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# Assessment on HIV and TB knowledge and the barriers related to access to care among vulnerable groups

Report on a cross-sectional study  
among injecting drug users

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TUBIDU 2011–2014

Empowering the Public Health System and Civil Society to Fight the Tuberculosis Epidemic among Vulnerable Groups

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**Project TUBIDU: Empowering the Public Health System and Civil Society to Fight  
the Tuberculosis Epidemic among Vulnerable Groups**

# **Assessment on HIV and TB knowledge and the barriers related to access to care among vulnerable groups**

**Report on a cross-sectional study among injecting drug users**

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# Abbreviations

ARAS	Romanian Anti-AIDS Association
ART	antiretroviral treatment
ARV	antiretroviral
AIDS	acquired immunodeficiency syndrome
DoL	Dose of Love Association, Bulgaria
DOT	directly observed treatment
ECDC	European Centre for Disease Prevention and Control
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
HIV	human immunodeficiency virus
IDU	injecting drug user, often also referred to as PWID (people who inject drugs)
IH	Institute of Hygiene, Lithuania
LTBF	Tuberculosis Foundation of Latvia
LTBI	latent tuberculosis infection
MDR	multi-drug resistant
NGO	non-governmental organisation
NIHD	National Institute for Health Development, Estonia
N/A	no answer
PLHIV	people living with HIV
RAA	Romanian Angel Appeal Foundation
RDS	respondent driven sampling
TB	tuberculosis
WHO	World Health Organisation
XDR	extensively drug-resistant

# Executive Summary

Overlapping social, epidemiological and clinical risk factors put injecting drug users (IDU) at higher risk for developing tuberculosis (TB) disease, being infected with TB, and at increased risk of mortality. Bulgaria, Romania and the Baltic countries display some of the highest TB and HIV incidences in the EU, as well as high burden of injection drug use.

TUBIDU is an EU-funded (Public Health Programme) project with seven participating organisations from six EU countries (Bulgaria, Estonia, Finland, Latvia, Lithuania, Romania) and five collaborating partners from non-EU countries. The general objective of the project is to contribute to the prevention of the IDU- and HIV-related TB epidemic in the project area. The strategic objectives include empowering the public health system and civil society and enhancing collaboration between various stakeholders in the field in order to tackle TB.

The current report provides an overview of the cross-sectional study among IDUs conducted in Bulgaria, Romania and the Baltic countries. The study focused on identifying knowledge about TB and HIV as well as barriers to access to TB- and HIV-related health care services. The aim was to provide information for programmatic development and policy-making, in order to improve access to TB- and HIV-related health care services for IDUs and thereby contribute to TB prevention among this vulnerable population.

The results reveal gaps in TB knowledge and negative attitudes towards HIV and TB treatment. Most often mentioned barriers to testing and treatment included personal beliefs and attitudes – the fear of being identified as an HIV carrier or a drug user, and the impact this may have on their family; not being interested in receiving treatment, not trusting the health care system and negative attitudes of staff towards drug users.

The provision of testing and treatment services in a client-friendly manner while also guaranteeing high levels of confidentiality is of utmost importance. One of the challenges to be met in order to ensure good testing coverage is the need to motivate people to get tested and help them to overcome their personal fears in relation to learning about their HIV and TB status. It is also important to distribute information about sites where people can get tested free of charge. The geographical coverage of free testing must be improved and various specialists should be involved in the provision of testing services. Trainings should be provided to health care workers so they would be aware of and sensitive to the special problems of IDUs.

Our results also revealed that TB risk factors – low socio-economical status, high rates of HIV infection, contacts with TB carriers, and imprisonment – are common among IDUs. Many also report symptoms suggestive of TB. Considering the array of TB risk factors among drug users as well as the historically high rates of TB in all the study countries (potentially high rates of latent TB), it is of utmost importance to scale up TB prevention among drug users.



# Background

TB has re-emerged as a significant problem in Europe, partly because of poor TB control programmes, partly because of its connection with HIV, migrants and other vulnerable groups (1). The critical risk groups consist of people living with HIV (PLHIV) and IDUs, especially those with HIV. Illegal drug use is a risk factor for TB due to the overlap of epidemiological and social factors associated with both drug use and TB (2). Poor living conditions, homelessness, incarceration, poverty, tobacco use and alcohol abuse coupled with the physiological effects of drug use can put IDUs at higher risk of developing TB disease, being infected with TB, and at an increased risk of mortality (3). HIV-induced immunosuppression is in itself one of the most significant risk factors for the development of TB and a major reason for the high prevalence of TB among IDUs (1).

TB control relies on the prompt detection of infectious cases and treatment according to international recommendations (4). Drug users often lack sufficient knowledge about TB; neither do they know where to turn to for treatment and care. It is common among IDUs to put off seeking care, which increases the risk of TB transmission and the severity of the disease (2). Due to the fact that HIV is the most potent risk factor for the progression of TB in adults, the dissemination of HIV infection among drug users makes them an especially critical risk group to target for TB screening (5).

Bulgaria, Romania and the Baltic countries display some of the highest TB incidences in the EU. Estonia and Latvia are also countries with the highest HIV incidence in the EU/EEA and countries with the highest MDR/XDR-TB burden in the entire world. TB is the main AIDS-defining disease in the Baltic countries. HIV prevalence is constantly increasing and in e.g. Estonia, up to 70% of the IDUs in certain regions are infected with HIV (6).

TUBIDU is an EU-funded (Public Health Programme) project with seven participating organisations from six EU countries (Bulgaria, Estonia, Finland, Latvia, Lithuania, Romania). TUBIDU also includes five collaborating partners from non-EU countries (the Leningrad Oblast AIDS Centre from the Russian Federation, the International HIV/AIDS Alliance in Ukraine, the National Centre for Tuberculosis and Lung Diseases from Georgia, World Vision Albania and World Vision Bosnia-Herzegovina). The general objective of the project is to contribute to the prevention of the IDU- and HIV-related TB epidemic in the project area. The strategic objectives include empowering the public health system and civil society and enhancing collaboration between various stakeholders in the field in order to tackle TB.

Even though the five associated partner countries (Bulgaria, Estonia, Latvia, Lithuania, Romania) have TB and HIV control programmes in place (oftentimes strong vertical structures mainly operated by health care institutions), previous studies and programme evaluations have revealed gaps in the provision of respective prevention and treatment services to vulnerable groups (see desk review <http://www.tai.ee/en/tubidu/publications>). Information on HIV- and IDU-related knowledge and behaviour among drug users is available in all the countries, but very little is known about issues related to TB.

Focus group discussions conducted among IDUs and professionals working in harm reduction (conducted in the framework of the TUBIDU project; <http://www.tai.ee/en/tubidu/publications>) revealed that in all five countries, HIV and TB testing/screening services were considered to be quite readily available. The situation related to the treatment and care of HIV and TB was considered more complicated. Even though participants (both IDUs and specialists) were mostly aware of the services available as well as

the preconditions for access, many of them were still hesitant about the specific steps required to access the services. The health care systems were thought to be complicated and confusing, since patients are required to visit several institutions in order to access different medical services. The lack of identity documents (including citizenship papers) and/or national health insurance, as well as the need to pay (or misinformation about the need to pay) for the services were considered potential obstacles. The following were the most commonly mentioned barriers inhibiting access to appropriate services: the negative attitude of medical and other staff towards drug users, the personnel's lack of interest in spending a sufficient amount of time on educating patients and solving their problems, internal stigma (self-stigma) and the low motivation of the people themselves to be tested or treated.

In order to explore these issues more systematically for the purposes of programmatic development and policy-making, a cross-sectional study among IDUs was carried out. The main aim of the study was to identify knowledge about TB and HIV as well as barriers to access to TB- and HIV-related health care services.

This report presents the results of the study referred to in the five associated partner countries of the TUBIDU project. It covers the methodology used and the results, provides a short discussion concerning the results and gives recommendations for future action. The data tables and study questionnaire are presented in the annexes.

# Study Aims

The aim of the study was to describe TB- and HIV-related knowledge and behaviour and to identify the barriers hindering access to TB and HIV health care services among IDUs.

## Methods

A cross-sectional anonymous survey of the current IDUs recruited using the principles of respondent driven sampling (RDS) was carried out in 2012 in Bulgaria, Estonia, Latvia, Lithuania and Romania.

In all countries, RDS studies among drug users have been conducted before. Data collection was planned and organized in such a way that it would be comparable to the data from the previous studies in the countries/sites. Therefore, some minor differences were allowed for example in eligibility criteria and methodology across the countries in order to better serve the local needs.

Participation was anonymous and no personal identification data were collected. Instead, participants were provided with a participation code. According to the national regulations, all the participants in Bulgaria, Estonia, Latvia and Romania gave oral informed consent. In Lithuania, written informed consent was required.

The study was approved by the following research ethics committees:

- Estonia – Research Ethics Committee of the University of Tartu
- Latvia – Central Medical Ethics committee of Latvia
- Lithuania – Vilnius Regional Biomedical Research Ethics Committee
- Romania – Research Ethics Committee of the Romanian Angel Appeal Foundation<sup>1</sup>

In Bulgaria, it is not required to obtain ethics committee's approval for the studies of this design, but NGO Dose of Love Association were provided with an official letter from the Ministry of Health.

## Recruitment Setting

The participants were mostly recruited and interviewed in community-based harm reduction sites. More detailed information on the recruitment sites and periods is provided in Table 1.

---

<sup>1</sup> According to the national legislation, every research institution conducting non-clinical research has to organise its own research ethics committee.

**Table 1. Recruitment sites and periods by country**

Country	Organisation, city	Profile	Recruitment period
Bulgaria	NGO Dose of Love, Burgas	Community-based syringe exchange programme, funded by the Global Fund to fight AIDS, Tuberculosis and Malaria	August 10–September 14, 2012
	NGO For Better Mental Health, Varna	Community-based syringe exchange programme, funded by the Global Fund to fight AIDS, Tuberculosis and Malaria	October 8–17, 2012
Estonia	NGO We Will Help You, Kohtla-Järve, North-Eastern Estonia	Government-funded community-based syringe exchange programme	May 23–July 3, 2012
Latvia	AIDS Counseling Cabinet, the Centre for Disease Prevention and Control of Latvia	Government-funded HIV testing and counselling site	October 12–November 12, 2012
Lithuania	Association Demetra, Vilnius	NGO, non-profit, for people affected by HIV and their families	June 19–November 16, 2012
Romania	Carousel Association, Bucharest (administrative office)	NGO, human rights and harm reduction organisation	September 10–October 18, 2012

## Eligibility Criteria

It was planned to recruit at least 300–350 IDUs in all sites. People were eligible for the study if they:

- Spoke one of the study languages (e.g. Bulgarian, Estonian, Russian, Latvian, etc.).
- Were 18 years of age or older.
- Had used injection drugs during the last four weeks (during the last 12 months in Romania; during the last two months in Latvia).
- Were capable of providing informed consent.
- Were not obviously under the influence of drugs or alcohol.
- Had not been previously interviewed for this particular study.

Only heroin users were recruited in Bulgaria, as heroin is the main injectable drug in that particular country (7). In Romania, only IDUs from the Bucharest region were recruited.

In order to confirm their IDU status, all the participants in all countries were asked to show their injection sites. If this was not possible (if they had injected themselves in the groin or were not regular injectors so that the injection sites were not visible), they were asked some questions about their injection drug use before the interview commenced.

To avoid subject duplication, the biometric measures of each respondent were taken (the perimeter of each wrist and the length of each forearm from elbow to middle finger), and their personal characteristics were noted (gender, ethnicity, age). The fieldwork supervisors were responsible for collating the data and checking the data on a daily basis to ensure that no duplicates would be included in the sample.

## Recruitment Strategy

In order to obtain a wide variety of drug users and reduce the bias associated with drug users recruited from prevention/treatment programmes only, the RDS approach was used to recruit subjects for the survey.

RDS combines “snowball sampling” (getting individuals to refer people they know; these individuals in turn refer people they know and so on) with a mathematical model that weighs the sample to compensate for the fact that the sample was collected in a non-random manner. RDS was developed by Douglas Heckathorn more than a decade ago – in 1997 – as part of an HIV-prevention research project funded by the National Institute on Drug Abuse targeting injection drug users in several Connecticut cities (8). RDS has been applied to study a variety of populations (e.g. IDUs, sex workers, men who have sex with men). RDS allows penetrating deep into the community of the vulnerable population. RDS uses a double incentive system to motivate people to participate in the study. In this case, subjects receive a study participation incentive for taking part as well as for recruiting others.

Recruitment comprised the following steps:

Step 1: The research teams identified initial participants (called “seeds”) to start the recruitment. Seeds were carefully selected to represent the demographic profile and the socially and geographically diverse injecting networks of IDUs in the study sites. They were also assessed in terms of the size of their social network – the larger the network, the more suitable they were to serve as seeds. The key features of the seeds in all the study sites are presented in Annex 1, Table 1.

Step 2: Each of the seeds was interviewed for the study purposes. After the interview, they received an incentive for participation.

Step 3: Following the interview, each seed was asked to identify up to three other IDU contacts (from their personal network of acquaintances and friends) and invite them to participate in the study. The seeds were given invitation coupons to distribute to their contacts. The coupon contained details about the study, telephone numbers to contact the RDS team, the time and place of the interviews and other necessary information (i.e. a map indicating the route to the RDS site). The types of IDUs that the seeds were to invite were not specified, except that they had to be at least 18 years old and used injection drugs during the last four weeks (the last 12 months in case of Romania, and the last two months in case of Latvia). The seeds gave their three coupons to IDUs they knew, inviting them to participate in the study. If the invitees actually participated, the seed received an incentive for each person (up to three) that turned up for an interview on the basis of the invitation. The participants invited by the seeds are called “first-wave contacts”.

Step 4: The first-wave participants were asked to identify and invite (by distributing invitation coupons) three more people (“second wave”). They also received an incentive for each IDU contact who turned up for an interview following the invitation.

Step 5: The procedure was repeated until the planned sample size was reached. The research teams wished to recruit a minimum of four waves of contacts (for every seed) in the same fashion.

## Incentives

A dual system of recruitment incentives was used in the study – a primary incentive for being interviewed and secondary incentives for recruiting other participants. Every participant was given the opportunity to invite a maximum of three other individuals to the study. The primary incentive was given immediately after participation and the secondary incentives after the people invited had participated. In every country, the type and monetary value of the incentive was chosen according to previous experience. Information about the specific incentives used is provided in Table 2.

