analysis also shows higher illiteracy rate for women (17%) (n=100) than for men (7%) (n=348). This trend is in line with the situation in the general population, where the ratio is 2.3:1 in favor of women. However, female and male IDUs are almost five times less educated than the general population.

The proportion of IDUs who have never been married is 37% (n=443). At the date of the survey 73% (n=446) IDUs had a regular sexual partner and 40% (n=325) declared that their current partner is also injecting drugs.

4% (n=441) of the respondents had never had any identification documents. The majority of IDUs (93%) (n=441) stated that they had some documents. At the moment of the survey, two in ten respondents (21%) (n=444) had neither identity card nor passport that could ensure their access to medical services.

At the survey date, around one third of the male respondents (29%) (n=349) and a handful of females (8%) (n=100) were employed.

### 3.2 Drug use, injecting practices and availability of injecting equipment

The mean age for starting injecting drugs was 20.

Out of the total number of respondents that acknowledged drug use within the last month, 97% (n=442) declared heroin as being the most used drug. Other 3% used the following substances: methadone, marijuana, ketamine, speedball and heroine combined with cocaine. 95% (n=449) reported at least one shot in the past week. Overall, 87% (n=449) of respondents had injected drugs in the day of interview or the day before.

IDUs in Bucharest had mostly (58%) (n=449) started injecting drugs over the age of 18 but a significant proportion started younger: 7% of the respondents were between 8 and 13 years of age and 35% between 14 and 17. Statistically, there are significant differences in the level of education and HCV serological status vis-à-vis the duration of drug injecting habit: 58% (n=187) of the IDUs that were underage when starting injecting drugs didn’t graduate secondary school in comparison with 46% (n=262) from those that were over 18 years old; 88% (n=187) of IDUs that were underage when starting injecting drugs tested positive for HCV in comparison with 79% (n=262) of those starting over the age of 18. There were not significant gender differences as regards to the age of initiation.

Respondents were also asked about the duration of drug injecting habit as well as the frequency of shots on the last day they injected drugs. Seven in ten respondents (69%) (n=449) had been injecting drugs for more than five years while only a lower proportion (4%) (n=449) had started injecting less than two years before.

### Table 1 – Onset and frequency of injecting drug use

<table>
<thead>
<tr>
<th>Injecting drugs since</th>
<th>Estimated population proportion (%) (n=449)</th>
<th>Confidential Interval (CI)</th>
<th>Frequency of injecting drugs Estimated population proportion (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>once a day 2-3 times a day 4-5 times a day 6 or more times a day</td>
<td></td>
</tr>
<tr>
<td>Less than 2 years</td>
<td>4</td>
<td>2-6</td>
<td>55.6 44.4 0.0 0.0</td>
<td></td>
</tr>
<tr>
<td>2-5 years</td>
<td>27</td>
<td>23-31</td>
<td>40.2 48.4 8.2 3.3</td>
<td></td>
</tr>
<tr>
<td>6-10 years</td>
<td>43</td>
<td>38-47</td>
<td>42.4 35.1 17.3 5.2</td>
<td></td>
</tr>
<tr>
<td>Over 10 years</td>
<td>26</td>
<td>22-30</td>
<td>38.1 32.2 23.7 5.9</td>
<td></td>
</tr>
</tbody>
</table>

Only a handful of respondents (5%) (n=449) had not injected during the week preceding the survey. More than half (53%) (n=169) had injected two to three times in the past day and a relatively lower proportion (19%) (n=169) had injected four to five times during the same period of time. One in four (25%) (n=169) had one shot a day and only a small proportion (2%) had done so six or more times a day.

---

The vast majority of IDUs (92%) use 1 ml syringes with fixed needle (insulin type) and only 6% of the respondents reported the use of 2 and 10 ml syringes with detachable needle. A very low proportion of IDUs (2%) reported using syringes both with fixed and detachable needle.

Syringe use and sharing habits were assessed in terms of the last time injection. Respondents were specifically asked about the use of pre-used syringes the last time they injected. For this study, IDUs using sterile syringes or using their own previously used syringes were categorized as having low risk behavior (n=445) while those using syringes previously used by other IDUs were classified as having high risk behavior (n=445). Out of those with high risk behavior, 87% (n=62) had used the syringe of a friend or relative and 13% (n=62) had used a syringe from an unknown person.

More than one in ten IDUs (13%) reported passing their used needle/syringe to others at the last injection. Data on syringe sharing behavior at the most recent injection points towards an increased awareness among IDUs as regards to HIV/HBV/HCV transmission. However, there is still room for improvement as five percent of IDUs injected with pre-used syringes and also reported passing the syringes to others. Among them, 96% (n=24) are positive to HCV and none positive to HBV and/or HIV. Considering the sharing habits, this group appears to be the most exposed to HIV and HBV, once the first cases will emerge.

Overall, 84% (n=441) of respondents reported purchasing/receiving sterile injecting equipments from safe providers within the last week.
The respondents have been also asked about the drug injecting habits while in prison. The chart below illustrates the imprisonment history of IDUs as well as the injecting habits. Overall, four in ten (40%) (n=444) respondents have ever been incarcerated and 15% of respondents (n=443) injected drugs while in prison. More than half of the IDUs (56%) (n=32) aged 18-24 with imprisonment history and reported drug use, reported injecting while in prison as compared to 34% (n=143) of those aged over 25 with imprisonment history and reported drug use.

**Figure 3 – Injecting drug use in prison**

As shown in the table below, the majority of IDUs that used drugs while in prison (n=74) had been using heroin while only a handful of respondents used other substances.

**Table 6 – Drugs used in prison**

<table>
<thead>
<tr>
<th>Types of drugs used during imprisonment</th>
<th>Estimated population proportions (%) (n=74)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>92</td>
</tr>
<tr>
<td>Cannabis (Marijuana and Hashish)</td>
<td>4</td>
</tr>
<tr>
<td>Cocaine</td>
<td>3</td>
</tr>
<tr>
<td>Diazepam</td>
<td>1</td>
</tr>
<tr>
<td>Toluene based solution (Prenandez)</td>
<td>1</td>
</tr>
<tr>
<td>Other substances</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Because of multiple answers, percentages add up to more than 100.

### 3.3 Sexual behavior and condom use

In this part of the report, the sexual behavior of the respondents and the type of sexual partners have been reviewed. This section also examines condom use among IDUs.

The majority (91%) of the survey participants (n=449) were sexually active in the last 12 months. Among them, 61% (n=397) had sex with one partner, 39% (n=397) had more than one sexual partner.

More than three quarters (76%) of the sexually active IDUs (n=411) have had at least one unsafe sexual intercourse during the past month.

Condom use was also assessed in relation with the most recent sexual intercourses with regular and non-regular partners. At the date of the survey, 73% (n=446) of the respondents had a regular sexual partner. At the last sexual intercourse with their regular partners, 18% of IDUs having a regular sexual partner at the date of the survey (n=326) declared condom use.

