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POPULATION SIZE ESTIMATE OF MOST-AT-RISK CHILDREN AND YOUTH IN THE 10–19 AGE GROUP

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ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
AIDS Centre	Ukrainian Centre for Prevention & Fight against AIDS, Ministry of Health
Alliance	ICF International HIV/AIDS Alliance in Ukraine
CSM	Centre for Social Monitoring
FCSWs	Female commercial sex workers
HBSC	Health behavior in school age children
HIV	Human Immunodeficiency Virus
HPI	LLC Futures Group International, USAID (United States Agency for International Development) Health Policy Initiative
IDUs	Injecting drug users
KIIS	Kyiv International Institute of Sociology
LGBT	Lesbian, Gay, Bi-Sexual and Transgender
MARA	Most-at-risk adolescents (10–19 age range based on the World Health Organization’s definition of adolescence as that between 10–20 years of age)
MoH	Ukraine Ministry of Health
MSM	Men who have sex with men
PLWHA	People living with HIV/AIDS
PSE	Population Size Estimate
SCE	Centre for Social Expertise
SCSSY	State Centre for Social Service of Youth
SIFYD	State Institute for Family and Youth Development
UISR after O.Yaremenko	Ukrainian Institute for Social Research after Olexander Yaremenko
UNAIDS	Joint United Nations Programme in HIV/AIDS
UNICEF	United Nations Children’s Fund

INTRODUCTION

In a country where the HIV epidemic is spreading faster than anywhere else in Europe, children and young people practicing unsafe, 'risky' behaviour are especially vulnerable to HIV infection. Many boys between the ages of 15–19 who are officially registered in Ukraine with HIV, were infected through injecting drugs (65 per cent); the majority of girls of the same age were infected during unprotected heterosexual intercourse (89 per cent)¹.

Governmental and non-governmental organizations (NGOs, charitable funds, etc.) provide most of the HIV-prevention and harm reduction services to the risk groups and have been targeting primarily the adult population (older than 18 years). However, just as all Ukrainian citizens, children and young people should have the right of access to quality services and information, and be able to participate in planning and implementing programmes, as they too require a comprehensive approach and special protection.

Between 2008 and 2009 within the UNICEF project 'Prevention of HIV among most-at-risk adolescents' a strong evidence base was collected showing the vulnerability of most-at-risk adolescents and their limited access to health care and social services, including HIV prevention. The 'National Strategic Action Plan for HIV prevention among children and youth vulnerable to HIV: care and support for children and youth affected by HIV/AIDS' was prepared in close co-operation with governmental, non-governmental and international organisations. It was approved by the National Council on TB and HIV / AIDS on 26 May 2010 with the recommendations given to the regional coordinating councils to develop and adopt appropriate regional action plans. One of the barriers to effective planning is the lack of agreed estimates of the number of most-at-risk adolescents (age group 10–19 years²) at the national and local levels.

Therefore, the population size estimation (PSE) of most-at-risk children and youth is an important step for further tackling the HIV / AIDS epidemic at the national and local levels. Such figures could be used in several areas of activity aimed at combating HIV / AIDS, and particularly for the effective planning, implementation and evaluation of harm reduction, development of HIV-service organisations³, and expansion of the range of services offered by the Centres for Social Services for Families, Children and Youth.

¹ *Most-at-Risk Adolescents: the Evidence Base for Strengthening the HIV Response in Ukraine: Analytical Report/ UNICEF, UISR after O.Yaremenko. – K.:K.I.S., 2008. 192pp.*

² According to the WHO definition, adolescents are young people aged from 10 to 20 years.

³ *Methodological Guidelines to Conduct Monitoring of the Country Response to HIV epidemic. / O. Balakireva, M. Varban, H. Dovbakh (and others), ICF International HIV/AIDS Alliance in Ukraine. – K.:2008. 22–23pp.*

These include:

- Assessing coverage of most-at-risk children and youth through preventative interventions;
- Identifying the needs of HIV-service NGOs (civic, charitable, etc.) in order to increase the coverage of most-at-risk children and youths;
- Monitoring and evaluating the response to the HIV / AIDS epidemic especially amongst the most-at-risk children and youth;
- Calculating the budget to ensure the coverage of most-at-risk children and youth (given the specifics of their needs);
- Developing the network of NGOs and other HIV service organisations.