**Table 2. Incentives by country**

Country	Incentive for participation	Incentive for inviting others
Bulgaria	Package with snacks and candy bars worth €5	<ul style="list-style-type: none"> <li>- For the first participant – a wallet and a lighter worth €2 per set</li> <li>- For the second participant – chocolate worth €1</li> <li>- For the third participant – a pair of sneakers (donated to the organisation by a shoe store, so it is difficult to assess the value of the incentive)</li> </ul>
Estonia	Supermarket voucher worth €10	Food package worth ca. €5
Latvia	Supermarket voucher worth €7	Supermarket voucher worth €4
Lithuania	Supermarket voucher worth €8.5	Food package worth ca. €3.4 (for three persons; ca. €1.1 for one person)
Romania	Gift vouchers (2 pcs.) with the total value of €4.6	Gift voucher worth €2.3

Apart from the incentives, participants were provided with free syringes, condoms and information materials.

## Measurements

An interviewer used a structured questionnaire to collect participant's socio-demographic and behavioural data. It took approximately 60 minutes to fill in the questionnaire, which included questions related to the participant's socio-demographic data, history of drug use, imprisonment, TB history, TB contacts, current symptoms and other health complaints, HIV and TB knowledge, access to and utilisation of HIV and TB services. The questionnaire was modified from multiple questionnaires (9–11). When addressing barriers to services, three general types of barriers were considered:

- Socio-cultural barriers (the clients' health-related beliefs and behaviour).
- Socio-economic barriers (lack of health insurance, inability to pay out-of-pocket, poor education, lack of knowledge and information about services).
- Organisational barriers (waiting times, opening hours, distance from services, etc.).

The English master version of the questionnaire is provided in Annex 2. Each country translated it into its local languages. The Estonian partner organisation translated it to Russian as well. All the countries were given the option of including additional indicators required for national reporting purposes. These data have not been included in the current analysis.

For the purposes of the TUBIDU study, no biological specimen collection was planned. All the countries had the possibility to collect any specimens they considered necessary (with their own resources), but the data have not been included in this report. For example, in Estonia all participants were tested for HIV, etc.

If specific health problems or other needs were identified during the interview, the participant was provided with information, counselling and/or a referral to the appropriate services. No information was collected on the outcomes of the referrals for the purposes of this study.

## Data Management and Analysis

The questionnaires filled in during the RDS interviews were collected, checked and reviewed for inaccuracies by supervisors on a daily basis.

All the data were entered twice and the data sets were compared to detect and correct any data entry errors. The cleaned data sets were subjected to additional simple range checks to ensure the high quality of the data.

A statistical analysis was performed with SPSS 14.0, 16.0, or 20.0 for Windows or with STATA 10.0.

# Results

## Participants

Altogether 1,946 people participated in the study (see the number of participants by country in Table 3).

**Table 3. Number of participants by country**

Country	Number of seeds	Number of coupons distributed	Number of people screened for participation	Number of ineligible people	Number of participants
Bulgaria	6+6 <sup>1</sup>	Burgas – 399 Varna – 382	308	8	Burgas – 150 Varna – 150
Estonia	6	— <sup>2</sup>	— <sup>2</sup>	— <sup>2</sup>	599
Latvia	7	900	370	70	300
Lithuania	8	771	330	0	330
Romania	10	1242	— <sup>2</sup>	— <sup>2</sup>	417

<sup>1</sup> Two cities (Varna and Burgas), six each.

<sup>2</sup> No data were collected on these indicators

The key features of the seeds (including the number of waves and the number of respondents for each seed) in all the study sites are presented in Annex 1, Table 1.

## Socio-Demographic Data

The mean age of the participants ranged from 29 to 34 years and the majority (74–86%) were male. The highest proportion of females was observed in Estonia (26.5%) (Annex 1, Tables 2–3).

In Bulgaria, Lithuania and Romania, the ethnic majority was the most common ethnic group, but in Estonia and Latvia, the major ethnic group represented was Russian. In Bulgaria, Estonia, Latvia, and Lithuania the study country was the most prevalent country of birth. In Romania, data on the participants' country of birth was not collected, as it was known from previous research that the vast majority had been born in Romania (Annex 1, Tables 4–5).

The majority of the participants in all countries had some level of education. Higher proportions of people with no formal education were observed in Romania (10%) and Bulgaria (5%). Only a few percentages in all the countries had higher education (Annex 1, Table 6).

Approximately half of the participants had some sort of a job (either full- or part-time, official or unofficial), but many also lived on government benefits, received support from their relatives or lived on stealing and begging (Annex 1, Table 7). The participants' health insurance status (or equivalent) differed by countries, ranging from 21% in Romania to 81% in Latvia (Annex 1, Table 19).



Most of the participants lived with other members in the household; the largest proportion of those living alone was found in Estonia (20%). The vast majority lived in a flat or house that belonged to them or someone else. The largest proportion of people with no fixed address was observed in Romania (26%). Up to 86% of all the participants considered themselves to be poor or nearly poor (Annex 1, Tables 8–11).

Many participants had been in prison – from 34% in Bulgaria to 73% in Lithuania (Annex 1, Table 12).

## Smoking, Drug and Alcohol Abuse

Only a few participants reported that they have never smoked. The percentage of regular smokers reached up to 99% (Annex 1, Table 13). The average age at which the participants took up daily smoking was 15, with the exception of Romania, where it was 13.

The average age at which the participants started to use injection drugs ranged from 19 to 21 and the mean duration of injection drug use varied from 10 to 13 years (by the time of the study). The main drug injected during the last four weeks before the study was fentanyl in Estonia, amphetamine in Latvia, heroin in Lithuania and legal drugs in Romania. Only heroin injectors were recruited in Bulgaria. See more detailed data on injection drug use in Annex 1, Table 14. Alcohol use was also very common, with 12 to 22% of the participants drinking alcohol every day (Annex 1, Table 15).

## Knowledge of HIV and Tuberculosis

Almost all (98–99%) of the participants had heard about HIV. HIV-related knowledge and attitudes were assessed with 12 statements and questions. The results are presented in Annex 1, Table 16. The majority of the participants had accurate knowledge about the transmission and prevention of HIV. The participants' knowledge about the effectiveness of HIV treatment was poorer, as was knowledge about the places of treatment. In addition, the participants were not thoroughly convinced that it was possible to get treatment if needed.

Somewhat fewer had heard about TB (94–99%). TB-related knowledge and attitudes were assessed with 18 statements and questions. The results are presented in Annex 1, Table 17. TB was generally considered to be a potentially fatal disease. Misconceptions about TB transmission were more common than those about HIV transmission. For example, up to 70% believed that TB could be transmitted sexually and in casual contact (including sharing food and smoking the same cigarette). Knowledge about where to receive TB-related health care services was good, but more than half of the participants did not know that these services were free of charge.

## Health Status and Health Care Services

The participants' health status was self-assessed with a five-level scale (ranging from very poor to excellent). The median value was 3 (Annex 1, Table 18). Many participants had various health complaints and symptoms (see the list in Annex 1, Table 20), up to 27% reported symptoms related to TB (blood in sputum and/or coughing for more than two weeks). Up to 38% had done something about these symptoms (Annex 1, Table 21), mostly visiting a doctor or using the medication already available. The reasons for not seeking help included the lack of health insurance (mostly in Bulgaria and Romania), no knowledge about what to do (Bulgaria, Lithuania and Romania), fatalistic attitudes that nothing can be done anyway (Estonia), and the hope that the symptoms will just pass (Estonia, Latvia).

Contacts with health care providers were quite common. Less than one third had not received any health care services during the last 12 months before the study and less than 10% had not received any health care during the last three years. The most common health care services accessed in the last 12 months included a family doctor/general practitioner, but also infectious disease specialists and different types of drug abuse treatment services (Annex 1, Tables 22–24).

## HIV Testing and Treatment

70–94% of the participants reported having ever been tested for HIV (Annex 1, Table 26); most of them had been tested less than three years before the study. Less than one quarter claimed to have wanted to take an HIV test at some point, but had not done so (some had been tested at another time). The most common reasons for not getting tested included the lack of time and the fear of a positive result. The number of those who did not have any money to get tested was small (Annex 1, Table 25).

The most common sites where the participants were last tested for HIV were special sites providing harm reduction services (i.e. drug abuse treatment, syringe exchange, anonymous HIV testing sites). STI clinics, in- and outpatient health care services and prisons were also mentioned (Annex 1, Table 27).

Self-reported HIV-prevalence among those who had been tested ranged from 0.3% (Bulgaria) to 57.4% (Estonia) (Annex 1, Table 26). 82% of them in Estonia, ca. 50% in Latvia and Lithuania, and ca. 5% in Romania reported to have been diagnosed with HIV more than three years ago (Annex 1, Table 28). More than two thirds of HIV-infected participants reported that they receive regular care for their HIV (Annex 1, Table 29).

The main reasons why people with HIV do not access care regularly included the fear of being identified as an HIV carrier or a drug user, and the fear that this could have a negative impact on their family; the lack of interest in receiving treatment and not trusting the health care system. In Estonia and in a few cases in Latvia, Lithuania and Romania, the lack of health insurance (inability to pay for the services) was also considered an obstacle. Only a few cited poor knowledge regarding treatment sites, inconvenient transportation and long waiting times as hindrances (Annex 1, Table 29).

The percentage of HIV-infected participants who had been recommended antiretroviral treatment (ART) ranged from 28–57%, and out of them, 74–91% had received ART. Data was also collected on the participants' CD4 counts (Annex 1, Tables 30–31). The main reasons for not having begun ART, even though recommended so, included the patients' fear of side effects and doubts concerning the efficiency of treatment. Only a few cited inconvenient clinic hours and the poor organisation of the services as the reasons for not seeking ART.

A few people in Estonia, Latvia and Lithuania had also received ART once, but had stopped (Annex 1, Table 32). The main reasons for this included side effects and the refusal of the doctor to prescribe antiretroviral (ARV) medicine, as the patient had failed to adhere to the treatment.

Very few reported having been diagnosed with AIDS, most of them during the last three years before the study (Annex 1, Table 33).

## Tuberculosis

Knowledge of TB contacts varied – from 14% of the participants in Bulgaria to 50% in Lithuania reported ever having lived, worked or studied with somebody with TB (Annex 1, Table 34).

Up to one fifth reported never having had a chest X-ray and up to one third did not remember when they last had a chest X-ray. The highest percentage of those who had had a chest X-ray during the past year was observed in Latvia and Lithuania (37% in both) (Annex 1, Table 35). The main reasons for getting an X-ray were illness/symptoms and the requirements of different institutions (being imprisoned, an occupational medical examination, applying for a shelter place or attending a rehabilitation programme).

Less than one quarter reported that they had wanted to get examined for TB at some point, but had not done so (some had been examined at another time). The most common reasons for not going through with an examination included general reluctance to go to a clinic for testing, not knowing where to go, not having access to transportation, not having health insurance and the fear of finding out that they may have a serious disease (Annex 1, Table 36).

A few participants in each country had had TB and most of them had also received TB treatment (Annex 1, Table 37–38). In Bulgaria, two people were receiving TB treatment at the time of the study; there were no current TB cases in other countries.

# Discussion

The current study focused on TB- and HIV-related knowledge as well as access and barriers to health care services among current IDUs. The study was conducted in five countries: Bulgaria, Estonia, Latvia, Lithuania, and Romania. All the study countries are Member States of the EU and carry a heavy IDU, HIV, and TB burden (1, 6). For each country, it was the first study of such a grand scale to also focus on TB among IDUs.

The study included 1,946 IDUs, mostly male, with the average age of around 30 years. The results revealed that in addition to having a low level of education, many drug users do not have a steady job or income. Oftentimes, they report aspects that are considered to be relevant risk factors for contracting TB, such as the lack of proper living conditions and having been imprisoned.

The results of the study indicated that in general, the knowledge of IDUs about the transmission and prevention of HIV is very good. This could be explained by the fact that for more than ten years, harm reduction services have been implemented in all the study countries with the focus on improving HIV knowledge (desk review <http://www.tai.ee/en/tubidu/publications>). The attitudes towards HIV treatment and care were not very good. Quite large proportion of the participants did not believe in the effectiveness of ART. Therefore, the knowledge and understanding on these issues should be improved and myths dispelled. Harm reduction services should develop counseling and education programs for IDUs to cover HIV testing, treatment and care.

HIV testing rates were quite high. The most common sites for HIV testing were special testing venues related to harm reduction and drug treatment services. A smaller proportion of participants reported health care providers (including family doctors) as testing sites. The most common reasons for not getting tested included not having the time and the participants' fear of learning that they are in fact infected. Organisational and socio-economical barriers to HIV testing were not mentioned very frequently. The results of this study suggest that the existing possibilities and structures for testing are quite adequate for the most vulnerable groups. Nevertheless, in order to achieve and sustain even higher rates of testing and ensure early HIV detection, many challenges must be addressed. One of the most important challenges to be met in order to ensure good testing coverage is the need to motivate people to get tested and help them to overcome their personal fears in relation to learning about their HIV status. It is also important to distribute information about sites where people can get tested free of charge. The geographical coverage of free testing must be improved and various specialists should be involved in the provision of testing services (not only in special testing sites but also for example in family doctors' offices).

Self-reported HIV-prevalence among those who had been tested ranged from 0.3% in Bulgaria to 57.4% in Estonia. 82% of them in Estonia, around 50% in Latvia and Lithuania, and around 5% in Romania reported having been diagnosed with HIV more than three years ago. This matches the general HIV epidemic patterns in the respective countries – in the Baltic states, the epidemic peaked in the early 2000s, while in Romania, the number of HIV cases among IDUs has begun to increase only recently (1, 6).

Not all HIV-infected people access HIV treatment services regularly. Once again, the primary factors identified as barriers to receiving the services were socio-cultural, i.e. people's personal beliefs and attitudes – the fear of being identified as an HIV carrier or a drug user, and the impact this may have on

their family, not being interested in receiving treatment and not trusting the health care system. Organisational and socio-economical barriers such as waiting lists, the location and opening hours of the clinics, and the lack of health insurance were rarely listed. These findings together with the information gained in focus groups (<http://www.tai.ee/en/tubidu/publications>) highlight the need for the continuous counselling and education of IDUs with HIV in order to support their access to care and deal with their internal stigma (self-stigma). It is also important to ensure the provision of treatment services in a client-friendly manner while also guaranteeing high levels of confidentiality and training health care workers to be sensitive to the special problems of people who inject drugs, and to address the issues of internal stigma.