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10 The “non-regular partner” definition includes those sexual partners who are neither respondent’s spouses nor their live-in partners, and who did not exchange money or drugs for sex.
Table 7 – Condom use

<table>
<thead>
<tr>
<th>Condom use during the last sexual intercourse</th>
<th>Estimated population proportions (%)</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom use during last sexual intercourse with regular partner (n=427)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>19-27</td>
</tr>
<tr>
<td>No</td>
<td>76</td>
<td>72-80</td>
</tr>
<tr>
<td>Did not remember</td>
<td>1</td>
<td>0-8</td>
</tr>
<tr>
<td>Condom use during last sexual intercourse with non-regular partner (n=396)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>49</td>
<td>43-54</td>
</tr>
<tr>
<td>No</td>
<td>46</td>
<td>41-51</td>
</tr>
<tr>
<td>Did not remember</td>
<td>5</td>
<td>0-10</td>
</tr>
</tbody>
</table>

However, only 17% of respondents reported consistent condom use with all sexual partners at the last sexual intercourse.

Table 8 – Consistent condom use

<table>
<thead>
<tr>
<th>Consistent condom use</th>
<th>Total population proportions (%) (n=379)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt; 25 (%)</th>
<th>Age ≥ 25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of IDUs reporting the use of condoms with either regular or non-regular partners the last time they had sexual intercourse</td>
<td>17</td>
<td>14-21</td>
<td>18</td>
<td>12</td>
<td>22</td>
<td>15</td>
</tr>
</tbody>
</table>

Among IDUs reporting having a regular sexual partner, 40% (n=325) declared that their current partner is also an injecting drug user. At the last sexual intercourse, 82% (n=153) of those who declared that their current partner is also an injecting drug user had not used condoms with regular partners and 52% (n=130) with non-regular partners. There are significant gender differences as 79% (n=81) women are currently in a relationship with an injecting drug user unlike 27% (n=244) men.

In order to further examine the sexual behavior of IDUs, the respondents were asked if they had ever exchanged sex for money, drugs or other goods. Overall, 13% (n=447) IDUs (12% male and 14% female) have exchanged sex for money, drugs or other goods.

Figure 4 – Sex work practices among IDUs
The analysis of data related to the self reported involvement in sex work shows that IDUs with duration of drug injecting habit of over six years are more likely to get involved in exchanging sex for money, drugs or other goods.

**Table 9 – Sex work and injecting history by gender and age**

<table>
<thead>
<tr>
<th>Injecting drugs since</th>
<th>Total population proportions (%) (n=449)</th>
<th>Total proportion of IDUs involved in sex work (%) (n=57)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt; 25 (%)</th>
<th>Age ≥ 25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 years</td>
<td>4.0</td>
<td>2.0</td>
<td>0-5</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td>2-5 years</td>
<td>27.2</td>
<td>19.0</td>
<td>9-30</td>
<td>19.0</td>
<td>21.0</td>
<td>35.0</td>
<td>9.0</td>
</tr>
<tr>
<td>6-10 years</td>
<td>42.5</td>
<td>54.0</td>
<td>41-68</td>
<td>47.0</td>
<td>79.0</td>
<td>61.0</td>
<td>50.0</td>
</tr>
<tr>
<td>over 10 years</td>
<td>26.3</td>
<td>25.0</td>
<td>13-36</td>
<td>33.0</td>
<td>0.0</td>
<td>4.0</td>
<td>38.0</td>
</tr>
</tbody>
</table>

As regards to consistent condom use, the IDUs involved in sex work feature similar behaviors with the surveyed population: 19% (n=53) of those exchanging sex for money, drugs or other goods used condoms with regular and non-regular partners in comparison with 17% (n=379) of the surveyed population.

**Table 10 – Condom use with regular and non-regular partners for IDUs involved in commercial sex**

<table>
<thead>
<tr>
<th>Condom use with regular and non-regular partners for IDUs involved in commercial sex</th>
<th>Total population proportions (%)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt; 25 (%)</th>
<th>Age ≥ 25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of IDUs involved in commercial sex and reporting the use of condoms with regular partners the last time they had sexual intercourses</td>
<td>31 (n=55)</td>
<td>18-44</td>
<td>29</td>
<td>36</td>
<td>41</td>
<td>24</td>
</tr>
<tr>
<td>Percentage of IDUs involved in commercial sex and reporting the use of condoms with non-regular partners the last time they had sexual intercourses</td>
<td>56 (n=55)</td>
<td>43-70</td>
<td>58</td>
<td>50</td>
<td>67</td>
<td>50</td>
</tr>
<tr>
<td>Percentage of IDUs involved in commercial sex and reporting the use of condoms with regular and non-regular partners the last time they had sexual intercourses</td>
<td>19 (n=53)</td>
<td>8-30</td>
<td>17</td>
<td>25</td>
<td>35</td>
<td>9</td>
</tr>
</tbody>
</table>

### 3.4 Knowledge on HIV/AIDS

Taking into account the past years of intensive HIV prevention activities targeting general population, one could assume that the entire population of Romania is aware of HIV/AIDS and has comprehensive knowledge in this matter. Indeed, out of the total number of IDUs who were interviewed, 98% have ever heard of HIV/AIDS. This finding is also in line with the 2004 Reproductive Health Survey where 99% of the general population had heard about HIV/AIDS.

The IDUs’ knowledge about ways in which HIV is transmitted was further explored with seven questions on HIV prevention as listed in the table below. In total, only 10% (n=445) of IDUs had knowledge of the ways of preventing the sexual transmission of HIV and rejected major misconceptions about HIV transmission (UNGASS indicator) while even fewer respondents (6%) (n=445) had comprehensive knowledge about HIV/AIDS. As indicated in the table below, the data broke down by age and gender points towards an increased level of comprehensive knowledge among male respondents and those older than 25 years.

Table 11 – Knowledge on HIV/AIDS by gender and age

<table>
<thead>
<tr>
<th>Knowledge of seven indicators on HIV/AIDS (correct answers)</th>
<th>Scores for individual questions (%)</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>Age &lt; 25</th>
<th>Age ≥ 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can having sex with only one faithful, uninfected partner reduce the risk of HIV transmission?</td>
<td></td>
<td>80</td>
<td>83</td>
<td>71</td>
<td>78</td>
<td>82</td>
</tr>
<tr>
<td>2. Can using condoms reduce the risk of HIV transmission?</td>
<td></td>
<td>87</td>
<td>87</td>
<td>86</td>
<td>83</td>
<td>89</td>
</tr>
<tr>
<td>3. Can a healthy-looking person have HIV?</td>
<td></td>
<td>88</td>
<td>91</td>
<td>78</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>4. Can a person get HIV from mosquito bites?</td>
<td></td>
<td>21</td>
<td>21</td>
<td>22</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>5. Can a person get HIV by sharing a meal with someone who is infected?</td>
<td></td>
<td>54</td>
<td>55</td>
<td>50</td>
<td>46</td>
<td>59</td>
</tr>
<tr>
<td>6. Can you get HIV and hepatitis (B and C) by sharing with other people needle and syringes?</td>
<td></td>
<td>98</td>
<td>99</td>
<td>94</td>
<td>97</td>
<td>98</td>
</tr>
<tr>
<td>7. Can you get HIV and hepatitis (B and C) by sharing with other people the ampoule or the cooking pot?</td>
<td></td>
<td>72</td>
<td>73</td>
<td>68</td>
<td>67</td>
<td>74</td>
</tr>
<tr>
<td>Percentage of IDUs who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission (Correct answers to questions 1-5, UNGASS indicator: Knowledge about HIV Transmission Prevention)</td>
<td></td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Comprehensive knowledge on HIV/AIDS transmission (correct answers to questions 1-7)</td>
<td></td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Almost all respondents (98%) (n=449) acknowledged sharing needles and syringes as a way of HIV/HBV/HCV transmission, and approximately three quarters (72%) stated that HIV/HBV/HCV can be transmitted by sharing with other people the injecting equipments such as the ampoule or the cooking pot.