Basic concepts⁴

MARAs – most-at-risk adolescents – are children and young people, both girls and boys, within the age group defined by the World Health Organization as adolescent (10–19 years old), who are most at risk of HIV infection as a result of their behaviour, namely:

- injecting drug users (IDUs) who use non-sterile injecting equipment;
- males and females who practice unprotected sex because of sexual exploitation, including those victims of human trafficking who have unprotected (often forced) sex for profit;
- males who have unprotected anal sex with males, including sex for profit.

In Ukraine, representatives of the following groups are considered to be most at risk of HIV infection: injecting drug users (IDUs); female commercial sex workers (FCSWs); and men who have sex with men (MSMs). Therefore, most-at-risk children and youth are groups of 10–19 year-olds among IDUs, FCSWs and MSMs.

Vulnerable adolescents are adolescents who are in situational risk and one step away from engaging in ‘risky’ behaviour. Adolescents most at risk of HIV include children and young people living or working on the street. According to various studies⁵, that group

⁴ Homans, H. (2007) *Manual on Programming to prevent HIV in most at-risk adolescents*, Draft November 2007, UNICEF Regional Office for Central Eastern Europe and Commonwealth of Independent States, Geneva, unpublished.

⁵ For the results of the studies see:

– *Most-at-Risk Adolescents: the Evidence Base for Strengthening the HIV Response in Ukraine*: Analytical Report/ UNICEF, UISR after O.Yaremenko. – K.:K.I.S., 2008. 192pp.

– *Current policies and legislation on the provision of medical and social services for children and young people most-at-risk of HIV infection: Analytical review* / M.V. Buromenskiy, V.M .Steshenko. – K.: Ukrainian Institute for Social Research after O. Yaremenko, 2008. – Retrieved from http://www.unicef.org/ukraine/ukr/media_10621.htm

includes representatives from all three risk groups (IDUs, FCSWs, MSM), as well as those already engaging in risk behaviour.

Target group of this study. It is impossible to draw a clear dividing line between MARA and the so-called vulnerable adolescents. Therefore, we suggest using a broad definition of MARA for the development of HIV prevention programmes among children and young people who need such programmes. Therefore, most at-risk adolescents (MARA) are:

- children and young people from 10–19 years of age among IDUs, FCSWs, MSMs;
- children and young people of this age range who are at the entry-level stage to the groups of IDUs, FCSWs, MSMs. In other words, those who are referred to as vulnerable adolescents.

Research methodology

The purpose of this study is to estimate the number of children and youths most at risk of HIV infection (IDUs, FCSWs and MSMs) at the national level and agree this estimation with the national partners.

Objectives of the study:

- to collect the existing statistical data, medical and sociological information in order to ascertain the number of most-at-risk children and young people;
- to identify any possible sources of additional information with the quantitative indicators of the size of the most-at-risk group with the possibility of singling out this 10–19 age group, collect additional information, verify its reliability and objectivity;
- to determine the estimated number of children and young people at risk of HIV infection (IDU, FSW, MSM), with the possible disaggregation by subgroups 10–14, 15–17 and 18–19 years of age, and by gender for adolescent IDUs;
- to summarize the estimates obtained by using different methods, and agree with the key partners at the national level.

The general methodology is characterized by a comprehensive approach and is based on the use of various sources of information, secondary analysis of existing information and expert estimates.⁶ Methods of statistical analysis, data approximation based on interpolation and extrapolation, logical reasoning, coefficients, triangulation and results validation were used for data analysis.

- *Adolescent female commercial sex workers in Ukraine: results of the targeted intervention model:* analytical report / UNICEF, Ukrainian Institute for Social Research after O.Yaremenko. – K., 2010. 100pp.