The percentage of HIV-infected participants who had been recommended ART ranged from 28–56%, and out of them, 74–91% had received ART. Data on CD4 counts at the time of the HIV diagnosis was also collected in order to estimate the proportion of late diagnosis and the timeliness of treatment. Unfortunately, many participants did not remember their data, and the reliability of self-reports is difficult to assess. Reportedly, side effects were the main reason for not commencing ART or stopping it. Once again, structural barriers were rarely listed.

Our results showed that compared to HIV knowledge, IDUs have less information about TB. The misconceptions that TB can be transmitted by household contacts were more common than in case of HIV. It was also often believed that TB is transmitted sexually or through needles and syringes; this may be related to the generalisation of HIV information to the extent of applying it to TB as well (11).

The participants' knowledge about TB services was quite good. However, many were still not aware that these services are free of charge for everyone in their country. The proportion of those who had undergone a chest X-ray for TB control in the last three years was quite high. TB screening was often related to institutional requirements, for example imprisonment, being enrolled in a rehabilitation programme or staying in a shelter. Up to 10% of the participants reported never having had a chest X-ray. At the same time, quite a few experienced coughing for more than two weeks and/or had blood in their sputum – symptoms that refer to TB disease. Like in the case of HIV, barriers to services were more related to the lack of proper knowledge or motivation, and less to actual organisational or socio-economical issues. The results revealed that it is necessary to provide IDUs with information on where and how often to access TB screening services, and to encourage voluntary TB screening.

A considerable proportion of the participants had various health complaints and symptoms, with up to 27% reporting symptoms related to TB (blood in sputum and/or coughing for more than two weeks). Even though the people who reported symptoms during the interview were counselled and provided with referrals, we were not able to determine how many accessed health care services and whether anyone was actually diagnosed with TB. Yet, considering the extent of TB risk factors among the participants, the proportion of the participants reporting symptoms related to TB and the potentially high latent TB prevalence in the study countries, it is highly recommended to regularly screen IDUs for TB. In these harm reduction service locations where TB screening (X-ray and sputum collection) is not possible on site, patients should be actively referred to TB services. The presence of TB signs and symptoms in IDUs should be identified with a clinical examination and, ideally, clients should complete a questionnaire on possible symptoms (1).

## Limitations

The study data has to be considered in the light of some methodological and operational limitations.

First, the inherent limitations and risks of using the RDS methodology have to be taken into account. Even though we applied RDS, the final samples may not be representative of all the IDUs in the study regions and certainly not in the study countries as a whole.

The representativeness of the samples depends on and is affected by the profile of the recruited seeds. As an example, the Bulgarian study only recruited IDUs whose main drug of choice was heroin. Even though it is the most common drug in Bulgaria, such a conscious selection bias may affect the results. The number of waves was generally adequate, except in the case of Romania, where four out of ten seeds only had four or less waves, which is most probably indicative of the smaller size of their social networks than declared at the time of the recruitment. Moreover, most of the seeds recruited were clients of the harm reduction service sites in their respective countries.

Second, the information obtained on HIV and TB screening, clinical indicators, TB contacts and the latest X-ray scan may be prone to bias. Some of the questions may have been excessively complicated. For example, in Estonia, only three participants reported that they have AIDS, while the number of TB cases among HIV-infected participants was around 20 (TB is an AIDS indicator disease).

Third, although one of the eligibility criteria was “not to be under the influence of drugs/alcohol at the time of the interviews”, the Romanian RDS team indicated that some chronic users of legal drugs (new psychoactive drugs) proved and reported (only during the more detailed discussion of the interview) to suffer from neurocognitive impairment (memory problems, hallucinations).

As in some countries, data were collected during autumn and winter months, the participants' health complaints may have been related to other respiratory virus infections. Some of the symptoms could also be related to drug abstinence and/or smoking rather than HIV or TB.

# Conclusions

Our study identified gaps in drug users' knowledge about HIV and TB as well as barriers to access to the respective health care services. The main barriers to HIV and TB services appear to be socio-cultural and related to people's knowledge and perceptions, for example the reluctance to learn about their infection and the fear of subsequent consequences. Continuous education and counselling must be provided for drug users at every contact point with any social, health care or harm reduction services. Staff should be regularly trained to address the clients' problems with cultural sensitivity. Denial of the issue, self-stigma and hope that the symptoms will just disappear must be tackled carefully and without reproach. Apart from education and counselling, all harm reduction and drug abuse treatment sites must promote the active screening of IDUs for HIV and TB.

Our results revealed that TB risk factors – low socio-economical status, high rates of HIV infection, contacts with TB carriers, and imprisonment – are common among IDUs. Many also report symptoms suggestive of TB. Even though the number of HIV-TB dual infection cases has been relatively low, there are indications that the IDU-HIV-TB problem is only going to increase in the near future. Considering the array of TB risk factors among drug users as well as the historically high rates of TB in all the study countries (potentially high rates of latent TB), it is of utmost importance to scale up TB prevention among drug users.

In general, cross-sectional quantitative methodology is rather limited in nature to explore attitudes, beliefs, barriers to services, etc, therefore further qualitative research to study the nature of the issues we identified, is needed.

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**Table 1.2. Estonia**

	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6
Gender	Female	Female	Male	Female	Male	Male
Age	30	27	33	29	21	32
Ethnicity	Estonian	Russian	Russian	Russian	Russian	Estonian
Main drug injected	Fentanyl	Fentanyl	Amphetamine	Fentanyl	Fentanyl	Fentanyl
HIV status (self reported)	Positive	Positive	Positive	Positive	Negative	Negative
TB history (ever had TB) (self reported)	No	No	No	No	No	No
Number of waves	11	9	6	10	6	8
Number of respondents for each seed	164	125	40	141	48	75

**Table 1.3. Latvia**

	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7
Gender	Male	Male	Male	Male	Female	Male	Male
Age	46	36	31	35	49	40	24
Ethnicity	Latvian	Latvian	Russian	Russian	Russian	Russian	Russian
Main drug injected	Hanka (poppy)	Amphetamine	Heroin	Heroin	Heroin	Amphetamine	Amphetamine
HIV status (self reported)	Positive	Negative	Positive	Positive	Positive	Negative	Negative
TB history (ever had TB) (self reported)	No	No	No	Yes	No	No	No
Number of waves	9	2	9	9	5	7	6
Number of respondents for each seed	—	—	—	—	—	—	—

**Table 1.4. Lithuania**

	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7	Seed 8
Gender	Male	Female	Male	Male	Male	Female	Male	Male
Age	28	37	39	26	45	31	21	27
Ethnicity	Lithuanian	Polish	Polish	Russian	Byelorussian	Polish	Lithuanian	Lithuanian
Main drug injected	Amphetamine	Heroin	Poppy	Heroin	Heroin	Meth-amphetamine	Heroin	Heroin
HIV status (self reported)	Negative	Positive	Positive	Negative	Negative	Negative	Negative	Positive
TB history (ever had TB) (self reported)	No	No	No	No	No	No	No	No
Number of waves	8	9	8	8	8	8	8	5
Number of respondents for each seed	20	38	38	107	18	54	34	21
HIV status	Negative	Positive	Positive	Negative	Negative	Negative	Negative	Positive
TB status	No	No	Yes	No	No	Yes	No	No
Imprisonment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Table 1.5. Romania**

	Seed 1	Seed 2	Seed 3	Seed 4	Seed 5	Seed 6	Seed 7	Seed 8	Seed 9
Gender	Female	Male	Male	Male	Male	Female	Male	Male	Male
Age	24	18	39	42	46	23	61	31	28
Nationality	Romanian	Romanian	Romanian	Romanian	Romanian	Romanian	Romanian	Romanian	Romanian
Ethnicity	Romanian	Romanian	Roma	Romanian	Romanian	Roma	Romanian	Roma	Roma
Main drug injected	Legal Highs	Legal Highs	Heroine / Legal Highs	Legal Highs	Heroine	Legal Highs	Legal Highs	Legal highs	Legal Highs
HIV status (self reported)	Negative	Never tested	Negative	Positive	Never Tested	Positive	Doesn't know	Positive	Never tested
TB history (ever had TB) (self reported)	Never tested or diagnosed	Never tested or diagnosed	Never tested or diagnosed	Positive (tested and diagnosed with TB)	Never tested or diagnosed	Never tested or diagnosed	Never tested or diagnosed	Negative (tested and not diagnosed)	Never tested or diagnosed
Number of waves	1	0	16	2	1	0	4	5	0
Number of respondents for each seed	1	0	348	5	3	0	9	20	0

## Socio-Demographic Background

**Table 2. Age distribution by country**

Age group	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
≤25	68	22.7	107	17.9	38	12.7	53	16.1	116	27.8
26-30	123	41.0	222	37.0	74	24.7	89	27.0	134	32.1
31-35	82	27.3	201	33.6	91	30.3	80	24.2	108	25.9
≥36	27	9	69	11.5	97	32.3	108	32.7	59	14.1
Mean age (SD), years	29.2 (5.1)		30.1 (5.0)		33.9 (8.2)		32.9 (7.7)		29.5 (6.9)	
Median age (range), years	29 (18-48)		30 (18-55)		33 (18-61)		32 (18-59)		29 (18-69)	

**Table 3. Gender distribution by country**

Gender	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Male	257	85.7	439	73.5	226	75.3	252	76.4	330	79.1
Female	43	14.3	158	26.5	74	24.7	78	23.6	87	20.9

**Table 4. Ethnicity distribution by country**

Ethnicity	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Most common	193 <sup>1</sup>	64.3	487 <sup>4</sup>	81.4	198 <sup>4</sup>	66.0	137 <sup>9</sup>	41.5	218 <sup>11</sup>	52.3
Second most common	100 <sup>2</sup>	33.3	67 <sup>5</sup>	11.2	79 <sup>7</sup>	26.3	106 <sup>4</sup>	32.1	188 <sup>2</sup>	45.1
Other	7 <sup>3</sup>	2.3	43 <sup>6</sup>	7.4	23 <sup>8</sup>	7.7	87 <sup>10</sup>	26.4	11 <sup>12</sup>	2.6

<sup>1</sup> Bulgarian

<sup>2</sup> Roma

<sup>3</sup> Other – Turkish (n=4); Armenian (n=3)

<sup>4</sup> Russian

<sup>5</sup> Estonian

<sup>6</sup> Other – Byelorussian (n=9), Ukrainian (n=7), Finnish (n=5), Polish (n=5), Roma (n=5), Lithuanian (n=4), Latvian (n=3), and others (n=5)

<sup>7</sup> Latvian

<sup>8</sup> Other – Roma (n=11), Ukrainian (n=3), Lithuanian (n=2) and others (n=7)

<sup>9</sup> Lithuanian

<sup>10</sup> Other – Byelorussian (n=10), Ukrainian (n=5), Polish (n=61), Jew (n=4), and others (n=7)

<sup>11</sup> Romanian

<sup>12</sup> Other (not specified)

**Table 5. Country of birth (Data not collected in Romania)**

Ethnicity	Bulgaria (n=300)		Estonia (n=596)		Latvia (n=300)		Lithuania (n=330)	
	n	%	n	%	n	%	n	%
Study country	294	98	561	94.1	278	92.7	312	94.5
Second most common country of origin	—	—	28 <sup>2</sup>	4.7	11 <sup>2</sup>	3.7	11 <sup>2</sup>	3.3
Other	6 <sup>1</sup>	2	7 <sup>3</sup>	1.2	11 <sup>4</sup>	3.7	7 <sup>5</sup>	2.2

<sup>1</sup> Other – Russia (n=2), Armenia, Ukraine, N/A (n=1)

<sup>2</sup> Russia

<sup>3</sup> Other – Lithuania (n=2), Finland/Georgia/Kazakhstan/Latvia/Ukraine (in all n=1)

<sup>4</sup> Other – Byelorussia (n=4), Ukraine (n=3), Estonia/Kazakhstan/Georgia/Azerbaijan (in all n=1)

<sup>5</sup> Other – Byelorussian (n=2), Ukrainian (n=2), Kazakhstan (n=2), Azerbaijan (n=1)

**Table 6. Highest level of education by country**

Education	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=299)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
No formal education/never attended school	15	5	0	0	0	0	0	0	43	10.3
Primary education	16	5.3	35	5.9	24	8.0	5	1.5	84	20.1
Lower secondary education	61 <sup>1</sup>	20.3	256 <sup>4</sup>	42.7	88	29.4	122	37.0	153	36.7
Upper secondary education	149 <sup>2</sup>	49.7	118 <sup>5</sup>	19.7	104	34.8	149	45.1	124	29.7
Vocational education	48 <sup>3</sup>	16.0	188	31.4	66	22.1	31	9.4	5	1.2
Higher education (including college, university, masters and PhD)	11	3.7	1	0.3	17	5.7	23	7.0	8	1.9

<sup>1</sup> 7 or 8 years

<sup>2</sup> High school – 11 or 12 years

<sup>3</sup> Vocational school – 12 years

<sup>4</sup> 8 or 9 years

<sup>5</sup> 11 or 12 years

**Table 7. The main source of money in the last 6 months by country**

Main source of money	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=299)		Lithuania (n=330)		Romania (n=413)	
	n	%	n	%	n	%	n	%	n	%
Regular official job, employed with a regular salary (full or part-time)	81	27.0	63	10.5	46	17.1	22	6.7	15	3.6
Regular unofficial job, employed with a regular salary (full or part-time)	39	13.0	45	7.5	24	8.9	45	13.6	102	24.7
Temporary work (include odd jobs, off-the-books, etc.)	31	10.3	85	14.2	89	33.1	17	5.2	0	0
Work at family business or farm	12	4.0	2	0.3	1	0.4	0	0	0	0
Self-employed (in a particular trade)	21	7.0	0	0	10	3.7	0	0	0	0
Government benefits (social welfare, unemployment insurance, sick leave etc.)	2	0.7	277	46.2	55	20.4	166	50.3	23	5.6
Spouse, partner, relative, or friend's income	66	22.0	110	18.4	27	10.0	38	11.5	126	30.5
Student financial aid/loans/grants	1	0.3	0	0	0	0	1	0.3	0	0
Street begging/panhandling etc	4	1.3	1	0.2	0	0	4	1.2	12	2.9
Selling drugs	10	3.3	13	2.2	0	0	1	0.3	0	0
Sex for money	9	3.0	0	0	2	0.7	8	2.4	8	1.9
Theft, robbing, or stealing	16	5.3	2	0.3	4	1.5	28	8.5	71 <sup>1</sup>	17.2
Other	4	1.3	2	0.3	11	4.1	0	0	9	2.2
Parking/car window washing/collecting and selling scrap metal	—	—	—	—	—	—	—	—	47	11.4

<sup>1</sup> A general category of “illegal activities” was used. It may include also begging or selling drugs.