### 3.5 HIV, Hepatitis B and C testing, prevalence and co-morbidities

This section describes the current HIV, HBV and HCV sero-prevalence among IDUs from Bucharest and Ilfov County.

In order to protect themselves and to prevent infecting others, it is important for IDUs to know their HIV and Hepatitis C status. To measure the UNGASS indicators mentioned below, the respondents were asked questions related to HIV and Hepatitis C testing and the knowledge of status in the past 12 months. 19% of IDUs were tested for HIV in the last 12 months and received the test result and 25% tested for HCV and know the result.

Table 12 – HIV and HCV testing

<table>
<thead>
<tr>
<th>HIV and HCV testing in IDU population</th>
<th>Total population proportions (%)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt; 25 (%)</th>
<th>Age ≥ 25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of IDUs who are HIV-infected (UNGASS indicator: Reduction in HIV prevalence)</td>
<td>1 (n=449)</td>
<td>0.14-2.1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Percentage of IDUs who received an HIV test in the last 12 months and know their results (UNGASS indicator: HIV testing in IDUs)</td>
<td>19 (n=445)</td>
<td>15-23</td>
<td>18</td>
<td>20</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>Percentage of IDUs who are HCV infected</td>
<td>83 (n=449)</td>
<td>79-86</td>
<td>87</td>
<td>68</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>Percentage of IDUs who received an Hepatitis C test in the last 12 months and know their results</td>
<td>25 (n=447)</td>
<td>21-29</td>
<td>26</td>
<td>23</td>
<td>17</td>
<td>30</td>
</tr>
</tbody>
</table>
Within the survey, a total number of 449 IDUs consent to perform rapid HIV, HVB and HCV testing. As indicated in the chart below, alarming rate of 83% HCV and relatively low rates of HIV and HBV were found among IDUs.

**Figure 5 – HIV, HBV and HCV prevalence rates**

[Chart showing prevalence rates for HIV, HBV, and HCV]

The prevalence rates were similar in age groups. It is worth noting that there are statistically higher proportions of men positive to HCV and three out of the five IDUs found positive to HIV have been incarcerated.

**Table 13 – Prevalence by gender and age**

<table>
<thead>
<tr>
<th>HIV, HBV, HCV</th>
<th>Estimated population proportions (%) (n=449)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt; 25 (%)</th>
<th>Age ≥ 25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV prevalence</td>
<td>1</td>
<td>0.14-2.1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HBV prevalence</td>
<td>5</td>
<td>3-7</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>HCV prevalence</td>
<td>83</td>
<td>79-86</td>
<td>87</td>
<td>68</td>
<td>83</td>
<td>83</td>
</tr>
</tbody>
</table>

Overall, 85% respondents have at least one of the blood borne diseases examined during the survey. Additionally, 79% were infected with the Hepatitis C virus while a relatively low proportion of IDUs (3%) had HBV and HCV and a handful of respondents (0.2%) had been positive to all three diseases.

**Figure 6 – HIV, HBV and HCV co-morbidities among IDUs**

[Chart showing co-morbidities]

Despite gender correspondences in sexual practices, injecting habits and exposure to specialized services there were marked differences between the proportion of women and men that remained healthy. Only one in ten men does not carry any blood borne disease in comparison with three in ten women. Overall, 15% of respondents have none of the surveyed blood borne diseases.
Table 14 – Co-morbidities by gender and age

<table>
<thead>
<tr>
<th>Co-morbidities</th>
<th>Estimated population proportions (%) (n=449)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt;25 (%)</th>
<th>Age ≥25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy IDUs</td>
<td>15.0</td>
<td>12-19</td>
<td>11.2</td>
<td>30.0</td>
<td>14.3</td>
<td>16.1</td>
</tr>
<tr>
<td>HCV positive</td>
<td>79.0</td>
<td>75-83</td>
<td>82.7</td>
<td>66.0</td>
<td>79.5</td>
<td>78.7</td>
</tr>
<tr>
<td>HBV positive</td>
<td>1.8</td>
<td>0.5-3</td>
<td>1.7</td>
<td>2.0</td>
<td>3.1</td>
<td>1.0</td>
</tr>
<tr>
<td>HBV+HCV positive</td>
<td>3.0</td>
<td>1.2-4.1</td>
<td>3.2</td>
<td>1.0</td>
<td>2.5</td>
<td>2.8</td>
</tr>
<tr>
<td>HIV+HCV positive</td>
<td>1.0</td>
<td>0.2-1.8</td>
<td>1.2</td>
<td>0.0</td>
<td>0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>HIV+HBV+HCV positive</td>
<td>0.2</td>
<td>0-0.7</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>0.30</td>
</tr>
</tbody>
</table>

3.6 Exposure to HIV prevention and drug treatment programs

In Romania, the HIV prevention for IDUs and other drug related services are almost exclusively located in the capital city. Even so, limited public and private services (such as emergency units, opiate substitution treatment, detox and needle and syringe programs) tackle the drug users’ needs.

This survey revealed that, during the past 12 months, more than a half of respondents (53%) (n=449) have been enrolled in needle and syringe programs, over one third (35%) have been in contact with a family doctor and 38% received emergency care. Less than 20% IDUs accessed a form of drug treatment.

Figure 7 – Exposure to services

The table below shows no marked variations in the exposure to services between women and men and between age groups.

Table 15 – Exposure to services by gender and age

<table>
<thead>
<tr>
<th>Exposure to services</th>
<th>Estimated population proportions (%) (n=449)</th>
<th>CI</th>
<th>Men (%)</th>
<th>Women (%)</th>
<th>Age &lt;25 (%)</th>
<th>Age ≥25 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile emergency units</td>
<td>20</td>
<td>17-24</td>
<td>18</td>
<td>28</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Emergency units within hospitals</td>
<td>18</td>
<td>15-22</td>
<td>18</td>
<td>20</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>Needle and syringe programs</td>
<td>53</td>
<td>49-58</td>
<td>54</td>
<td>52</td>
<td>51</td>
<td>55</td>
</tr>
<tr>
<td>Opiate substitution treatment</td>
<td>19</td>
<td>15-23</td>
<td>17</td>
<td>24</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Detox</td>
<td>18</td>
<td>14-21</td>
<td>18</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Family doctor</td>
<td>35</td>
<td>31-39</td>
<td>32</td>
<td>45</td>
<td>42</td>
<td>31</td>
</tr>
</tbody>
</table>
In the last twelve months, the respondents with injecting drug use history of over 6 years were more likely enrolled in drug treatment programs such as opiate substitution treatment and detox services in comparison with those having a shorter history of drug injecting habit.