⁶ Survey of experts on the current situation at the national and local levels.

The logical framework of the estimation included the following steps: development of techniques for data collection from various sources; data collection; evaluation of their reliability; expert estimation; triangulation and verification; preparation and justification of the agreed estimates.

During the implementation of this study a number of meetings with the representatives of governmental, non-governmental and international organisations were conducted.⁷ The study protocol was approved, whilst the estimates were discussed and agreed during these meetings.

In order to ascertain the population size estimation (PSE) of most at-risk adolescents (MARA) two methodological approaches (Table 1) were used. They calculate the corresponding co-efficients based on the defined ratio, and use those co-efficients to calculate the quantitative indicators. The use of different methodological approaches ensured the objectivity of the data and their maximum validation.

Table 1

Methodological approaches and sources of information used for the PSE of MARAs

Methodological approach	Sources of information
<p>Approach 1.</p> <p>Proportion of children and youth (10–19 years) among the risk groups</p>	<ul style="list-style-type: none"> – secondary analysis of the results obtained through monitoring the behaviour of high-risk groups; – medical statistics (registration, requests to receive certain services: narcological dispensaries, skin and venerological dispensaries, VCT rooms, data from the sentinel epidemiological surveillance of the Ukrainian Centre for Prevention and Fight against AIDS MoH); – data obtained from the law enforcement agencies; – statistics (programme monitoring, database Syrex) on HIV prevention programmes for most-at-risk groups including IDUs, FCSWs, MSM; – statistics of the Services for Children; – statistics of the State Social Service for Family, Children and Youth; – survey of service providers (public and private sectors); – expert estimation (survey of experts on the situation at the national and local levels).
<p>Approach 2.</p> <p>Proportion of children and youth involved in risk behavioural practices within the adolescent age group (10–19 years)</p>	<ul style="list-style-type: none"> – secondary data analysis from sociological studies conducted among children and youth; – approximation of the results for a certain age group. <p><u>Comments:</u> To use this approach any survey of children and young people can be used if a dataset contains the necessary age groups or subgroups, and if this survey includes questions about risk behaviour.</p>

⁷ GO Institute for Economics and Forecasting, National Academy of Sciences of Ukraine, State Social Service for Family, Children and Youth, Centre for Monitoring and Evaluation of Programme Activities of Ukrainian Centre for Prevention and Fight against AIDS of the Ministry of Health of Ukraine, ICF International HIV/AIDS Alliance, HIV/AIDS Service Capacity Project, funded by USAID, UNICEF, WHO, NGO Ukrainian Institute for Social Research after O.Yaremenko, UNAIDS, Gay Forum of Ukraine, Interregional Centre for LGBT-studies Donbas-SocProject.

Empirical research base

1. Bio-behavioural surveillance studies

The following studies were conducted at the request of the ICF International HIV / AIDS Alliance in Ukraine within its programme Overcoming HIV / AIDS Epidemic in Ukraine funded by the Global Fund to Fight AIDS, Tuberculosis and Malaria:

- *Monitoring the behaviour and HIV infection prevalence among injecting drug users and their sexual partners as a component of the second generation HIV surveillance* conducted by the Ukrainian Institute for Social Research after O.Yaremenko in 2009 – sample of 3,962 respondents in 17 Ukrainian cities.
- *Monitoring the behaviour of men who have sex with men as a component of the second generation HIV surveillance*, conducted by the Centre for Social Expertise, Institute of Sociology of the Ukraine National Academy of Science in 2009 – sample of 2,302 respondents in 14 Ukrainian cities.
- *Monitoring the behaviour of female commercial sex workers and their clients as a component of the second generation HIV surveillance*, conducted by the Kyiv International Institute of Sociology in 2009 – sample of 2,278 respondents in 15 Ukrainian cities.