**Table 8. Number of people in the same household**

Number of people	Bulgaria (n=299)		Estonia (n=599)		Latvia (n=300)		Lithuania (n=330)		Romania (n=414)	
	n	%	n	%	n	%	n	%	n	%
0	22	7.4	118	19.7	52	17.4	44	13.3	49	11.8
1-2	157	52.5	287	47.9	183	61.0	167	50.6	99	23.9
3-4	96	32.1	179	29.9	61	20.3	101	30.6	125	30.2
≥5	24	8.0	15	2.5	4	1.3	18	5.5	141	34.1
Mean number (SD)	2.4 (1.8)		1.2 (0.8)		1.6 (1.2)		2.1 (1.5)		4.9 (6.5)	
Median number (min and max)	2 (0-19)		2 (0-8)		1 (0-5)		2 (0-8)		3 (0-60)	

**Table 9. Current marital status by country**

Marital status	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=300)		Lithuania (n=330)		Romania (n=416)	
	n	%	n	%	n	%	n	%	n	%
Legally married	24	8.0	78	13.0	28	9.3	45	13.6	31	7.5
Living as married (common law marriage)	58	19.3	169	28.2	113	37.7	9	2.7	164	39.4
Widowed	0	0	11	1.9	11	3.7	11	3.3	6	1.4
Divorced	14	4.7	45	7.5	34	11.3	61	18.6	21	5
Never married/ single	202	67.3	296	49.4	112	37.3	204	61.8	193	46.4
Other / N/A	2	0.7	0	0	2 <sup>1</sup>	0.7	0	0	1	0.2

<sup>1</sup> Legally married but living separately



**Table 10. Main place of living in the last 6 months by country**

Place of living	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=299)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Own (or spouse's/partner's) house, flat, or apartment (owned not rented)	81	27.0	63	10.5	46	17.1	22	6.7	15	3.6
House, flat, apartment, or room rented (leased) by me (or my spouse or partner)	39	13.0	45	7.5	24	8.9	45	13.6	102	24.7
Dormitory, hostel	146	48.7	216	36.1	146	48.8	89	27.0	223	53.5
Room rented on a daily basis or rooming house	41	13.7	74	12.3	61	20.4	51	15.5	58	13.9
Someone else's (including parents, relatives, friends) house flat or apartment	2	0.7	67	11.2	1	0.3	2	0.6	0	0
Government housing for government employees	24 <sup>1</sup>	8.0	0	0	0	0	2	0.6	0	0
Shelter, welfare residence	81	27.0	213	35.6	65	21.8	158	47.9	11	2.6
No fixed address (e.g., street, park, abandoned building)	1	0.3	0	0	0	0	0	0	0	0
Residential community	—	—	23	3.8	9	3.0	12	3.6	4	1
Drug treatment institution	2	0.7	5	0.8	7	2.3	11	3.3	110	26.4
Other treatment institution/hospital	0	0	0	0	0	0	2	0.6	0	0
Jail/prison	0	0	0	0	0	0	0	0	0	0
Other	1	0.3	0	0	5	1.7	3	0.9	3	0.7
	2	0.7	1	0.2	5	1.7	0	0	8	1.9

<sup>1</sup> In Bulgarian questionnaire this option is 'Living in a rented room', as opposed to 'Living in a rented apartment/house (self-contained place).

**Table 11. Self-evaluation of the material well-fare by country  
(Data not collected in Bulgaria)**

Number of people	Estonia (n=596)		Latvia (n=296)		Lithuania (n=330)		Romania (n=413)	
	n	%	n	%	n	%	n	%
Live in poverty (1)	257	43.1	140 <sup>1</sup>	47.3	70	21.2	114	27.6
Nearly poor (2)	257	43.1	114	38.5	159	48.2	74	17.9
Not very good, but I can cope with it (3)	82	13.8	38	12.8	94	28.5	210	50.8
Good (4)	0	0	4	1.4	6	1.8	15	3.6
Very good (5)	0	0	–		1	0.3	0	0
Mean value (SD)	1.7 (0.7)		–		2.1 (0.8)		2.3 (0.9)	

<sup>1</sup> In Latvia, a four point scale was used.

**Table 12. Imprisonment by country**

	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=300)		Lithuania (n=330)		Romania (n=415)	
	n	%	n	%	n	%	n	%	n	%
Ever been in prison/jail	101	33.9	329	54.9	150	50.0	240	72.7	218	52.5
Number of times in prison (among those who have been in prison) <sup>1</sup>										
Once	44	44	106	32.3	54	36.0	66	27.6	107	49.5
Twice	22	22	101	30.8	32	21.3	39	16.2	45	20.8
3-5 times	29	29	103	31.4	53	35.3	85	35.4	60	27.8
6-10 times	5	5	16	4.9	10	6.7	47	19.6	4	1.9
More than 10 times	0	0	2	0.6	1	0.7	3	1.2	0	0
Median number (range)	2 ()		2 (1-16)		2 (1-12)		3 (1-25)		–	

<sup>1</sup> The number of participants included in Bulgaria was 100.

## Smoking, Drug Use & Alcohol Use

**Table 13. Smoking by country**

Smoking	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Never	5	1.7	22	3.7	3	1.0	6	1.8	3	0.7
Yes, currently every day <sup>1</sup>	295	98.3	519	86.9	269	89.7	320	97.0	403	96.6
Yes, currently occasionally	—	—	41	6.9	23	7.7	4	1.2	9	2.2
Yes, used to smoke earlier	—	—	15	2.5	5	1.7	0	0	2	0.5
Mean age at first smoking (SD; median; range), years	13.5 (3.1; 14; 5-23)		13.4 (3.0; 14; 6-25)		13.6 (4.0; 14; 5-30)		13.0 (4.4; 13; 5-39), n=324		12.1 (3.9; 12; 5-30)	
Mean age at starting daily smoking (SD; median; range), years	15.2 (2.8; 15; 6-29)		15.3 (2.5; 15; 7-26)		15.4 (4.1; 15; 6-35) (n=291)		15.3 (4.0; 15; 5-39), n=324		13.2 (3.9; 14; 5-35)	
Mean number of cigarettes a day usually smoked (used to smoke before) (SD; median; range)	20.4 (8.5; 20; 1-60)		17.1 (6.9; 20; 0-40) (n=574)		14.5 (7.9; 13; 0-40) (n=286)		17.9 (8.9; 20; 1-60), n=324		24.4 (11.6; 20; 1-60)	
Mean duration of smoking (for everyday smokers) (SD; median; range), years	14.0 (5.6; 14; 0-35)		14.8 (5.4; 15; 2-42)		18.2 (7.8; 17; 3-48) (n=291)		17.7 (8.1; 16; 1-41)		16.4 (7.4; 16; 0-56)	

<sup>1</sup> In Bulgarian version of questionnaire, this question covers lifetime prevalence of tobacco smoking (Have you ever smoked...?), with two answer options ("Yes" and "No").

**Table 14. Injection drug use by country**

Injection drug use	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=415)	
	n	%	n	%	n	%	n	%	n	%
Main drug injected in the last 4 weeks										
Heroin	300 <sup>1</sup>	100	1	0.2	125	42.8	297	90.0	168	40.5
Fentanyl (China White, White Persian / Afghan)	0	0	364	60.8	0	0	0	0	0	0
Poppy/Hanka	0	0	2	0.3	10	3.4	10	3.0	0	0
Amphetamine	0	0	197	32.9	145	49.7	19	5.8	0	0
Methamphetamine	0	0	0	0	2	0.7	3	0.9	0	0
Sudafed	0	0	6	1.0	0	0	0	0	0	0
Cocaine	0	0	1	0.2	1	0.3	0	0	0	0
Ketamine	0	0	0	0	0	0	0	0	0	0
Methadone	0	0	0	0	0	0	0	0	24	5.8
Legal highs <sup>2</sup> (i.e. street names "Pure by Magic", "Special Gold", "Insomnia" etc.)	0	0	0	0	0	0	0	0	206	49.6
Other	0	0	6	1.0	9	3.1	1	0.3	17	4.1
Mean age at starting injection drug use (SD; median; min-max), years	19.3 (3.8; 19; 12-37)		18.7 (3.7; 18; 11-46)		n=299 21.2 (6.6; 20; 9-54)		21.2 (5.7; 20; 11-52)		19.3 (6.2; 18; 6-68)	
Mean duration of injection drug use (SD; median; min-max), years	9.9 (5.1; 11; 0-26)		11.4 (5.2; 12; 0-39)		n=299 13.1 (7.1; 13; 1-38)		11.8 (7.6; 11; 0-39)		10.2 (5.1; 11; 0-45)	
Mean number of days in the last 4 weeks when injected (SD; median; min-max)	24.1 (8.8; 30; 0-30)		15.0 (8.8; 14; 1-28)		n=299 10.6 (9.2; 7; 0-28)		22.7 (8.9; 28; 1-28)		22.63 (10.4; 30; 0-31)	
Mean number of times injected per day in the last day when injected (SD; median; min-max)	2.2 (2.2; 2; 0-30)		1.7 (0.9; 1; 1-6)		n=299 1.8 (1.3; 1; 0-15)		2.3 (1.2; 2; 1-9)		4.27 (4.3; 3; 1-30)	

<sup>1</sup> All Bulgarian respondents were selected as injecting heroin users, therefore the question about the main drug injected was skipped. Heroin has always been and still remains main drug injected in Bulgaria. Injecting use of other drugs is rather an exception to the rule (e.g. using methadone from time to time as a cheap substitute of heroin) or occurs in combination with heroin (e.g. heroin + amphetamines).

<sup>2</sup> Officially called "new psychoactive substances", they are substances that could be occurring naturally or be synthesized from any legal chemicals with potential psychoactive properties. There is no definitive list of legal highs, since they can be synthesized in very different combinations from a wide range of chemicals.

**Table 15. Alcohol use in the last 4 weeks by country**

Alcohol use in the last 4 weeks	Bulgaria (n=299)		Estonia (n=599)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Every day	62	20.8	–	–	67	22.3	71	21.5	49	11.8
More than once per week	39	13.0	–	–	95	31.7	63	19.1	31	7.4
Once per week	35	11.7	–	–	43	14.3	52	15.8	37	8.9
Less than once per week	44	14.7	–	–	39	13.0	48	14.5	62	14.9
Not once in the last 4 weeks	119	39.8	–	–	56	18.7	96	29.1	31	7.4

<sup>1</sup> In Bulgaria the following measures were applied based on the experience in previous research (1 unit beer = 0.500 l; 1 unit wine = 0.100 l; 1 unit hard liquor = 50 ml). Statistics are provided for each type of alcohol consumed, based on number of valid cases reporting consumption.

## Knowledge – HIV & TB

**Table 16. HIV knowledge and beliefs by country**

Knowledge/belief	Correct/ expected answer	Bulgaria (n=300)		Estonia (n=598)		Latvia (n=300)		Lithuania (n=330)		Romania	
		n	%	n	%	n	%	n	%	n	%
Have you ever heard of HIV or AIDS?	Yes	297	99.0	598	100.0	298	99.3	327	99.1	409 (417)	98.1
Can a healthy-looking person have HIV?	Yes	—		571	95.5	283	95.0	282	85.5	—	
Can a person reduce the risk of getting HIV by using a condom every time they have sex?	Yes	271	90.3	567	94.8	286	96.0	304	92.1	364 (409)	89.0
Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?	Yes	—		534	89.3	274	91.9	249	75.5	330 (409)	80.7
Can a person get HIV by sharing food with someone who is infected?	No	220	73.3	542	90.6	276	92.6	264	80.0	286 (409)	69.9
Can a person get HIV from sharing a needle or syringes from someone with HIV?	Yes	292	97.3	597	99.8	295	99.0	322	97.6	400 (409)	97.8
Can you tell if a person has HIV by looking at them?	No	214	71.3	492	82.7	262	87.9	251	76.1	328 (409)	80.2
Can HIV be a fatal disease?	Yes	288	96.0	364	60.9	247	83.2	274	83.0	—	
Is there any treatment available for HIV?	Yes	170	56.7	356	59.5	214	71.5	214	64.8	242 (409)	59.2
Do you believe that treatment for HIV can cure HIV?	No	76	25.3	417	69.9	233	78.2	227	68.8	189 (292)	64.7

Knowledge/belief	Correct/expected answer	Bulgaria (n=300)		Estonia (n=598)		Latvia (n=300)		Lithuania (n=330)		Romania	
		n	%	n	%	n	%	n	%	n	%
Do you believe that treatment for HIV able to live symptom-free for the HIV positive person?	Yes	–		378	63.2	202	67.8	180	54.5	186 (292)	63.7
Do you believe that you will be able to obtain treatment for HIV if you became infected?	Yes	161	53.7	558	93.3	256	85.9	249	75.5	118 (292) <sup>1</sup>	40.4
Do you know where to go to get HIV treatment?	Yes	129	43.0	570	95.3	215	72.4	158	47.9	102 (292)	34.9

<sup>1</sup> Romanian translation: “Do you believe that a person with HIV can easily obtain treatment?” (does not assess self-efficacy, but the general possibility of obtaining treatment).