**Table 16 – Enrollment in treatment services by drug use history**

<table>
<thead>
<tr>
<th>Injecting drugs since</th>
<th>Estimated population proportion (%) (n=449)</th>
<th>CI</th>
<th>Enrollment in opiate substitution treatment (%)</th>
<th>Enrollment in detox services (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 years</td>
<td>4</td>
<td>2-6</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>2-5 years</td>
<td>27</td>
<td>23-31</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>6-10 years</td>
<td>43</td>
<td>38-47</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>26</td>
<td>22-30</td>
<td>23</td>
<td>19</td>
</tr>
</tbody>
</table>
As regards to HCV, Group 1 recruited the largest number of participants respectively 359 IDUs (with a recruitment probability of 84.1% within the participants of the same group and 15.9% probability within participants of Group 0) while Group 0 recruited only 82 IDUs. Among participants with negative serological status to HCV, there is a high probability (over 60%) to recruit HCV positive participants.

There is a different situation in the case of HIV and HBV, where Group 0 enrolled the largest number of participants: 417 persons negative to HBV (with recruitment probability of 95%) and 437 persons negative to HIV (with recruitment probability of 99%).

The analysis of data shows that the recruitment was heterogeneous: the HCV positive participants succeeded to enroll more participants than the participants negative to HCV, while for HBV and HIV the process was reversed.

Group 0 does not have any recruitment preferences (heterophile) while the Group 1 has a tendency to recruit participants from the same group (homophile) for HCV and HIV and from the different group for HBV. The chart below points out the recruitment preferences.

12 Each viral infection was distinctly analyzed according to the pathogen agent, co-infections being excluded.
HIV, HBV and HCV Behavioral Surveillance Survey among Injecting Drug Users in Bucharest, Romania

Figure 8 - Homophily by HCV, HVB and HIV status

Tabel 18 - Affiliation matrix by HCV, HBV and HIV status

<table>
<thead>
<tr>
<th></th>
<th>Group 0</th>
<th>Group 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>-0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>Group 1</td>
<td>-0.335</td>
<td>0.335</td>
</tr>
<tr>
<td>HBV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>-0.017</td>
<td>0.017</td>
</tr>
<tr>
<td>Group 1</td>
<td>1.00</td>
<td>-1.00</td>
</tr>
<tr>
<td>HIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>-0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Group 1</td>
<td>-0.246</td>
<td>0.246</td>
</tr>
</tbody>
</table>

In the chain referral sample, the people positive to any of the surveyed infections (HIV/HBV/HCV) have the largest social network sizes, with the following values: 31,502 for HCV, 41,163 for HBV and 75 for HIV (the adjusted average values). The values might be influenced by the overrepresentation in sample of IDUs with extended personal networks and more social connections, so the network sizes were adjusted for sampling bias.

Tabel 19 - Network size by HBV status

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted Average Net Sizes:</td>
</tr>
<tr>
<td>Group 0</td>
</tr>
<tr>
<td>Group 1</td>
</tr>
<tr>
<td>Network Size Information:</td>
</tr>
<tr>
<td>Minimum Network Size</td>
</tr>
<tr>
<td>Maximum Network Size</td>
</tr>
</tbody>
</table>

Tabel 20 - Network size by HCV status

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted Average Net Sizes:</td>
</tr>
<tr>
<td>Group 0</td>
</tr>
<tr>
<td>Group 1</td>
</tr>
<tr>
<td>Network Size Information:</td>
</tr>
<tr>
<td>Minimum Network Size</td>
</tr>
<tr>
<td>Maximum Network Size</td>
</tr>
</tbody>
</table>

30
Tabel 21 - Network size by HIV status

<table>
<thead>
<tr>
<th></th>
<th>Adjusted Average Net Sizes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 0</td>
<td>28,606</td>
<td>Group 1</td>
</tr>
</tbody>
</table>

Network Size Information:

<table>
<thead>
<tr>
<th>Minimum Network Size</th>
<th>7.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Network Size</td>
<td>500.0</td>
</tr>
</tbody>
</table>

Taking into account the population proportion for HCV, it is relevant to mention that in case of HCV the Group 1 has the largest proportion (76%), while for HBV and HIV Group 0 has the biggest proportion (96% and 99%).

Figure 9 - Population proportions

Table 22 – Population proportions

<table>
<thead>
<tr>
<th>CI (alpha=0.025)</th>
<th>Estimated Population Proportions</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HCV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>0.239</td>
<td>0.177</td>
<td>0.31</td>
</tr>
<tr>
<td>Group 1</td>
<td>0.761</td>
<td>0.69</td>
<td>0.823</td>
</tr>
<tr>
<td><strong>HBV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>0.968</td>
<td>0.944</td>
<td>0.987</td>
</tr>
<tr>
<td>Group 1</td>
<td>0.032</td>
<td>0.013</td>
<td>0.056</td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 0</td>
<td>0.995</td>
<td>0.985</td>
<td>0.999</td>
</tr>
<tr>
<td>Group 1</td>
<td>0.005</td>
<td>0.001</td>
<td>0.015</td>
</tr>
</tbody>
</table>

In order to reach equilibrium (the estimations of the population proportions to be convergent), two recruitment waves were needed for HCV and HBV and three for HIV. Consequently, the changes in population proportions between the recruitment waves turn below 0.02.
Figure 10 - Number of recruitment waves

Figure 11 - Recruitment network by HCV status, seed 2
4.2 Recruitment features related to gender and HCV status

The results were calculated for a 95% confidence interval.
Group 1.0 represents male participants negative to HCV.
Group 1.1 represents male participants positive to HCV.
Group 2.0 represents participating women negative to HCV.
Group 2.1 represents participating women positive to HCV.

For the selected attributes (gender and HCV status), the Group 1.1 recruited the largest number of participants: 298. Out of them, 29 were from the Group 1.0 (9.7% recruitment probability), 203 from the same group (68.1% recruitment probability), 23 from the Group 2.0 (7.7% recruitment probability) and 43 from the Group 2.1 (14.4% recruitment probability). The data analysis shows that, among all groups, the recruiters are more likely to recruit people from Group 1.1, with the highest probability of over 65%.