2. Special studies

The European School Survey Project on Alcohol and Other Drugs (ESPAD)⁸, conducted by the Ukrainian Institute for Social Research after O.Yaremenko in 2007. Project leader: O.M. Balakireva. The results of the study are presented in the analytical report: *Level and dynamic of the prevalence of tobacco, alcohol and drug use among school youth in Ukraine* / O.M. Balakireva (supervisor of the writing team) T.V. Bondar, N.O. Ryngach et al. – K.: UISR after O.Yaremenko, 2008. 152 pages.

3. Statistical Reporting

State Social Service for Family, Children and Youth. Performance indicators of the social service centres for families, children and youth in 2009 (the number of persons who have an addiction, ie users of psychoactive substances, including injecting drug users).

⁸ The next wave of the survey within the ESPAD project is conducted in Ukraine in April–May 2011; the results of the survey will be available for estimation updates.

4. Programme monitoring

- Monthly information from the database Syrex provided by the ICF International HIV / AIDS Alliance in Ukraine for the period between 1st January 2009 to 30th September 2010.
 1. Data on the total number of IDUs who received services provided in the framework of prevention projects. Data are disaggregated by gender and by age: 10–13, 14–17, 18–19, 20–24, 25 years and older.
 2. Data on the total number of FCSWs who received services provided in the framework of prevention projects. Data are disaggregated by age: 10–13, 14–17, 18–19, 20–24, 25 years and older.
 3. Data on the total number of MSMs who received services provided in the framework of prevention projects. Data are disaggregated by age: 10–13, 14–17, 18–19, 20–24, 25 years and older.

Data duplication is impossible – each person in the database is registered only in one main risk group.

5. Medical Statistics

- **Ukrainian Medical and Monitoring Centre on Drugs and Alcohol, Ministry of Health**
 1. Statistics on children aged 0–17 years (inclusive) treated in outpatient and day clinics, 2009.
 2. Incidence and prevalence of substance abuse disorders among children aged 0–17 years (inclusive), and youth (aged 15–35 years), 2009.
 3. Incidence and prevalence of mental and behavioural disorders caused by psychoactive substance use among children aged 15–17 years (inclusive), 2009.
 4. Incidence and prevalence of mental and behavioural disorders caused by psychoactive substance use among children aged 0–14 years (inclusive), 2009.
- **Ukrainian AIDS Centre, trust rooms**
 1. Number of IDU, CSW, and MSM visitors of trust rooms for the time period from 1st January 2009 to 1st December 2010.
 2. Number of IDUs, CSWs and MSMs, who are registered at the AIDS Centre.

Overview of the obtained data

In order to obtain the population size estimate of MARAs, the research team sent requests (Table 2) to institutions / organisations for statistics on MARA clients they had served. As a result of the conducted work and received responses a general conclusion can be made that statistical reporting on the adolescent group is not a common practice and disaggregation of the data to single out this age group requires an additional sec-

ondary analysis. This can be possible only if the records of clients are kept. In some cases there is no such practice to deliver services to this group of children and young people.

Table 2 presents the results of the data collection procedure and review of the quality of the received information.

There is no comprehensive system for recording the statistical data on MARAs both at the national and local levels. This is especially the case at medical institutions that reported incidents of service delivery and thus had adolescents as clients. Most-at-risk adolescents aged 10–13 years are the least represented group among the clients of various medical and social institutions.

The data from bio-behavioural surveillance studies and programme monitoring from the ICF International HIV/AIDS Alliance in Ukraine are the most complete and reliable for the secondary analysis and calculation of co-efficients. Statistical data obtained from other agencies/ organisations show that the delivery of health and social services for MARAs is not common, so the available information is fragmented and cannot be used to estimate quantitative parameters of MARAs either locally or at the country level.