**Table 17. TB knowledge and beliefs by country**

	Correct/expected answer	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
		n	%	n	%	n	%	n	%	n	%
Ever heard of tuberculosis?											
	Yes	291	97.0	588	98.5	294	98.0	318	96.4	393	94.2
	No	4	1.3	9	1.5	6	2.0	12	3.6	19	4.6
Knowledge/belief (among those who have heard of TB)											
Can a person get TB by breathing air someone with TB has coughed in?	Yes	245	81.7	575	97.8	277	94.2	296	89.7	333	84.7
Can a person get TB from someone who spits in public?	No	65	21.7	32	5.4	44	15.0	302	91.5	106	27.0
Can a person get TB by sexual contact (like STI)?	No	95	31.7	194	33.0	204	69.4	118	35.8	93	23.7
Can a person get TB by sharing food with someone who is sick?	No	50	16.7	74	12.6	71	24.1	34	10.3	58	14.8
Can a person inherit TB from parents (during pregnancy)?	No	98	32.7	131	22.3	101	34.4	69	20.9	45	11.5

	Correct/ expected answer	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
		n	%	n	%	n	%	n	%	n	%
Can a person get tuberculosis from sharing a syringe/needle?	No	23	7.7	186	31.6	218	74.1	101	30.6	77	19.6
Can a person get tuberculosis from smoking the same cigarette with someone who has tuberculosis?	No	25	8.3	3	0.5	73	24.8	30	9.1	48	12.2
You can stop taking TB medication when you stop feeling sick	No	140	46.7	487	82.8	242	82.3	228	69.1	N/A <sup>2</sup>	
If people don't take their TB medication as long as prescribed, it will be harder for them to be treated	Yes	256	85.3	548	93.2	288	98.0	303	91.8	—	
People who have tuberculosis have to take TB medication even if they feel good	Yes	263	87.7	498	84.7	283	96.3	274	83.0	355	90.3
If you have HIV, it's easier to get sick with TB	Yes	216	72.0	562	95.6	250	85.0	251	76.1	276	70.2
TB can be a fatal disease	Yes	264	88.0	565	96.3	286	97.3	260	78.8	359	91.3
There is a new kind of TB around that is not easily treated with drugs	Yes	75	25.0	109	18.5	259	88.1	112	33.9	—	
If someone has TB it can be treated	Yes	252	84.0	379	64.5	236	80.3	327	99.1	277	70.5
Do you believe that treatment for TB is effective?	Yes	239	80.2 <sup>1</sup>	383	65.5	260	88.4	292	88.5	—	
Do you believe that you will be able to obtain treatment for TB if you got sick?	Yes	255	85.0	554	94.2	278	94.6	305	92.4	N/A <sup>3</sup>	
TB diagnostics and treatment in my country is free of charge for everybody	Yes	122	40.7	382	65.0	191	65.0	173	52.4	109	27.7



	Correct/ expected answer	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
		n	%	n	%	n	%	n	%	n	%
Do you know where to go (which doctor, hospital?) in case you suspect that you have TB?	Yes	220	73.3	564	95.9	227	77.5	268	81.2	238	60.6

<sup>1</sup> Out of 298 valid cases (2 missing)

<sup>2</sup> Romanian translation: "People with TB have to take their treatment even if they feel OK?"

<sup>3</sup> Romanian translation: "A person with TB can easily get treatment?"

## Health Status and Healthcare Services

**Table 18. Self-assessment of health status by country**

	Bulgaria (n=296)		Estonia (n=598)		Latvia (n=299)		Lithuania (n=330)		Romania (n=396)	
	n	%	n	%	n	%	n	%	n	%
Excellent (5)	31	10.5	3	0.5	6	2.0	3	0.9	15	3.8
Good (4)	195	65.9	183	30.6	77	25.7	58	17.6	76	19.2
Fair (3)	45	15.2	357	59.7	171	57.2	187	56.7	194	49
Poor (2)	17	5.7	50	8.4	34	11.4	71	21.5	65	16.4
Very poor (1)	3	1.0	5	0.8	11	3.7	11	3.3	46	11.6
Health status, mean (SD; median)	Median=2 Mode=2		2.8 (0.6; 3)		3.1 (0.8; 3)		3.1 (0.7; 3)		3.1 (1; 3)	

**Table 19. Health insurance by country**

Health insurance <sup>1</sup>	Bulgaria (n=299)		Estonia (n=599)		Latvia (n=299)		Lithuania (n=330)		Romania (n=413)	
	n	%	n	%	n	%	n	%	n	%
Yes	120	40.1	473	78.9	242	81.0	227	68.8	88	21.3
No	173	57.9	125	20.9	53	17.7	95	28.8	317	76.8
I do not know / I do not remember/ I am not sure	5	1.7	1	0.2	4	1.3	8	2.4	8	1.9

<sup>1</sup> For Latvia the equivalent was used (Registration with a family doctor)

**Table 20. Health complaints by country**

Symptom	Bulgaria (n=300)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
Tiredness/fatigue	60	20.0	402	67.2	170	56.7	178	53.9	281 (414)	67.9
Loss of weight	60	20.0	229	38.3	124	41.3	139	42.1	267 (411)	65
Chills	24	8.0	136	22.8	78	26.0	103	31.2	184 (416)	44.2
Fever	20	6.7	83	13.9	50	16.7	85	25.8	130 (413)	31.5
Night sweats	56	18.7	295	49.3	154	51.3	171	51.8	223 (413)	54
Cough more than 2 weeks	21	7.0	63	10.5	81	27.0	65	19.7	81 (416)	19.5
Blood in sputum	5	1.7	1	0.2	2	0.7	8	2.4	22 (417)	5.3
Blood in sputum and/or cough more than 2 weeks	1	0.3	64	10.7	81	27.0	68	20.6	87 (417)	20.8
Pain in chest	17	5.7	42	7.0	42	14.0	44	13.3	98 (414)	23.7
Enlarged lymph nodes	—		86	14.4	37	12.3	36	10.9	50 (412)	12.1
Loss of appetite	64	21.3	218	36.5	113	37.7	129	39.1	194 (412)	47.1
Pain (headaches, toothache, stomachaches, arthralgia, back pains, etc)	2	0.7	30	5.0	5	1.7	26	7.9	14 (408)	3.4
People with no health complaints	163	54.3	130	21.8	48	16.0	108	32.7	59	14.1

**Table 21. Seeking health care services/help by country**

	Bulgaria (n=137)		Estonia (n=469)		Latvia (n=250)		Lithuania (n=330)		Romania (n=358)	
	n	%	n	%	n	%	n	%	n	%
Doing something about the symptoms (among those who have symptoms)										
Yes	32	23.2	177	37.7	84	33.6	80	24.2	132	36.9
No	106	76.8	292	62.3	166	66.4	250	75.8	226	63.1
Reasons for not doing anything about these symptoms (among those who have not done anything about the symptoms)										
I do not know what to do	25	23.6	16	5.5	10	6.1	56	22.4	65	28.8
I do not want to go to the doctor	12	11.3	44	15.1	19	11.7	6	2.4	11	4.9
I do not have health insurance/money for the doctor	19	17.9	24	8.2	19	11.7	10	4.0	63	27.9
Nothing can be done about it anyway	16	15.1	101	34.6	4	2.5	15	6.0	5	2.2
I hope the complaints will pass away	—		172	58.9	40	24.5	28	11.2	—	
Other	101	9.4	—	—	655	40.1	21	8.4	48	21.2
Other	122	11.3	—	—	Latvia (n=163)		Drug effect	—	463	20.4
Things people have done about these symptoms (among those who have done something about the symptoms)										
I visited a doctor	17	53.1	161	91.0	64	76.2	51	63.8	71	53.8
I asked for medication in pharmacy shop	2	6.3	48	27.1	10	11.9	3	3.8	23	17.4
I took the medication which I had at home by myself	8	25.0	51	28.8	4	4.8	29	36.2	9	6.8

<sup>1</sup> I know the reason for my symptoms

<sup>2</sup> Most frequently mentioned reasons among “Other reasons” was “The symptoms were not considered serious, so the respondents did not do anything about them, thinking they will pass away”.

<sup>3</sup> The symptoms are negligible (nothing serious)

**Table 22. Type of health care services received in the last 12 months by country**

	Bulgaria (n=300)		Estonia (n=599)		Latvia (n=297)		Lithuania (n=330)		Romania (n=4 17)	
	n	%	n	%	n	%	n	%	n	%
No health care services received	86	29.8	112	18.7	59	19.9	96	29.1	125	30
Family doctor/ general practitioner	74	25.6	285	47.6	142	47.8	1574	47.6	64	15.3
Dentist	48	16.6	48	8.0	60	20.2	40	12.1	27	6.5
Infectious diseases doctor <sup>1</sup>	9	3.1	266	44.4	55	18.5	51	15.5	81	19.4
Psychiatrist <sup>2</sup>	41	14.2	177	29.6	14	4.7	98	29.7	36	8.6
Drug abuse treatment/ substitution treatment <sup>2</sup>	—	—	75	12.5	25	8.4			87	20.9
Emergency depart- ment/ambulance	10	3.5	74	12.4	45	15.2	17	5.2	94	22.5
Lung specialist (pulmonologist)	3	1.0	27	4.5	11	3.7	22	6.7	27	6.5
Gyneacologist	6	2.0	15	2.5	17	5.7	9	2.7	—	—
Surgeon	11	3.7	12	2.0	11	3.7	36	10.9	—	—
Other	47 <sup>3</sup>	15.7	—	—	—	—	17 <sup>4</sup>	5.2	52	12.4
Detox treatment	—	—	—	—	—	—	—	—	26	6.2

<sup>1</sup> In Bulgarian questionnaire 'Infectious diseases doctor' was combined with 'Venerologist (STI doctor)'

<sup>2</sup> In Bulgarian questionnaire 'Psychiatrist' and Drug abuse treatment' were combined.

<sup>3</sup> Testing (e.g testing for HIV/HCV, tuberculosis, etc.)

<sup>4</sup> Prison doctors included

**Table 23. Last time any health care services were received by country**

	Bulgaria (n=300)		Estonia (n=598)		Latvia (n=298)		Lithuania (n=330)		Romania (n=417)	
	n	%	n	%	n	%	n	%	n	%
In 2012	163	54.3	400	66.9	224	75.2	231	70.0	276	66.2
2009-2011	106	35.3	178	29.8	55	18.5	61	18.5	94	22.5
Earlier than 2009	27	9.0	18	3.0	13	4.4	10	3.0	21	5
I do not know/ I do not remember/ I am not sure	4	1.3	2	0.3	6	2.0	28	8.5	26	6.2

**Table 24. Type of health care services received the last time by country**

	Bulgaria (n=288)		Estonia (n=598)		Latvia (n=300)		Lithuania (n=330)		Romania (n=393)	
	n	%	n	%	n	%	n	%	n	%
Family doctor/general practitioner	96	33.3	187	31.3	117	39.0	116	35.2	42	10.7
Dentist	62	21.5	24	4.0	29	9.7	23	7.0	18	4.6
Infectious diseases doctor	13 <sup>1</sup>	4.5	202	33.8	35	11.7	29	8.8	56	14.2
Psychiatrist	432	14.9	57	9.5	8	2.7	58	17.6	3	0.8
Drug abuse treatment/substitution treatment	— <sup>2</sup>	—	35	5.9	2	0.7	—	—	50	12.7
Emergency department/ambulance	23	8.0	42	7.5	14	4.7	11	3.3	108	27.5
Lung specialist (pulmonologist)	4	1.3	2	0.3	6	2.0	7	2.1	10	2.5
Gynaecologist	5	1.7	17	2.8	8	2.7	8	2.4	—	—
Other	82 <sup>3</sup>	29.0	—	—	34 <sup>4</sup>	11.3	18	5.5	91	23.2
Surgeon	13	4.3	—	—	—	—	37	11.2	—	—
Detox center	—	—	—	—	—	—	—	—	15	3.8

<sup>1</sup> In Bulgarian questionnaire 'Infectious diseases doctor' is combined with 'Venereologist (STI doctor)'

<sup>2</sup> In Bulgarian questionnaire 'Psychiatrist' and Drug abuse treatment' are combined under 1 single option.

<sup>3</sup> Testing (e.g testing for HIV/HCV, tuberculosis, etc.)

<sup>4</sup> Other – In prison (n=12), surgeon/traumatologist (n=9)

<sup>5</sup> Can be a general practitioner but in close setting

## HIV-testing and HIV treatment

**Table 25. Reasons for not taking an HIV test**

	Bulgaria (n=300)		Estonia (n=598)		Latvia (n=300)		Lithuania (n=330)		Romania (n=414)	
	n	%	n	%	n	%	n	%	n	%
Number of those who have always had a chance to take an HIV test if desired	266	89.0	471	78.8	230	76.7	258	78.2	—	
Number of those who have never felt a need to test for HIV	0	0.0	43	7.2	7	2.3	1	0.3	—	
Number of those who have wanted to take an HIV test but did not do so	33	11	84	14.0	63	21.0	71	21.5	—	
Reason for not testing for HIV (those who have not wanted or have not had a possibility)										
Did not think about it	0	0	10	1.7	1/61	1.6	2	2.8	54/116 <sup>4</sup>	47.0
Didn't have time	11	33.3	51	8.5	16/61	26.2	26	36.1	9/116	7.8
Unlikely to have been exposed to HIV (always clean needles/regular condom use)	—	—	41	6.8	0	0	0	0	17/116	14.7
Afraid that the name will be reported/people will find out	1	3.0	9	1.5	2/61	3.3	0	0	0/116	0
Afraid to find out themselves	5	15.2	25	4.2	13/61	21.3	11	15.3	10/116	8.6
Did not know where to go to take the test	4	12.1	1	0.2	6/61	9.8	18	25.0	8/116	6.9
Nobody has offered testing	1	3.0	1	0.2	0	0	3	4.2	5/116	4.3
Do not want to find out themselves	—	—	25	4.2	0	0	1	1.4	2/116	1.7
Other	31	9.1	2	0.3	25/61 <sup>2</sup>	41.0	63	8.4	17/116	14.7

<sup>1</sup> Afraid of blood drawing for the sample

<sup>2</sup> I didn't know that HIV test is free of charge (n=9; 14.8%); inconvenient working hours of NEP or other testing site / medical worker (n=5; 8.2%); long waiting lines (n=3; 4.9%); prison rejected my request to have HIV test (n=3; 4.9%).