<table>
<thead>
<tr>
<th>Person who recruited</th>
<th>Group 1.0</th>
<th>Group 1.1</th>
<th>Group 2.0</th>
<th>Group 2.1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.0</td>
<td>2.0</td>
<td>30.0</td>
<td>4.0</td>
<td>8.0</td>
<td>44.0</td>
</tr>
<tr>
<td></td>
<td>0.045</td>
<td>0.682</td>
<td>0.091</td>
<td>0.182</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 1.1</td>
<td>29.0</td>
<td>203.0</td>
<td>23.0</td>
<td>43.0</td>
<td>298.0</td>
</tr>
<tr>
<td></td>
<td>0.097</td>
<td>0.681</td>
<td>0.077</td>
<td>0.144</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.0</td>
<td>9.0</td>
<td>25.0</td>
<td>3.0</td>
<td>1.0</td>
<td>38.0</td>
</tr>
<tr>
<td></td>
<td>0.237</td>
<td>0.658</td>
<td>0.079</td>
<td>0.026</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>3.0</td>
<td>41.0</td>
<td>2.0</td>
<td>15.0</td>
<td>61.0</td>
</tr>
<tr>
<td></td>
<td>0.049</td>
<td>0.672</td>
<td>0.033</td>
<td>0.246</td>
<td>1.0</td>
</tr>
</tbody>
</table>

In the recruitment matrix below, there are shown the ideal values of the number of participants that should be recruited by each group if the recruitment would be homogeneously done. Actually, the number of recruitments by HCV positive people exceeds the number of recruitments by HCV negative people, the ratio being 2:1.
Tabel 24 - Demographically adjusted recruitment matrix

<table>
<thead>
<tr>
<th></th>
<th>Group 1.0</th>
<th>Group 1.1</th>
<th>Group 2.0</th>
<th>Group 2.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.0</td>
<td>1,903</td>
<td>28,544</td>
<td>3,806</td>
<td>7,612</td>
</tr>
<tr>
<td>Group 1.1</td>
<td>29,105</td>
<td>203,736</td>
<td>23,083</td>
<td>43,156</td>
</tr>
<tr>
<td>Group 2.0</td>
<td>7,491</td>
<td>20,809</td>
<td>2,497</td>
<td>0,832</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>3,365</td>
<td>45,991</td>
<td>2,243</td>
<td>16,826</td>
</tr>
</tbody>
</table>

The Group 1.0 (-0.67) and the Group 2.0 (-0.187) have not had any recruitment affiliation (heterophiles) while the Group 1.1 (0.209) and the Group 2.1 (0.094) have preference for recruiting participants from the same group (homophiles). The affiliation in the recruitment process is presented below in the table 25.

Tabel 25 - Affiliation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Group 1.0</th>
<th>Group 1.1</th>
<th>Group 2.0</th>
<th>Group 2.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.0</td>
<td>-0.67</td>
<td>0.227</td>
<td>0.042</td>
<td>-0.22</td>
</tr>
<tr>
<td>Group 1.1</td>
<td>-0.3</td>
<td>0.209</td>
<td>-0.244</td>
<td>-0.113</td>
</tr>
<tr>
<td>Group 2.0</td>
<td>0.047</td>
<td>0.24</td>
<td>-0.187</td>
<td>-0.711</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>-0.418</td>
<td>0.135</td>
<td>-0.769</td>
<td>0.094</td>
</tr>
</tbody>
</table>

Figure 13 - Homophily by gender and HCV status

The size of the social network (the average adjusted values) is the largest for the Group 1.1 with 32,819 persons, followed by the Group 2.1 with 26,586 persons, Group 2.0 with 21,518 and the Group 1.0 with 19,904 members. These values might be influenced by the overrepresentation in sample of IDUs with extended personal networks and more social connections, so they are adjusted for sampling bias.

Within the four groups analyzed, Group 1.1 has the biggest population proportion (60%) and Group 2.0 has the smallest one (9.7%).
4. Recruitment features of survey participants

The majority of participants having the selected attributes (gender and HCV status) have social networks sizing 100 - 300 persons.

In order to reach equilibrium (the estimations of the population proportions to be convergent), two recruitment waves were needed. Hence, the changes in population proportions between the recruitment waves turn below 0.02.
Figure 16 - Number of recruitment waves

Figure 17 - Recruitment network by gender and HCV status, seed 2

Figure 18 - Recruitment network by gender and HCV status, seed 3
4. Recruitment features related to the age of drug use onset

The results were calculated for a 95% confidence interval.
Group 1.1 represents men starting drug use <14.
Group 1.2 represents men starting drug use at the age 15-18.
Group 1.3 represents men starting drug use at the age 19-24.
Group 1.4 represents men starting drug use 25+.
Group 2.1 represents women starting drug use <14.
Group 2.2 represents women starting drug use at the age 15-18.
Group 2.3 represents women starting drug use at the age 19-24.
Group 2.4 represents women starting drug use 25+.

Inside the recruitment process, as shown in the table below, the uppermost number of participants were recruited by male participants of Group 1.2 (with 124 recruits) and by female participants of Group 2.2 (with 25 recruits). As regards to male participants, the Group 1.1 registered the highest recruitment probability for Group 1.2 (38%), while women had the highest probability to recruit men from the Group 1.1. Overall, regardless the age of onset, the general tendency among participants was to recruit men.