Table 2

Characteristics of the obtained results and their quality based on the source

Organisation that received a request	Request for information		Obtained results	Quality of the obtained statistical data
	1*	2**		
Ukrainian Centre for Prevention and Fight against AIDS, Ukraine Ministry of Health	+		Received a permit to collect information in oblast Centres for Prevention and Fight against AIDS and trust rooms	
Oblast Centres for Prevention and Fight against AIDS	+		Received statistical data on the number of HIV infected adolescents from the risk groups from 6 oblast AIDS centres: Donetsk, Dnipropetrovsk, Kyiv, Odesa, Mykolaiv, and Chernigiv, and 1 City AIDS Centre (Kyiv city)	Obtained data was only on HIV infected adolescents. This made it impossible to make calculations at the country level
HIV/AIDS Clinic Department at the Institute of Epidemiology and Infectious Diseases after L.V.Gromashevskiy AMS of Ukraine	+		Data received on the number of IDU clients: adolescents from 14–17 years: 1 person (in 2009), adolescents aged 18 to 19: 3 persons (in 2010) Provided no data provided on the number of adolescent MSMs. Services are provided to this group but no records are kept Provided no data provided on the number of FCSWs	Due to the absence of adolescent clients it was impossible to make calculation based on these statistical data

Table 2 cont.

Organisation that received a request	Request for information		Obtained results	Quality of the obtained statistical data
	1*	2**		
All-Ukrainian Association on Harm Reduction	+		Provided no statistical data on the number of MARAs	
Trust Rooms		+	<p>Statistical data:</p> <ul style="list-style-type: none"> – received general statistical information about clients who went through voluntary counselling and testing for HIV – expert interviews with the specialists in trust rooms were conducted in order to determine the ratio of most-at-risk adolescents to all visitors. <p>Interview data:</p> <ul style="list-style-type: none"> – in the regional trust rooms it turned out that most of the visitors were young people over 20 years, the proportion of visitors representative of the risk groups is: <ul style="list-style-type: none"> ▪ From 1% to 5% for FCSWs ▪ From 1% to 10% for MSMs ▪ From 15% to 80% for IDUs – Most-at-risk adolescents under 19 years tend to be single cases. Among all the visitors the proportion of adolescents is: <ul style="list-style-type: none"> ▪ 1% of all MSMs; ▪ 2% of all FCSWs (Donetsk), in other trust rooms of the data on FCSWs were missing. ▪ From 5% to 15% of IDUs depending on the location 	<p>Statistical information was very limited on the data on MARAs.</p> <p>Received information from separate trust rooms that could not be used for calculation of the estimated number at the country level</p>
Ukraine Ministry of Internal Affairs Criminal Police Department for Children	+		The letter was received; in order to obtain statistical data, had to contact Information Technology Department of the Ukraine Ministry of Internal Affairs	
Information Technology Department, Ukraine Ministry of Internal Affairs	+		General information about children and young people (gender, age) who are registered with the criminal police departments for children in some regions and in Ukraine in general (2009–2010) were provided but without specifying the grounds of registration	Impossible to single out children and youth who would be referred to the groups most-at-risk of HIV

Table 2 cont.

Organisation that received a request	Request for information		Obtained results	Quality of the obtained statistical data
	1*	2**		
Ukrainian Medical and Monitoring Centre on Drugs and Alcohol, Ministry of Health	+		The following statistical data were obtained: <ul style="list-style-type: none"> – number of children aged 0–17 years who were treated in the outpatient and day clinics – number of incidences and prevalence of mental and behavioural disorders due to the use of psychoactive substances among children aged 0–14 years and 15–17 years 	Collected data showed the number of IDUs to be younger than 17 years of age in all the regions of Ukraine. Data used to calculate the hospitalization index
Service for Children, Kyiv City State Administration	+		No records are kept, therefore no requests were sent to the regions Information on prevention activities (AIDS) ‘Street Children’ was obtained for 9 months of 2010 (in Kyiv)	Obtained data suggested only the number of children living and/or working on the streets were categorized as vulnerable adolescents. No information on the number of adolescent IDUs, FCSWs, MSMs provided, therefore the data was not considered
State Social Service for Family, Children and Youth	+		Data on the number of most-at-risk adolescents (IDUs, FCSWs, MSMs) – clients of oblast centre for social services, and number of children living/working on the streets were received from CSSFYC in Kyiv, Odesa, Lviv and Dnipropetrovsk oblasts for 2009 and 2010	Because data was unavailable from the entire network of the CSSFYC the obtained information could not be used to calculate the estimate of the number of MARA at the country level
ICF International HIV/AIDS Alliance in Ukraine	+		Monitoring and evaluation department of the ICF ‘International HIV/AIDS Alliance in Ukraine’ provided the following information: <ul style="list-style-type: none"> – data from the database Syrex on the clients covered by the HIV prevention programmes and visits during the period 1st January 2009 to 31st December 2009 and from 1st January 2010 to 30 September 2010 – data files from the bio-behavioural surveillance studies conducted among IDUs, FCSWs, MSMs in 2009⁹ 	Obtained information included data on the number of IDUs, FCSWs, MSMs in different regions of Ukraine, therefore the calculations included this data