<sup>3</sup> No money for testing

<sup>4</sup> People who have never tested for HIV (n=116)

**Table 26. Ever testing for HIV and last test result by country**

	Bulgaria (n=293)		Estonia (n=598)		Latvia (n=300)		Lithuania (n=330)		Romania (n=416)	
	n	%	n	%	n	%	n	%	n	%
Ever testing for HIV										
Yes	283	94.3	542	90.6	252	84.0	296	89.7	293	70.4
No	14	4.7	56	9.4	48	16.0	33	10.0	116	27.9
Do not know/ do not remember/ not sure	3	1.0	0	0	0	0	1	0.3	7	1.7
Result of the last HIV test (among those who have been tested for HIV)										
Negative (not infected)	243	81.0	227	41.9	183	72.6	261	88.2	218	74.4
Positive (infected)	1	0.3	311	57.4	65	25.8	29	9.8	56	19.1
Inconclusive	0	0.0	2	0.4	1	0.4	1	0.3	4	1.4
Did not get the result	5	1.7	2	0.4	2	0.8	4	1.4	8	2.7
I do not know/ I do not remember/ I am not sure	51	17	0	0	1	0.4	1	0.3	6	2.0
Refused to answer	—	—	0	0	0	0	0	0	1	0.3
Time of the last HIV test										
Less than a year ago (2012)	205	68.3	193	35.6	104	41.3	183	61.9	143	52.4
1 to 3 years ago (2009–2011)	54	18	280	51.7	93	36.9	75	25.3	101	37.1
More than 3 years ago (before 2009)	7	2.3	69	12.7	55	21.8	21	7.1	29	10.7
I do not know/ I do not remember/ I am not sure	34	11.3	0	0	0	0	17	5.7	0	0

**Table 27. Place of the last HIV test by country**

	Bulgaria (n=283)		Estonia (n=537)		Latvia (n=251)		Lithuania (n=296)		Romania (n=292)	
	n	%	n	%	n	%	n	%	n	%
Out-patient (family doctor/health centre/poly-clinic)	13	4.6	86	16.0	18	7.2	11	3.7	6	2.1
STI clinic	4	1.4	10	1.9	2	0.8	2	0.7	—	
Hospital (in patient department)	8	2.8	159	29.6	18	7.2	13	4.4	31	10.7
Drug abuse treatment/substitution treatment	5	1.8	36	6.7	2	0.8	55	18.6	34	11.7
Syringe exchange point	226	95.8	32	6.0	67	26.7	134	45.3	34	11.7
Anonymous AIDS counseling office	7	3.0	101	18.8	42	16.7	19	6.4	27	9.3
Jail/prison	18	6.4	83	15.5	52	20.7	56	18.9	35	12.1
Infectious diseases doctor	0	0.0	21	3.9	35	13.9	0	0	84	29.0
Other	3	1.0	9	1.7	151	6.0	6	2.0	39	13.4

<sup>1</sup>Gynaecologist (n=7; 2.8%); as a donor (n=3; 1.2%); went directly to laboratory (n=5; 2.0)



## Additional information about those, who report being HIV-infected

**Table 28. Time of being diagnosed with HIV by country**

Time of the first diagnosis of HIV	Bulgaria (n=1)		Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=38)	
	n	%	n	%	n	%	n	%	n	%
Less than 1 year ago (2012)	1	100.0	6	1.9	9	13.8	3	10.3	19	50.0
1 to 3 years ago (2009–2011)	0	0	48	15.4	18	27.7	10	34.6	17	44.8
More than 3 years ago (2008 or earlier)	0	0	257	82.6	38	58.5	15	51.7	2	5.2
I do not know/ I do not remember/ I am not sure	0	0	0	0	0	0	1	3.4	0	0

**Table 29. Receiving HIV care by country (data not collected in Bulgaria)**

	Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=38)	
	n	%	n	%	n	%	n	%
Receiving regular HIV care (among those who report being HIV-infected)								
Yes	223	71.7	41	63.1	20	69.0	33	86.8
No	88	28.3	24	36.9	9	31.0	5	13.2
Reason for not receiving regular HIV care (among those who do not report receiving regular care)								
Do not know where to go for medical care	1	1.1	0	0	2	22.2	–	–
I do not have health insurance (Couldn't afford care)	28	31.8	2/23	8.7	1	11.1	3	–
Could be identified as someone with HIV	20	22.7	3/23	13.0	0	0	–	–
Could be identified as drug user	6	6.8	0	0	0	0	–	–
Could have effects on family	19	21.6	0	0	0	0	–	–
Too busy	9	10.2	9/23	39.1	6	66.7	–	–
Inconvenient (no transportation, clinic hours etc)	5	5.7	2/23	8.7	0	0	–	–
Long waiting times	5	5.7	0	0	0	0	–	–
Not interested	49	55.7	2/23	8.7	0	0	–	–
Do not trust health care system	21	23.7	1/23	4.3	0	0	–	–
Other	81	9.1	9 <sup>2</sup> /23	39.1	0	0	2 <sup>3</sup>	–

<sup>1</sup> Other reasons: Feel healthy; the doctor does not listen to me; I am ashamed; the doctor was impolite; the doctor told I do not need to come; I was just recently diagnosed.

<sup>2</sup> No money (n=4; 17.4%); feel good (n=3; 13.0%)

<sup>3</sup> Other reasons: Feel healthy; the doctor does not listen to me; I am ashamed; the doctor was impolite; the doctor told I do not need to come; I was just recently diagnosed.

**Table 30. HIV care by country**

	Bulgaria (n=1)		Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=38)	
	n	%	n	%	n	%	n	%	n	%
Ever having CD4 count measured (among those who report being HIV-infected)										
Yes	0	0	200	64.3	49	75.4	25	86.2	30	78.9
No	1	100	100	32.2	10	15.4	4	13.8	4	10.5
I do not know/ I do not remember/ I am not sure	0	0	11	3.5	6	9.2	0	0	4	10.5
The first CD4 count value (among those who have had CD4 count measured)										
<200	–		33	16.5	3/49	6.1	1	4.0	1	3.3
200–500	–		48	24.0	11/49	22.5	3	12.0	11	36.7
>500	–		45	22.5	7/49	14.3	7	28.0	9	30.0
I do not know/ I do not remember/ I am not sure	–		74	37.0	28/49	57.1	14	56.0	9	30.0
Time of the first CD4 count										
Less than 1 year ago (2012) <sup>1</sup>	–		6	3.0	33/43	76.8	2	8.0	15	50
1 to 3 years ago (2009–2011) <sup>2</sup>	–		53	26.5	5/43	11.6	7	28.0	10	33
More than 3 years ago (2008 or ear- lier) <sup>3</sup>	–		131	65.5	5/43	11.6	10	40.0	1	3.3
I do not know/ I do not remember/ I am not sure	–		10	5.0	–	–	6	24.0	4	13.3
The latest CD4 count value										
<200	–		33	16.5	11	22.4	3	12.0	1	3.4
200–500	–		96	48.0	11	22.4	6	24.0	6	21
>500	–		36	18.0	10	20.4	8	32.0	11	37.9
I do not know/ I do not remember/ I am not sure	–		35	17.5	17	34.8	8	32.0	11	37.9
Time of the latest CD4 count										
Less than 1 year ago (2012)	–		137	68.5	33/44	75.0	22	88.0	21	72.4
1 to 3 years ago (2009–2011)	–		51	25.5	10/44	22.7	2	8.0	2	7.0

	Bulgaria (n=1)		Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=38)	
	n	%	n	%	n	%	n	%	n	%
More than 3 years ago	–	–	–	–	–	–	–	–	–	–
(earlier than 2008)	–	–	10	5.0	1/44	2.3	0	0	1	3.4
I do not know/ I do not remember/ I am not sure	–	–	2	1.0	–	–	1	4.0	5	17.2

<sup>1</sup> Latvia: within one year from diagnosis

<sup>2</sup> Latvia: 1–3 years from diagnosis

<sup>3</sup> Latvia: More than 3 years since diagnosis

**Table 31. Antiretroviral treatment by country**

	Bulgaria (n=1)		Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=30)	
	n	%	n	%	n	%	n	%	n	%
Ever recommended to start ARV treatment (among those who reported being HIV-infected)										
Yes	0	0	176	56.6	27	41.5	8	27.6	11	36.7
No	0	0	135	43.4	38	58.5	21	72.4	19	63.0
I do not know/ I do not remember/ I am not sure	0	0	0	0	0	0	0	0	0	0
Ever receiving ARV treatment (among those who have been recommended treatment)										
Yes	0	0	148	84.1	20	74.1	6	75.0	10	90.9
No	1	100	28	15.9	6	22.2	2	25.0	1	9
I do not know/ I do not remember/ I am not sure	0	0	0	0	1	3.7	0	0	0	0
Reasons for not taking antiretroviral treatment (even though it was recommended)										
Afraid that treatment makes me worse	0	0	21	75.0	3/5	60.0	0	0	–	
I do not believe it is useful	0	0	12	42.9	0	0	0	0	–	
Too busy	0	0	0	0	0	0	0	0	1	
Inconvenient (no transportation, clinic hours etc)	0	0	1	3.6	0	0	0	0	–	
Do not trust doctor, had conflict with doctor	0	0	2	7.1	0	0	0	0	–	

	Bulgaria (n=1)		Estonia (n=311)		Latvia (n=65)		Lithuania (n=29)		Romania (n=30)	
	n	%	n	%	n	%	n	%	n	%
I do not feel like going to the hospital every month do get my drugs	0	0	5	17.8	0	0	0	0	—	
I do not want others to know I am sick	0	0	3	10.7	0	0	0	0	—	
Other	13	100	2	7.1	21/5	40.0	22	100	—	

<sup>1</sup> No money for transport, no money for the visits (n=1); waiting for the decision of the doctors council regarding starting of ART (n=1)

<sup>2</sup> Don't want, believe in recovering

<sup>3</sup> I don't need'

**Table 32. Antiretroviral treatment by country (data not collected in Bulgaria)**

	Estonia (n=148)		Latvia (n=20)		Lithuania (n=6)		Romania (n=10)		
	n	%	n	%	n	%	n	%	
Time of starting the ARV treatment (among those who have been on treatment)									
Less than 1 year ago (2012)	16	10.8	6	30.0	0	0	6	—	
1 to 3 years ago (2009–2011)	71	48.0	9	45.0	4	66.7	3	—	
More than 3 years ago (2008 or earlier)	61	41.2	5	25.0	2	33.3	1	—	
I do not know/ I do not remember/ I am not sure	0	0	0	0	0	0	0	—	
Current ARV treatment (among those who have ever received ARV treatment)									
Yes	130	87.8	12	60.0	5	83.3	9	—	
No	18	12.2	8	40.0	1	16.7	1	—	
Reasons for not taking ARV treatment anymore (among those who are not currently on ARV treatment)									
I had side-effects/treatment made me feel worse	13	72.2	2	25.0	0	0	—		
They were not helping me/I did not think they were helping me	2	11.1	0	0	0	0	—		
I forgot to take them	1	5.6	0	0	0	0	—		
I did not feel like taking them	1	5.6	2	25.0	0	0	—		
Doctor said that I was not taking them properly, so I was not given them anymore	5	27.8	0	0	0	0	—		

	Estonia (n=148)		Latvia (n=20)		Lithuania (n=6)		Romania (n=10)	
	n	%	n	%	n	%	n	%
I was told that drugs did not work anymore/virus was resistant to the drugs	1	5.6	0	0	0	0	—	
I was in prison	1	5.6	0	0	0	0	—	
I moved to other area and treatment was not available	0	0	1	12.5	0	0	—	
Other	2 <sup>1</sup>	11.1	3 <sup>2</sup>	37.5	1 <sup>3</sup>	100	1	

<sup>1</sup> Other reasons: I feel good; the pregnancy ended

<sup>2</sup> Other reasons: I used ART only during pregnancy (n=1), doctor canceled ART after childbirth (n=1), I don't deserve the therapy (n=1)

<sup>3</sup> Other reasons: I don't know

**Table 33. AIDS by country**

	Estonia (n=153)		Latvia (n=23)		Lithuania (n=29)		Romania (n=38)	
	n	%	n	%	n	%	n	%
Ever diagnosed with AIDS (among those who reported being HIV-infected)								
Yes	3	98.0	8	34.8	0	0	3	7.9
No	150	2.0	15	65.2	27	93.1	34	89.0
I do not know/I do not remember/ I am not sure	0	0	0	0	2	6.9	1	2.6
Time of first diagnosis of AIDS (among those who have been diagnosed with AIDS)								
Less than 1 year ago (2012)	1	—	2	25.0	0	0	3	—
1 to 3 years ago (2009–2011)	1	—	5	62.5	0	0	—	—
More than 3 years ago (2008 or earlier)	1	—	1	12.5	0	0	—	—
I do not know/ I do not remember/ I am not sure	0	—	0	0	0	0	—	—

## Tuberculosis

**Table 34. TB contacts by country**

Ever living/working/ studying together with somebody who had TB	Bulgaria (n=299)		Estonia (n=596)		Latvia (n=298)		Lithuania (n=330)		Romania (n=413)	
	n	%	n	%	n	%	n	%	n	%
Yes	43	14.3	124	20.8	121	40.6	164	49.7	100	24.2
No	218	72.7	449	75.3	169	56.7	155	47.0	265	64.2
I do not know/ I do not remember/ I am not sure	38	12.7	23	3.9	8	2.7	11	3.3	48	11.6

**Table 35. Time of last chest X-ray**

	Bulgaria (n=288)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=415)	
	n	%	n	%	n	%	n	%	n	%
Time of the last chest X-ray										
Less than 1 year ago (2012)	35	11.7	144	24.1	112	37.3	123	37.3	116	28
1 to 3 years ago (2009–2011)	73	24.3	270	45.2	109	36.3	123	37.3	102	24.6
More than 3 years ago (2008 or earlier)	59	35.3	124	20.8	54	18.0	18	5.4	54	13
Never had chest X-ray	18	6.0	37	6.2	2	0.7	0	0	88	21.2
I do not know/ I do not remember/ I am not sure	103	34.3	22	3.7	23	7.7	66	20.0	55	13.3
Place of the last chest X-ray (among those who have had X-ray) (data not collected in Bulgaria)										
General practitioner	—		165	30.7	118/293	40.3	35	10.6	7	2.6
Lung specialist (pulmonologist)	—		59	11.0	35/293	11.9	64	19.4	86	32
Infectologist	—		159	29.6	10/293	3.4	77	23.3	76	27.9
Prison	—		127	23.6	63/293	21.5	79	23.9	67	24.6
Other	—		23	4.3	56 <sup>1</sup> /293	19.1	24 <sup>2</sup>	7.2	36	13.2
I do not know/ I do not remember/ I am not sure	—		5	0.9	11/293	3.8	51	15.6	0	0
Reason of the last chest X-ray (among those who have had X-ray) <sup>3</sup>										
I was sick, I had cough or other symp- toms	139	68.1	208	39.9	103	35.9	24	7.3	99	36.4