<table>
<thead>
<tr>
<th>Person who recruited</th>
<th>Group 1.1</th>
<th>Group 1.2</th>
<th>Group 1.3</th>
<th>Group 1.4</th>
<th>Group 2.1</th>
<th>Group 2.2</th>
<th>Group 2.3</th>
<th>Group 2.4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.1</td>
<td>7.0</td>
<td>21.0</td>
<td>12.0</td>
<td>8.0</td>
<td>1.0</td>
<td>2.0</td>
<td>4.0</td>
<td>0.0</td>
<td>55.0</td>
</tr>
<tr>
<td></td>
<td>0.127</td>
<td>0.382</td>
<td>0.218</td>
<td>0.145</td>
<td>0.018</td>
<td>0.036</td>
<td>0.073</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 1.2</td>
<td>11.0</td>
<td>43.0</td>
<td>30.0</td>
<td>19.0</td>
<td>3.0</td>
<td>10.0</td>
<td>7.0</td>
<td>1.0</td>
<td>124.0</td>
</tr>
<tr>
<td></td>
<td>0.089</td>
<td>0.347</td>
<td>0.242</td>
<td>0.153</td>
<td>0.024</td>
<td>0.081</td>
<td>0.056</td>
<td>0.008</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 1.3</td>
<td>7.0</td>
<td>24.0</td>
<td>32.0</td>
<td>15.0</td>
<td>7.0</td>
<td>12.0</td>
<td>11.0</td>
<td>11.0</td>
<td>119.0</td>
</tr>
<tr>
<td></td>
<td>0.059</td>
<td>0.202</td>
<td>0.269</td>
<td>0.126</td>
<td>0.059</td>
<td>0.101</td>
<td>0.092</td>
<td>0.092</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 1.4</td>
<td>4.0</td>
<td>9.0</td>
<td>15.0</td>
<td>7.0</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>3.0</td>
<td>44.0</td>
</tr>
<tr>
<td></td>
<td>0.091</td>
<td>0.205</td>
<td>0.341</td>
<td>0.159</td>
<td>0.023</td>
<td>0.045</td>
<td>0.068</td>
<td>0.068</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>6.0</td>
<td>4.0</td>
<td>2.0</td>
<td>5.0</td>
<td>1.0</td>
<td>3.0</td>
<td>1.0</td>
<td>0.0</td>
<td>22.0</td>
</tr>
<tr>
<td></td>
<td>0.273</td>
<td>0.182</td>
<td>0.091</td>
<td>0.227</td>
<td>0.045</td>
<td>0.136</td>
<td>0.045</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.2</td>
<td>3.0</td>
<td>8.0</td>
<td>5.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td>3.0</td>
<td>25.0</td>
</tr>
<tr>
<td></td>
<td>0.12</td>
<td>0.32</td>
<td>0.2</td>
<td>0.12</td>
<td>0.0</td>
<td>0.0</td>
<td>0.12</td>
<td>0.12</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.3</td>
<td>11.0</td>
<td>9.0</td>
<td>3.0</td>
<td>4.0</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>0.0</td>
<td>33.0</td>
</tr>
<tr>
<td></td>
<td>0.333</td>
<td>0.273</td>
<td>0.091</td>
<td>0.121</td>
<td>0.03</td>
<td>0.061</td>
<td>0.091</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Group 2.4</td>
<td>0.0</td>
<td>6.0</td>
<td>8.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>2.0</td>
<td>0.0</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.316</td>
<td>0.421</td>
<td>0.053</td>
<td>0.053</td>
<td>0.053</td>
<td>0.105</td>
<td>0.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Taking into consideration the recruitment affiliation, the Group 1.4 (-0.021), Group 2.2 (-1.0) and the Group 2.4 (-1.0) are heterophiles and while the rest tend to recruit participants from the same group (homophiles).
In case of men, the network size is the largest for the Group 1.1 (41,761 persons), followed by the Group 1.2 with 30,522 persons. For women, the network size is the largest for the Group 2.1 with 28,255 persons, followed by the Group 2.3 with 27,917 persons.

**Tabel 28 – Recruitment affiliation by gender and age of onset**

<table>
<thead>
<tr>
<th></th>
<th>Group 1.1</th>
<th>Group 1.2</th>
<th>Group 1.3</th>
<th>Group 1.4</th>
<th>Group 2.1</th>
<th>Group 2.2</th>
<th>Group 2.3</th>
<th>Group 2.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.1</td>
<td>0.057</td>
<td>0.057</td>
<td>-0.261</td>
<td>-0.195</td>
<td>0.017</td>
<td>-0.246</td>
<td>0.082</td>
<td>-1.0</td>
</tr>
<tr>
<td>Group 1.2</td>
<td>0.048</td>
<td>0.114</td>
<td>-0.117</td>
<td>-0.215</td>
<td>-0.314</td>
<td>0.006</td>
<td>-0.169</td>
<td>-0.622</td>
</tr>
<tr>
<td>Group 1.3</td>
<td>0.003</td>
<td>-0.096</td>
<td>0.041</td>
<td>-0.021</td>
<td>0.002</td>
<td>0.004</td>
<td>-0.239</td>
<td>0.009</td>
</tr>
<tr>
<td>Group 1.4</td>
<td>0.03</td>
<td>-0.026</td>
<td>0.058</td>
<td>-0.021</td>
<td>0.005</td>
<td>-0.297</td>
<td>-0.147</td>
<td>-0.436</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>0.1</td>
<td>-0.259</td>
<td>0.041</td>
<td>-0.002</td>
<td>0.013</td>
<td>-0.087</td>
<td>-0.26</td>
<td>-0.536</td>
</tr>
<tr>
<td>Group 2.2</td>
<td>0.015</td>
<td>0.082</td>
<td>0.055</td>
<td>-0.349</td>
<td>-0.03</td>
<td>-1.0</td>
<td>0.016</td>
<td>0.002</td>
</tr>
<tr>
<td>Group 2.3</td>
<td>0.155</td>
<td>-0.093</td>
<td>-0.188</td>
<td>-0.25</td>
<td>-0.253</td>
<td>0.01</td>
<td>0.012</td>
<td>-0.61</td>
</tr>
<tr>
<td>Group 2.4</td>
<td>-1.0</td>
<td>-0.299</td>
<td>0.313</td>
<td>-0.157</td>
<td>-0.204</td>
<td>0.052</td>
<td>-0.337</td>
<td>-1.0</td>
</tr>
</tbody>
</table>

**Tabel 29 - Network sizes, by gender and onset age**

<table>
<thead>
<tr>
<th>Adjusted Average Net Sizes:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.1</td>
<td>41,761</td>
</tr>
<tr>
<td>Group 1.2</td>
<td>30,522</td>
</tr>
<tr>
<td>Group 1.3</td>
<td>29,892</td>
</tr>
<tr>
<td>Group 1.4</td>
<td>24,714</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>28,255</td>
</tr>
<tr>
<td>Group 2.2</td>
<td>26,655</td>
</tr>
<tr>
<td>Group 2.3</td>
<td>27,917</td>
</tr>
<tr>
<td>Group 2.4</td>
<td>16,54</td>
</tr>
</tbody>
</table>

**Network Size Information:**

| Minimum Network Size | 7.00   |
| Maximum Network Size  | 500.00 |
Men with onset age between 15 and 18 years old age have the largest population proportion among the four groups, distantly followed by the men who started drug use at 19-24 years old.

**Figure 20 - Population proportions**

<table>
<thead>
<tr>
<th>Group</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1.1</td>
<td>0.041</td>
<td>0.113</td>
</tr>
<tr>
<td>Group 1.2</td>
<td>0.206</td>
<td>0.329</td>
</tr>
<tr>
<td>Group 1.3</td>
<td>0.185</td>
<td>0.296</td>
</tr>
<tr>
<td>Group 1.4</td>
<td>0.111</td>
<td>0.215</td>
</tr>
<tr>
<td>Group 2.1</td>
<td>0.013</td>
<td>0.06</td>
</tr>
<tr>
<td>Group 2.2</td>
<td>0.041</td>
<td>0.109</td>
</tr>
<tr>
<td>Group 2.3</td>
<td>0.048</td>
<td>0.118</td>
</tr>
<tr>
<td>Group 2.4</td>
<td>0.037</td>
<td>0.119</td>
</tr>
</tbody>
</table>

Four recruitment waves were needed to reach equilibrium for the analyzed features.

**Figure 21 - Number of recruitment waves**
The current survey was the first attempt to capture the HIV/HBV/HCV prevalence rates and risk behaviors in a representative sample of IDUs in Bucharest metropolitan area. Relatively simply and cheap, the implementation of the first BSS revealed a number of lessons derived from operational and technical aspects.

The lessons shown below may be especially relevant for the Bucharest metropolitan area and might not apply to other cities of Romania where the IDUs population is undersized and probably might feel less comfortable to enroll in such survey.