* Letter-request from UISR after O.Yaremenko to receive statistical information on the number of registered children and adolescent IDU, FCSW, and MSM for 2009–2010

** Data were collected by interviewers from the network of interviewers of UISR after O.Yaremenko

⁹ In order to obtain data sets from bio-behavioral studies and conduct a secondary analysis of these data an official letter request was sent from the United Nations Children’s Fund (UNICEF) to the ICF International HIV / AIDS Alliance in Ukraine.

Section 1

POPULATION SIZE ESTIMATES OF ADOLESCENTS INJECTING DRUG USERS (IDUs)

1.1 Overview of the existing data

Over the last decade a series of studies for the population size estimate of injecting drug users at the national and regional levels were carried out in Ukraine. The first attempt was made in 2002 by the Centre for Social Monitoring supported by the United Nations Children's Fund (UNICEF) in Ukraine, the Joint UN Programme on HIV / AIDS (UNAIDS) in Ukraine and with an active participation from representatives of the regional projects in 20 cities in the country (head of the research project: O. Balakireva, PhD in Sociology). The methodology of the study was based on a strategy to combine quantitative and qualitative methods of data collection; use different data sources; and use the method of triangulation, verifying the results during the research process. Calculation of the estimated number of IDUs in 20 cities and extrapolation of data on urban population put the number of IDUs to at least 560,000 people.¹⁰

Since 2005 a methodology of community participation in the regional estimation (CPRE) has been used in the implementation of the 'SUNRISE' project in Ukraine.¹¹ This methodology includes the most vulnerable groups, such as the IDUs. However, the findings were driven by the needs of local NGOs within their areas of activity and did not provide an opportunity to produce any aggregated estimates at the regional or national levels.

In 2005 the first comprehensive study of IDUs at the national level was conducted. It was implemented within the programme Overcoming HIV/AIDS in Ukraine and funded by the ICF International HIV / AIDS Alliance in Ukraine. The research methodology used in the study provided the use of various sources of information, secondary analysis of existing information and implementation of special studies. As a result the following estimate figures on the number of IDUs were agreed: between 325,000 and 425,000 people. These figures were used to estimate the number of PLWHA (People living with HIV/

¹⁰ *Assessment of opportunities for HIV prevention among injecting drug users* / O. Balakireva, M. Varban, O. Yaremenko and others — Kyiv: Ukrainian Institute for Social Research, 2003.

¹¹ Combined efforts of the International HIV / AIDS Alliance, Program for Appropriate Technology in Health (PATH), and All-Ukrainian Network of People Living with HIV/AIDS in order to implement the project 'Strengthening the response to HIV/AIDS in Ukraine by providing services and information (SUNRISE)'. Within the project «SUNRISE» at least 60per cent of people who are at high risk of HIV infection in the most affected regions of the country have access to vital, high quality information and relevant services. More detailed information about this project can be found at the Alliance's website: www.aidsalliance.org.ua

AIDS) according to the WHO/UNAIDS methodology, define the needs of the country in ART by 2010, as well as to assess the coverage of prevention programmes funded from the grant received from the Global Fund to Fight AIDS, Tuberculosis and Malaria.