	Bulgaria (n=288)		Estonia (n=597)		Latvia (n=300)		Lithuania (n=330)		Romania (n=415)	
	n	%	n	%	n	%	n	%	n	%
I was in prison and had to take it	34	16.7	124	23.2	62	21.6	80	24.2	65	23.9
My employer wanted me to take (occupational needs)	25	12.3	61	11.4	38	13.2	19	5.8	17	6.3
I wanted to enter rehab centre / shelter / social house and X-ray is mandatory for this	2	1.0	7	1.3	5	1.7	118	35.8	11	4.0
I had contact with TB patient	0	0	3	0.6	16	5.6	3	0.9	7	2.6
Mandatory X-ray after delivery	0	0	0	0	5	1.7	2	0.6	—	
Other	—	—	132	24.7	51 <sup>4</sup>	17.8	31 <sup>5</sup>	9.3	74	27.2

<sup>1</sup> In an in-patient hospital (n=49; 16.7%); mobile TB unit (n=2; 0.7%); in a clinic when giving birth to the child (n=3; 1.0%)

<sup>2</sup> Hospital, Polyclinic

<sup>3</sup> Bulgaria: data of 204 respondents reported; Latvia: data of 287 respondents reported

<sup>4</sup> Was in an in-patient clinic (n=10; 3.5%); as a preventive measure (n=15; 5.2%); wife was pregnant (n=5; 1.7%); because of trauma (n=4; 1.4%); in frame of receiving disability group (n=5; 1.7%)

<sup>5</sup> Mandatory for different reasons or in hospital, for prophylaxis

**Table 36. Reasons for not checking for TB**

	Bulgaria (n=297)		Estonia (n=597)		Latvia (n=296)		Lithuania (n=330)		Romania (n=316) <sup>5</sup>	
	n	%	n	%	n	%	n	%	n	%
Number of those who have always had a chance to check for TB if desired	272	91.6	534	89.4	270	91.2	263	79.7	—	
Number of those who have never felt a need to check for TB	2	0.7	40	6.7	2	0.7	1	0.3	133 <sup>4</sup>	—
Number of those who have wanted to check for TB but did not do so	23	7.7	23	3.9	24	8.1	61	18.5	—	

	Bulgaria (n=297)		Estonia (n=597)		Latvia (n=296)		Lithuania (n=330)		Romania (n=316) <sup>5</sup>	
	n	%	n	%	n	%	n	%	n	%
Reason for not checking for TB (among those who wanted to check but did not or did not feel the need) <sup>5</sup>										
Did not want to go to the hospital/poly-clinic to check	6	24.0	3	4.8	1/20	5.0	9	14.5	26	8.2
I did not know where to go to check for TB	0	0	1	1.6	6/20	30.0	6	9.7	68	21.5
I do not have money to pay for it	0	0	1	1.6	3/20	15.0	5	8.1	19	6.0
I did not have transportation/money for transportation	—	—	13	20.6	1/20	5.0	2	3.2	2	0.6
I am afraid that I may be sick and I would not know what to do	6	24.0	0	0	1/20	5.0	4	6.5	5	1.6
I am afraid that I may be sick and I do not want to stay in hospital	0	0	1	1.6	1/20	5.0	1	1.6	0	0
Afraid to lose my job	0	0	0	0	1/20	5.0	0	0	0	0
I do not have health insurance	1	4.0	2	3.2	0	0	0	0	18	5.7
No time	2	0.6	2	3.2	3/20	15.0	6	9.7	—	
Other <sup>1</sup>	5	1.7	0	0	43/20	20.0	0	0	163	51.6
Other <sup>2</sup>	4	1.3	—	—	—	—	—	—	—	—

<sup>1</sup> No apparent reason

<sup>2</sup> I didn't have sputum for the sample

<sup>3</sup> Afraid to know the result (n=1); was in prison where the examination was not available (n=1); too far (n=1); long waiting line (n=1)

<sup>4</sup> Romanian translations: "not important/no need/no symptoms/no risk". Mentioned under the category "Other reasons for not taking the TB test"

<sup>5</sup> In Romania it includes people who have never taken TB test; it was not specified whether they wanted to take TB test or not



**Table 37. TB history by country**

Ever been diagnosed with TB	Bulgaria (n=297)		Estonia (n=595)		Latvia (n=298)		Lithuania (n=330)		Romania (n=414)	
	n	%	n	%	n	%	n	%	n	%
Yes	12	4.0	9	1.5	24	8.1	21	6.4	22	5.3
No	282	94.9	586	98.5	274	91.9	304	92.1	392	94.7
I do not know/ I do not remember/ I am not sure	3	1	0	0	0	0	5	1.5	0	0

**Table 38. TB treatment by country**

	Bulgaria (n=12)		Estonia (n=12)		Latvia (n=24)		Lithuania (n=21)		Romania (n=20)	
	n	%	n	%	n	%	n	%	n	%
Ever received TB treatment (among those who have been diagnosed with TB)										
Yes	10	83.3	9	100.0	23	95.8	17	81.0	17	85
No	0	0	0	0	1	4.2	4	19.0	3	15
I do not know/ I do not remember/ I am not sure	2	16.7	0	0	0	0	0	0	0	0
The last time TB treatment was finished (among those who have received TB treatment)										
Less than 1 year ago (2012)	1	10.0	1	11.1	2/22	9.1	1	5.9	9	52.9
1 to 3 years ago (2009–2011)	2	20.0	6	66.7	5/22	22.7	4	23.6	6	35.3
More than 3 years ago (2008 or earlier)	4	40.0	2	22.2	14/22	63.6	9	52.9	1	5.9
I am currently being treated	2	20.0	0	0	0	0	0	0	0	0
I do not know/ I do not remember/ I am not sure	1	10.0	0	0	0	0	3	17.6	1	5.9

# Annex 2

## English master version of the questionnaire

01 Date of interview \_\_\_\_ \_

### IDU network, interview and recruitment information

02 What is your relationship to the person who gave you this study coupon?  
He is your ...

- 1 close friend
- 2 friend
- 3 acquaintance
- 4 stranger
- 5 sexual partner
- 6 other (please specify .....

03 How many people do you know (you know one another's names) who you have seen within the last 4 weeks who inject drugs?

[The answer must be as specific as possible and it cannot be 0]

Number .....

04 How many of these people who inject drugs and who you know and have seen during the last 4 weeks are 18 years old and older?

[The answer must be as specific as possible and it cannot be 0]

Number .....

05 How many of the people who you know, who inject drugs and who you have seen during the last 4 weeks live and/or work in ... (study region)?

[The answer must be as specific as possible and it cannot be 0]

Number .....

06 Would you have recruited the same person who recruited you (gave you a coupon) if he/she had not already participated in the study?

- 0 No
- 1 Yes
- 88 I do not know/I am not sure

**07 Why did you accept the coupon and come into this study?**

[Do not read out response options. Please circle all that are applicable].

- 1 For the incentive
- 2 My friend/acquaintances convinced me
- 3 It seems an interesting experience
- 4 Other reason(please specify .....
- 88 I do not know/I am not sure
- 99 Refused

**Socio-demographic background**

**08 Age** \_\_\_ \_\_\_ (full years)

**09 Sex**

- 1 Male
- 2 Female
- 3 Transsexual

**10 Ethnicity**

- 1 Russian (most common nationality)
- 2 Estonian (second most common)
- 3 Other (please specify .....
- 99 Refused

**11 In what country were you born?**

- 1 Estonia (study country)
- 2 Russia(second most common country of origin)
- 3 Other (please specify .....
- 88 I do not know
- 99 Refused

**12 How long have you lived in ..... (current country – Estonia, Bulgaria etc)**

- \_\_\_ \_\_\_ years
- 88 I do not know
  - 99 Refused

**13 How long have you been living in ..... (current living place – name of the city)?**

- \_\_\_ \_\_\_ years
- 88 I do not know
  - 99 Refused

**14 What is the highest education leaving certificate, diploma or education degree you have obtained?**

- 1 No formal education/never attended school
- 2 Primary education (3 or 4 years, depends on country)
- 3 Lower secondary education (8 or 9 years, depends on country)
- 4 Upper secondary education (11 or 12 years, depends on country)
- 5 Vocational education
- 6 Higher education (including college, university, masters and PhD)
- 7 Other (please specify .....
- 99 Refused

**15.1 During the last 6 months what were your sources of money for you to live on?**

[Do not read out response options. Please circle all choices which apply].

**15.2 During the last 6 months what was your main source of money for you to live on?**

[Do not read out response options. Please circle only one answer]

		15.1 Source	15.2 Main source
1	Regular official job, employed with a regular salary (full or part-time)	Yes	Yes
2	Regular unofficial job, employed with a regular salary (full or part-time)	Yes	Yes
3	Temporary work (include odd jobs, off-the--books, etc.)	Yes	Yes
4	Work at family business or farm	Yes	Yes
5	Self-employed (in a particular trade)	Yes	Yes
6	Government benefits (social welfare, unemployment insurance, sick leave etc.)	Yes	Yes
7	Spouse, partner, relative, or friend's income	Yes	Yes
8	Student financial aid/loans/grants	Yes	Yes
9	Street begging/panhandling etc	Yes	Yes
10	Selling drugs	Yes	Yes
11	Sex for money	Yes	Yes
12	Theft, robbing, or stealing	Yes	Yes
13	Other (please specify)	Yes	Yes
99	Refused	Yes	Yes

**16 With how many people do you live in the same household?**

..... people (if "0", please continue with question 18)

99 Refused

**17 Are you living with (in the same household) any of the following persons?**

[Read out each category in turn, except "Refused". Please circle if applicable.]

- 1 A sex partner of the opposite sex
- 2 A sex partner of the same sex. ....
- 3 Your parent or parents
- 4 Other adult relatives (aged 18 or over), not sex partner
- 5 Your own children (biological/adopted/foster)
- 6 Children who are not your own
- 7 Friends. ....
- 8 Other adults, not sex partners or friends (please specify. ....)
- 99 Refused

**18 What is your current marital status?**

[Do not read out response options. Please circle only one answer].

- 1 Legally married
- 2 Living as married ("common law marriage")
- 3 Widowed
- 4 Divorced
- 5 Never married/single
- 6 Other (please specify. ....)
- 99 Refused

**19 During the last 6 months, where did you live most of the time?**

[Do not read out response options. Please circle only one answer].

- 1 My own (or my spouse or partner's) house, flat, or apartment (owned not rented)
- 2 House, flat, apartment, or room rented (leased) by me (or my spouse or partner)
- 3 Dormitory, hostel
- 4 Room rented on a daily basis or rooming house
- 5 Someone else's (including parents, relatives, friends) house flat or apartment
- 6 Government housing for Government employees
- 7 Shelter, welfare residence
- 8 No fixed address (e.g., street, park, abandoned building)
- 9 Residential community
- 10 Drug treatment institution
- 11 Other treatment institution/hospital
- 12 Jail/prison
- 13 Other (please specify. ....)
- 99 Refused

**20 How do you evaluate your material welfare?**

[Read out each category in turn, except “I do not know” and “Refused”. Please circle only one answer]

- 1 Live in poverty
- 2 Nearly poor
- 3 Not very good, but I can cope with it
- 4 Good
- 5 Very good
- 88 I do not know/I am not sure
- 99 Refused

**21 Have you ever been in jail/prison?**

- 0 No
- 1 Yes
- 99 Refused

If “no” or “refused”, please continue with question 24.

**22 How many times have you been in jail/prison?**

- 1 Once
- 2 Twice
- 3 3–5times
- 4 6–10 times
- 5 More than 10 times
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

**23 How many months/years in total have you been in jail/prison?**

\_\_\_\_\_ months \_\_\_\_\_ years

- 88 I do not know/I do not remember/I am not sure
- 99 Refused

## Smoking, drug use and alcohol use

### 24 Have you ever smoked cigarettes/tobacco?

- 0 No → Q29
- 1 Yes, currently every day → Q26
- 2 Yes, currently occasionally → Q26
- 3 Yes, used to smoke earlier

### 25 How old were you when you stopped smoking cigarettes/tobacco?

- ..... years old
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

### 26 How old were you when you first smoked cigarettes/tobacco?

- ..... years old
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

### 27 How old were you when you started smoking daily?

- ..... years old
- 88 I do not know/I do not remember/I am not sure
- 99 I never have smoked daily → Q29

### 28 How many cigarettes a day do you usually smoke/used to smoke before?

- .....cigarettes
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

### 29 How old were you when you first injected any illegal drug for non medical purposes?

- .....Years old
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

**30 In how many days of the last 4 weeks did you inject drugs?**

..... number of days

88 I do not know/I do not remember/I am not sure

99 Refused

**31 On the last full day you injected (not today), how many times per day did you inject?**

..... times

88 I do not know/I do not remember/I am not sure

99 Refused

**32 Now I am going to ask you some questions about specific drugs you have used in the last 4 weeks. For each drug mentioned, I am going to ask separately if you have injected the drug in the last 4 weeks (32A), and which was the main drug you injected in the last 4 weeks (32B).**

Drug	32A		32B Main injected drug last 4 weeks (tick only one)
	Injection in last 4 weeks		
	Yes	No	
Fentanyl (China White, White Persian / Afghan)	1	0	
Amphetamine	1	0	
MAK (Poppy liquid)	1	0	
Heroin	1	0	
Methamphetamine	1	0	
Cocaine	1	0	
Ecstasy	1	0	
Sudafed	1	0	
GBL, GHB	1	0	
Other (please specify .....)	1	0	
Other (please specify .....)	1	0	



**33 During the last 4 weeks, what was your usual consumption of drinks with alcohol?**

[Read out each category in turn, except "I do not know" and "Refused".  
Please circle only one answer]