- By integrating biological surveillance with behavioral surveillance, the BSS is currently a suitable option to monitor standard indicators and trends related to sexual and injecting behaviors as well as to screen the HIV, HBV and HCV prevalence among IDUs.

- Involvement of all key stakeholders in planning and implementing the BSS enhances the credibility and acceptance of the results and raises commitment.

- In order to better describe the HIV/AIDS risk behaviors of the IDUs population, the questionnaire may be extended to 30-35 minutes length and may include more specific definitions and additional questions related to: regular and non-regular sexual partners, condom use at most recent sexual intercourse, drug use frequency, sharing of injecting equipments, the drug preparation techniques, frequency of injecting and related practices, overdose, availability and access to services.

- In order to overcome the team burn out and the IDUs pressure on the staff, the BSS team should comprise from the very beginning at least eight permanent staff and additional part-time consultants/volunteers.

- The coupons must include a contact phone number.

- The premises where the BSS is taking place should accommodate up to 35-50 IDUs per day.

- Designing and implementation of an appointment system for interviews may increase the effectiveness of the BSS and ensure a better management of the data collection.
6.1. Summary of major findings

- The IDUs in Bucharest metropolitan area consists largely of young people: 64% were aged between 18 and 29. The proportion of male IDUs is more than three quarters (78%).

- 9% of IDUs never attended school. The data shows higher illiteracy rate for women (17%) than for men (7%).

- 4% of IDUs have never had any identification documents and, at the moment of the survey, two in ten respondents (21%) had neither identity card nor passport that can ensure their access to medical services. A relatively high proportion of male IDUs (71%) and the majority of females (92%) are unemployed.

- For the majority of IDUs (97%) heroin is the main drug of choice. The mean age for starting injecting drugs is 20 years old. IDUs in Bucharest metropolitan area had mostly (58%) started injecting drugs over 18 but a significant proportion started younger: 7% were between 8 and 13 years of age and 35% between 14 and 17. 88% of IDUs that were underage when starting injecting drugs are HCV positive.

- Seven in ten IDUs (69%) had been injecting drugs for more than five years whereas 4% of IDUs had started injecting in the last two years. More than half (72%) had injected two to five times a day and a relatively lower proportion (26%) had injected once a day.

- The vast majority (92%) use 1 ml syringes with fixed needle (insulin type). 47% IDUs received sterile injecting equipments from needle and syringe programs and 38% IDUs purchased such equipments from pharmacies.

- 15% of IDUs have high risk behaviors, using syringes previously used by others. Five percent of IDUs used non sterile syringes and also reported passing the syringes to others. Among them, 96% are positive to HCV and none positive to HBV and/or HIV. Considering the sharing habits, this group appears to be also the most exposed to HIV and HBV, once the first cases will emerge.

- Four in ten (40%) IDUs have ever been incarcerated and 15% IDUs injected drugs while in prison.

- The majority of IDUs (91%) were sexually active in the past year. 40% IDUs have a sexual partner which is also an injecting drug user. There are significant gender differences as 79% women are currently in a relationship with an injecting drug user unlike 27% men.

- At the last sexual intercourse, condom use with either regular or non-regular partners was reported by 17% of IDUs.

- IDUs with duration of drug injecting habit of over six years are more likely to get involved in exchanging sex for money, drugs or other goods. Overall, 13% IDUs (12% male and 14% female) have exchanged sex for money, drugs or other goods.

- 6% of IDUs have correct knowledge on the ways of preventing the transmission of HIV and rejected major misconceptions about HIV transmission. Almost all IDUs (98%) acknowledged sharing needles and syringes as a way of HIV/HBV/HCV transmission. The data disaggregated by age and gender points towards an increased level of knowledge among male respondents and those older than 25 years.
There is an extremely high prevalence rate of HCV (83%) among IDUs in Bucharest metropolitan area. There are statistically higher proportions of men positive to HCV. 5% of IDUs are infected with the Hepatitis B virus while a relatively low proportion of IDUs have HIV (1%) and co-morbidities (4%). Overall, 85% IDUs have at least one of the three blood borne diseases examined during the survey. 15% of IDUs have none of the surveyed blood borne diseases. There are marked differences between the proportion of healthy women and men: one in ten men does not carry any blood borne disease in comparison with three in ten women.

In the past year, more than a half of respondents (53%) have been enrolled in needle and syringe programs, over one third (35%) have been in contact with a family doctor and 38% received emergency care. Less than 20% IDUs accessed a form of drug treatment. 19% of IDUs were tested for HIV in the last 12 months and received the test result and 25% tested for HCV and know the result.

The IDUs with injecting drug use history of over six years are more likely to enroll in drug treatment programs such as opiate substitution treatment and detox services in comparison with IDUs having a shorter history of drug injection.

### 6.2. Recommendations

Despite the efforts made to prevent HIV, HBV and HCV among IDUs, there is still need for expanding and scaling up the response through coordinated and targeted interventions. Therefore, prompt resource mobilization by the central and local government is needed for HIV/HBV/HCV prevention, treatment and care as well as for impact mitigation. Harm reduction activities such as condom distribution and needle and syringe exchange should be continued, expanded and sustained through state funding.

Voluntary counseling and testing centers for HIV and HCV, detox and opiate substitution treatment services should be further scaled-up to cover at least 50% of IDUs in Bucharest metropolitan area.

In order to allow a more comprehensive and dynamic approach of drug dependence, there is a need to consolidate links between the drug treatment services and HIV, HBV and HCV monitoring and treatment systems, including in data collection and reporting.

Social assistance public services may consider increasing their focus on IDUs as long as the unemployment and the lack of identity documents are highly prevalent among IDUs.

Children and teenagers aged 8-17 need to be targeted with specific interventions that include sex and life skills education. As 42% of IDUs had their first injection before turning 17, the drug prevention and treatment programmes should be adapted to the specific needs of children and teenagers.

The penitentiary system may consider increasing its role as an entry point for HIV/HBV/HCV prevention, treatment and care as well as for drug prevention and treatment. Consequently, penitentiaries should accelerate the development and implementation of appropriate services for injecting drug users and also for inmates vulnerable to drug use and unprotected sex.

There is a need to closely monitor the HIV/HBV/HCV prevalence rates, the risk behaviors and the accessibility and addressability to prevention and treatment services, at least every three years, to understand the dynamics of epidemics and allow timely interventions. Over-dependence on donor support does not enhance sustainability of the HIV/HBV/HCV surveillance systems. It is crucial that the Romanian accountable institutions demonstrate their commitment by allocating adequate human and financial resources for regular BSS implementation.
REFERENCES AND COMPLEMENTARY READING


SECTION A: ELIGIBILITY CRITERIA

A01. Did you inject drugs in the last 12 months?
1. Yes
2. No _ End of interview
8. I do not remember _ End of interview
9. Does not respond _ End of interview

A02. Where do you live?
1. Bucharest
2. Ilfov County
8. Other locality _ End of interview
9. Does not respond _ End of interview

A03. Have you previously been interviewed for this study?
1. Yes _ End of interview
2. No
8. I do not remember _ End of interview
9. Does not respond _ End of interview

SECTION B: DEMOGRAPHIC CHARACTERISTICS

B01. Which is your year of birth?
|__|__|__|__| (if the year of birth is after 1991, end the interview)
9. Does not respond

B02. Where you were born?
Locality ____________________________
County _______________________________
8. I do not know
9. Does not respond
B03. How many school classes did you graduated?
0. I have never been registered to school
Number of graduated school years: ........
University degree: ................................
8. I do not know
9. Does not respond

B04. Which is your current marital status?
1. Single
2. Married
3. Living with partener
4. Divorced
5. Widow
8. I do not know
9. Does not respond

B05. Have you ever had any identification documents?
1. Yes
2. No  Go to section C
8. I do not know
9. Does not respond

B06. What type of identification documents do you have at present?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>I do not know</th>
<th>Does not respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Birth certificate</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>2. ID</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>3. Passport</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>4. Election card</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>5. I do not have any papers</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
</tbody>
</table>

SECTION C: DRUG USE

C01. How old were you the first time you injected?
| ______ | years
8. I do not know
9. Does not respond

C02. When was the last time you injected?
1. Today
2. Yesterday
3. Last week
4. Last month
5. Last year
6. More than 1 year ago  End of interview
8. I do not know
9. Does not respond

C03. How many times did you inject in the last day you injected drugs?
1. Once
2. 2-3 times
4. 3-5 times
6. More than 5 times
8. I do not know
9. Does not respond

C04. What type of syringe do you use on a regular basis?
1. Syringe with detachable needle .......... (add millimeters for needle)
2. Insulin syringe
9. Does not respond
C05. When you last injected, what have you done with the used syringe/needle?
1. I throw it away
2. I keep it to re-use it
3. I gave it to someone else to use it
4. I exchanged it in the needle and syringe program
4. Something else:____________________________
8. I do not know
9. Does not respond

C06. The syringe that you used at last injection was previously used by someone else?
1. Yes
2. No _Go to C08
8. I do not know _Go to C08
9. Does not respond _Go to C08

C07. If yes, who used it?
1. Someone known
2. Someone unknown

C08. After you injected, did you pass/give the needle/syringe to someone else?
1. Yes
2. No
8. I do not know
9. Does not respond

C09. What (illegal) drug did you use most often in the last month?
..........................................................................................................................................

C10. In the last month, what other illegal drugs did you use and how?
(question with multiple answers)

<table>
<thead>
<tr>
<th></th>
<th>Injected</th>
<th>Smoked</th>
<th>Snorted</th>
<th>Inhaled</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Heroin</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>b Cocaine</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>c Marijuana</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>d Amphetamines</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>e Methadone - pills</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>f Fortral</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>g Ecstasy</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>h Ketamine</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>i Other illegal substances</td>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
</tbody>
</table>

C11. On a regular basis, how many times do you use a syringe?
1. Once
8. I do not know
9. Does not respond _ times

C12. In the last week, where did you take your syringes/needles from?
(Search for answers such as pharmacy/drug store, needle and syringe program, outreach worker; places where I am used to inject, street, other known IDUs, dealers etc.)
..........................................................................................................................................
..........................................................................................................................................
9. Does not respond
SECTION D: SEXUAL BEHAVIOR

D01. Did you have any sexual intercourse in the last 12 months?
1. Yes
2. No
9. Does not respond

D02. With how many different partners did you have sexual intercourses in the last 12 months?
|__|__|__| no of persons
8. I do not know
9. Does not respond

D03. Have you ever exchanged sexual services for money, drugs or other goods?
1. Yes
2. No
9. Does not respond

D04. In this moment/today, do you have a regular sexual partner?
1. Yes
2. No
9. Does not respond

D05. Did you use a condom at the last sexual intercourse with your regular partner?
1. Yes
2. No
3. I do not remember

D06. Did you use a condom at the last sexual intercourse with a non-regular partner?
1. Yes
2. No
3. I do not remember

D07. In the last month, did you have any unprotected sexual intercourse?
1. Yes
2. No
8. I do not know
9. Does not respond

SECTION E: HIV, HBV and HCV knowledge

E01. Have you ever heard about HIV/AIDS?
1. Yes
2. No _ Go to section G
9. Does not respond

<table>
<thead>
<tr>
<th>E02. As far as you know, the following statements are true or false?</th>
<th>True</th>
<th>False</th>
<th>I do not know</th>
<th>Does not respond</th>
</tr>
</thead>
</table>
a. Can having sex with only one faithful, uninfected partner reduce the risk of HIV transmission? | 1 | 2 | 8 | 9 |
b. Can using condoms reduce the risk of HIV transmission? | 1 | 2 | 8 | 9 |
c. Can a healthy looking person have HIV? | 1 | 2 | 8 | 9 |
d. Can a person get HIV from mosquito bites? | 1 | 2 | 8 | 9 |
e. Can a person get HIV by sharing a meal with someone who is infected? | 1 | 2 | 8 | 9 |
E03. Can you get infected with HIV/HBV/HCV should you share your syringes/needles?
1. Yes
2. No
8. I do not know
9. Does not respond

E04. Can you get infected with HIV/HBV/HCV should you share the drug cooking pot?
1. Yes
2. No
8. I do not know
9. Does not respond

SECTION F: HIV and HCV testing

F01. Did you make an HIV test in the last year?
1. Yes
2. No [Go to F03]
8. I do not know
9. Does not respond

F02. Do you know the test result?
1. Yes
2. No
9. Does not respond

F03. Did you make an HCV test in the last year?
1. Yes
2. No [Go to section G]
8. I do not know
9. Does not respond

F04. Do you know the test result?
1. Yes
2. No
9. Does not respond

SECTION G: INPRISONMENT AND EXPOSURE TO SERVICES

G01. Have you ever been arrested or convicted?
1. Yes
2. No [Go to G05]
9. Does not respond

G02. Have you ever been to prison?
1. Yes
2. No
9. Does not respond

G03. When you were in prison, did you inject drugs?
1. Yes
2. No
9. Does not respond

G04. What drugs did you use while imprisoned?

..............................................................................................................................................
G05. Did you access any of the following services in the last 12 months?
1. Family doctor
2. Detox unit .............................................................. (name it)
3. Opiate substitution treatment centers .................................. (name it)
4. Needle and syringe program .................................................. (name it)
5. Ambulance
6. Emergency unit

SECTION H: OTHER VULNERABILITIES

H01. At present, do you have any job?
1. Yes
2. No
9. Does not respond

H02. Do you live with any child?
1. Yes
2. No
8. I do not know
9. Does not respond

H02. Do you have children under your responsibility?
1. Yes
2. No
8. I do not know
9. Does not respond

“Thank you for your time!”

Interview end time |__|__|:|__|__|

FINAL OBSERVATIONS:

______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________
______________________________________________________________________________________________________