- 1 Every day
- 2 More than once per week
- 3 Once per week
- 4 Less than once per week
- 5 Not once in the last 4 weeks
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

**34 How many glasses or bottles of the following alcoholic beverages have you had during the last 7 days?**

[Read out each category in turn, mark the correct number and mark 0 if they have not had any]

- 1 long drinks, cider |\_\_|\_\_| cans
- 2 weak beer |\_\_|\_\_| bottles (1 bottle = 1,5 (0,33) cans)
- 3 medium strong or strong beer |\_\_|\_\_| bottles (1 bottle = 1,5 (0,33) cans)
- 4 wine |\_\_|\_\_| glasses (1 glass = 100 g)
- 5 strong alcohol |\_\_|\_\_| shots (1 shot = 4 cl = 40 g)

**Knowledge – HIV and tuberculosis**

**35 Have you ever heard of HIV or AIDS?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**36 Can a healthy-looking person have HIV?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**37 Can a person reduce the risk of getting HIV by using a condom every time they have sex?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**38 Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**39 Can a person get HIV by sharing food with someone who is infected?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**40 Can a person get HIV from sharing a needle or syringes from someone with HIV?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**41 Can you tell if a person has HIV by looking at them?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**42 Can HIV be a fatal disease?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**43 Is there any treatment available for HIV?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**44 Do you believe that treatment for HIV can cure HIV?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

**45 Do you believe that treatment for HIV able to live symptom-free for the HIV positive person?**

0 No

1 Yes

88 I do not know/I do not remember/I am not sure

- 46 Do you believe that you will be able to obtain treatment for HIV if you became infected?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 47 Do you know where to go to get HIV treatment?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 48 Have you ever heard of tuberculosis?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 49 Can a person get TB by breathing air someone with TB has coughed in?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 50 Can a person get TB from someone who spits in public?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 51 Can a person get TB by sexual contact (like STI)?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 52 Can a person get TB by sharing food with someone who is sick?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure
- 53 Can a person inherit TB from parents (during pregnancy)?**
- 0 No  
1 Yes  
88 I do not know/I do not remember/I am not sure

**54 Can a person get tuberculosis from sharing a syringe/needle?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**55 Can a person get tuberculosis from smoking the same cigarette with someone who has tuberculosis?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**56 You can stop taking TB medication when you stop feeling sick.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**57 If people don't take their TB medication as long as prescribed, it will be harder for them to be treated.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**58 People who have tuberculosis have to take TB medication even if they feel good.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**59 If you have HIV, it's easier to get sick with TB.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**60 TB can be a fatal disease**

- 0 No
- 1 Yes.....
- 88 I do not know/I do not remember/I am not sure

**61 There is a new kind of TB around that is not easily treated with drugs.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**62 If someone has TB it can be treated.**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**63 Do you believe that treatment for TB is effective?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**64 Do you believe that you will be able to obtain treatment for TB if you got sick?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**65 TB diagnostics and treatment in ... is free of charge for everybody**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**66 Do you know where to go (which doctor, hospital?) in case you suspect that you have TB?**

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**Health status and health care services**

**67 How would you describe your current health? Would you say it is ...**

[Read out each category in turn, except "I do not know" and "Refused".  
Please circle only one answer]

- 1 Excellent
- 2 Good
- 3 Fair
- 4 Poor
- 5 Very poor
- 88 I do not know/I am not sure
- 99 Refused

**68 Do you have following health complaints/symptoms[Read out each category in turn, please circle appropriate answer for each category. At the end please ask if the respondent has any other symptoms or complaints]**

	No	Yes	I do not know/ I am not sure
1 Tiredness/fatigue	0	1	88
2 Fever	0	1	88
3 Chills	0	1	88
4 Loss of weight	0	1	88
5 Night sweats	0	1	88
6 Loss of appetite	0	1	88
7 Cough more than 2 weeks	0	1	88
8 Blood in sputum	0	1	88
9 Pain in chest	0	1	88
10 Increased lymph nodes	0	1	88
11 Other (please specify.....)	0	1	88

**69 Have you done anything about these symptoms?**

- 0 No – if no, continue with 70
- 1 Yes – if yes, continue with 71
- 88 I do not know/I do not remember

**70 Why have you not done anything?**

[Do not read out response options. Please circle all that are applicable].

- 1 I do not know what to do → Q72
- 2 I do not want to go to the doctor → Q72
- 3 I do not have health insurance/money for the doctor → Q72
- 4 Nothing can be done about it anyway → Q72
- 5 Other (please specify ..... ) → Q72
- 99 Refused

**71 What have you done about these symptoms?**

[Do not read out response options. Please circle all that are applicable].

- 1 I visited a doctor
- 2 I asked for medication in pharmacy shop
- 3 I took the medication which I had at home by myself
- 4 Other (please specify ..... )
- 99 Refused

**72 Are you currently insured at the sick fund?**

- 0 No
- 1 Yes
- 88 I do not know/I am not sure
- 99 Refused

**73 What type of health care services have you received in last 12 months?**

[Do not read out response options. Please circle all that are applicable]

- 1 I have not received any health care in last 12 months
- 2 Family doctor/general practitioner
- 3 Dentist
- 4 Infectious diseases doctor
- 5 Psychiatrist
- 6 Drug abuse treatment/substitution treatment
- 7 Emergency department/ambulance
- 8 Lung specialist (pulmonologist)
- 9 Other (please specify .....)
- 99 Refused

**74 When was the last time you received any health/medical care services?**

..... (DD/MM/YYYY)

- 88 I do not know/I do not remember/I am not sure
- 99 Refused

**75 Where did you receive health care services the last time?**

[Do not read out response options. Please circle only one response]

- 1 Family doctor/general practitioner
- 2 Dentist
- 3 Infectious diseases doctor
- 4 Lung specialist (pulmonologist)
- 5 Psychiatrist/drug abuse treatment/substitution treatment
- 6 Emergency department/ambulance
- 7 Other (please specify .....)
- 88 I do not know/I do not remember/I am not sure
- 99 Refused

**HIV-testing and HIV treatment**

**76 Have you ever found yourself in the situation when you wanted to take a test for HIV, but due to some reasons you did not do it?**

[Do not read out response options. Please circle all that are applicable]

- 0 No, I always have had chance to test for HIV → Q78
- 1 Yes
- 2 I have not ever felt the need to take a test for HIV

**77 What are the reasons for not testing for HIV?**

[Do not read out response options. Please circle all that are applicable]

- 1 Did not think about it
- 2 Didn't have time
- 3 Unlikely to have been exposed to HIV (always clean needles/regular condom use)
- 4 I am afraid that my name will be reported/people will find out
- 5 I am afraid to find out myself
- 6 I did not know where to go to take the test
- 7 Nobody has offered testing to me
- 8 I do not want to know my HIV status
- 9 Other (please specify .....)
- 88 Don't know

**78 Have you ever been tested for the HIV?**

- 0 No → Q98
- 1 Yes
- 88 I do not know/I do not remember/I am not sure → Q98

**79 Where did you get tested for HIV the last time?**

[Do not read out response options. Please circle only one response]

- 1 Drug treatment center
- 2 STD clinic
- 3 Hospital (in patient department)
- 4 Out-patient (family doctor/health centre/poly-clinic)
- 5 Syringe exchange point
- 6 Anonymous AIDS counseling office
- 7 Jail/prison
- 8 Other (please specify .....)
- 88 I do not know/I do not remember/I am not sure

**80 When did you get tested for HIV the last time?  
If you are unsure of the specific date, please give your best guess.**

\_\_\_\_ Day    \_\_\_\_ Month    \_\_\_\_ Year

- 88 I do not know/I do not remember/I am not sure

**81 What was the result of your last HIV test?**

- 0 Negative (not infected) → Q98
- 1 Positive (infected)
- 2 Inconclusive → Q98
- 3 Did not get the result → Q98
- 88 I do not know/I do not remember/I am not sure → Q98
- 99 Refused → Q98



**The following are questions only for those, who are HIV-infected**

**82 When was the first time you were told you were positive for HIV?  
If you are unsure of the specific date, please give your best guess.**

\_\_\_\_ \_  
Day    Month    Year

88 I do not know/I do not remember/I am not sure

**83 Do you receive regular HIV care? By regular HIV care we mean visiting HIV physician at least once a year.**

0 No

1 Yes → Q85

88 I do not know/I do not remember/I am not sure

**84 Why aren't you receiving regular medical care for your HIV?**

[Do not read out response options. Please circle all that are applicable]

1 Do not know where to go for medical care

2 I do not have health insurance (Couldn't afford care)

3 Could be identified as someone with HIV

4 Could be identified as drug user

5 Could have effects on family

6 Too busy

7 Inconvenient (no transportation, clinic hours etc)

8 Long waiting times

9 Not interested

10 Do not trust health care system

11 Other (please specify .....)

**Next questions must be asked from everybody who is HIV-positive.**

**85 Have you ever had a CD4 cell count test? This is a blood test used to check the health of people with HIV.**

0 No → Q90

1 Yes

88 I do not know/I do not remember/I am not sure → Q90

**86 What was your first CD4 count after you learned you were HIV positive?**

..... (number)

88 I do not know/I do not remember/I am not sure

**87** When was your first CD4 count test done. If you are unsure of the specific date, please give your best guess.

\_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_  
Day    Month    Year

88 I do not know/I do not remember/I am not sure

**88** What is your latest CD4 count?

..... (number)

88 I do not know/I do not remember/I am not sure

**89** When was your latest CD4 count test done? If you are unsure of the specific date, please give your best guess.

\_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_  
Day    Month    Year

88 I do not know/I do not remember/I am not sure

## Antiretroviral Treatment

Antiretroviral treatment for HIV infection consists of drugs which work against HIV infection itself by slowing down the replication of HIV in the body. The drugs are often referred to as antiretrovirals, or anti-HIV drugs or HIV antiviral drugs.

**90** Has any doctor ever recommended you to start antiretroviral therapy (offered you to start)?

0 No → Q98

1 Yes

**91** Have you ever taken any antiretroviral medication to treat HIV?

0 No

1 Yes → Q93

**92** What are the reasons why you did not start taking antiretroviral treatment (even though you were recommended)?

[Do not read out response options. Please circle all that are applicable.]

1 Afraid that treatment makes me worse → Q96

2 I do not believe it is useful → Q96

3 Too busy → Q96

4 Inconvenient (no transportation, clinic hours etc) → Q96

5 Do not trust doctor, had conflict with doctor → Q96

6 I do not feel like going to the hospital every month do get my drugs → Q96

7 I do not want others to know I am sick → Q96

8 Other (please specify ..... ) → Q96

**Following questions are for those who have ever taken antiretroviral therapy**

**93 When did you start with antiretroviral therapy?  
If you are unsure of the specific date, please give your best guess.**

\_\_\_\_ \_  
Day    Month    Year

88 I do not know/I do not remember/I am not sure

**94 Do you currently receive antiretroviral therapy?**

- 0 No
- 1 Yes → Q96

**95 Why you do not take antiretroviral treatment to treat HIV anymore?**

[Do not read out response options. Please circle all that are applicable.]

- 1 I had side-effects/treatment made me feel worse
- 2 They were not helping me/I did not think they were helping me
- 3 I forgot to take them
- 4 I did not feel like taking them
- 5 Doctor said that I was not taking them properly, so I was not given them anymore
- 6 I was told that drugs did not work anymore/virus was resistant to the drugs
- 7 I was in prison
- 8 I moved to other area and treatment was not available
- 9 Other (please specify .....)
- 88 I do not know/I am not sure

**96 Have you ever been diagnosed with AIDS?**

- 0 No → Q98
- 1 Yes
- 88 I do not know/I do not remember/I am not sure → Q98

**97 When were you first diagnosed with AIDS? If you are unsure of the specific date, please give your best guess.**

\_\_\_\_ \_  
Day    Month    Year

88 I do not know/I do not remember/I am not sure

## Tuberculosis

### 98 Have you ever lived/worked/studied together with somebody who had TB?

- 0 No
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

### 99 When was the last time you had chest X-ray? If you are unsure of the specific date, please give your best guess.

- \_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_
- Day    Month    Year
- 88 I do not know/I do not remember/I am not sure
  - 99 Never → Q102

### 100 Where did you receive the last chest X-ray?

[Do not read out response options. Please circle only one response]

- 1 General practitioner
- 2 Lung specialist (pulmonologist)
- 3 Infectologist
- 4 Prison
- 5 Other (please specify .....)
- 88 I do not know/I do not remember/I am not sure

### 101 Why was the last chest X-ray done?

[Do not read out response options. Please circle all that are applicable.]

- 1 I was sick, I had cough or other symptoms
- 2 I was in prison and had to take it
- 3 My employer wanted me to take (occupational needs)
- 4 I wanted to enter rehab centre / shelter / social house and X-ray is mandatory for this
- 5 I had contact with TB patient
- 6 Mandatory X-ray after delivery
- 7 Other (please specify .....)
- 88 I do not know/I do not remember/I am not sure

### 102 Have you ever found yourself in the situation when you wanted to take a check for TB, but due to some reasons you did not do it?

- 0 No → Q104
- 1 Yes
- 2 I don't need to check for TB → Q104
- 88 I do not know/I do not remember/I am not sure

**103 What are the reasons why you did not go to check for TB?**

[Do not read out response options. Please circle all that are applicable]

- 1 Did not want to go to the hospital/poly-clinic to check
- 2 I did not know where to go to check for TB
- 3 I do not have money to pay for it
- 4 I did not have transportation/money for transportation
- 5 I am afraid that I may be sick and I would not know what to do
- 6 I am afraid that I may be sick and I do not want to stay in hospital
- 7 Afraid to lose my job
- 8 I do not have health insurance
- 9 Other (please specify .....)
- 88 I do not know/I do not remember/I am not sure

**104 Have you ever been told by a doctor that you had tuberculosis?**

- 0 No → Finish
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**105 Have you ever received TB treatment?**

- 0 No → Finish
- 1 Yes
- 88 I do not know/I do not remember/I am not sure

**106 When was the last time you finished TB treatment?  
If you are unsure of the specific date, please give your best guess.**

\_\_\_\_ \_    \_\_\_\_ \_    \_\_\_\_ \_  
Day    Month    Year

- 1 I am currently being treated
- 88 I do not know/I do not remember/I am not sure