In late 2008 – early 2009 the second comprehensive study *Estimation of the Size of Population Most-at-Risk of HIV in 2009*¹² was conducted with financial support from the ICF International HIV/AIDS Alliance in Ukraine. In order to obtain the estimates the following methods were used: social network scale-up, ‘imaginary acquaintance’ and the co-efficient method. The estimated interval for the number of IDUs at the country level (recommended for usage) is 230,000 to 360,000 people. One of the objectives of this study was to ascertain the number of adolescent IDUs aged 10–14 and 15–17. The results of the study include calculations for the under 18 group (with one age group of 15 years and younger and another of 15–17 years) which for IDUs are evaluated as 24 per cent.¹³ In the framework of the study the age group of 18–19 years was not defined. However, according to the WHO definition this group also includes MARAs. It should also be noted that the authors stress (indicating specificity of the target groups) that all estimates «should be viewed as approximate ones, as they are based on certain assumptions...», «are hypothetical and should not be viewed as unambiguous and final.»¹⁴

Results of the secondary analysis of findings from the bio-behavioural surveillance studies over the last ten years show that the proportion of children and youth (under 19 years inclusive) among IDU populations is substantial (Table 3).

Proportion and composition of the age groups in the drawn sample of IDUs in various research projects is strongly dependent on:

- Research methodologies and technologies;
- Sample design;
- Method of respondent recruitment;
- Selected cities (large / small) for surveys;
- Set / non-set age limit.

This overview of the available studies leads to the conclusion that, in cases when there is no lower age limit, the proportion of the adolescent group in the drawn sample does not decrease.

¹² *Estimation of the Size of Population Most-at-Risk of HIV in 2009*: Analytical Report, ICF International HIV/AIDS Alliance in Ukraine. — K., 2010.

¹³ Ibid, p.33

¹⁴ Ibid, p.11

Proportion of adolescents among IDUs surveyed in different years

Studies among IDUs	Implementers	Year	Survey location	Age of respondents, years	Total number of respondents, persons	Proportion of respondents %		
						15 years (inclusive) and younger	16-19 years	20-24 years
Young people injecting drug users: knowledge, risk awareness of HIV infection, behaviour	CSM, SCSSY, UNICEF, UNAIDS	2001	7 cities: Mykolaiv, Kharkiv, Chernigiv, Chervonograd, Sevastopol, Melitopol, Donetsk	14-53	638 among them: 449 boys 189 girls	0,5	19,6	35,9
HIV/AIDS prevention among young people injecting drug users	UISR after O.Yaremenko, SIFYD, SCSSY, UNICEF, UNAIDS	2002	14 cities: Sevastopol, Novovolynsk, Makivka, Melitopol, Chervonograd, Mykolaiv, Bilyavka, Kharkiv, Chernigiv, Yalta, Dnipropetrovsk, Nikopol, Kryvyi Rig, Dniprodzherzhynsk	14-55	1997 among them: 1, 521 boys 476 girls	2,6	19,8	39,3
						2,1	21,6	36,6
Development of the management system, monitoring and evaluation of the national programme for HIV/AIDS prevention in Ukraine, based on the second generation surveillance, survey of IDUs	SIFYD, CSM, UISR after O.Yaremenko, UNICEF	2002	7 cities: Donetsk, Odesa, Mykolaiv, Poltava, Simferopol, Lutsk, Kharkiv	14-56	1407 among them: 1, 014 boys 393 girls	1,9	14,9	40,6
						2,1	15,9	40,7
						1,3	11,9	40,4
						0,2	9,4	32,3
						0,2	9,0	31,7
						0,3	10,4	33,8

Table 3 cont.

Studies among IDUs	Implementers	Year	Survey location	Age of respondents, years	Total number of respondents, persons	Proportion of respondents %		
						15 years (inclusive) and younger	16-19 years	20-24 years
Assessment of development opportunities in Ukraine for HIV prevention among injecting drug users. 'Analysis of possible coverage of 60% of IDUs by prevention activities'	CSM, UNICEF, UNAIDS, IF 'Renaissance'	2002	20 cities: Simferopol, Yalta (AR Crimea) Vinnytsya, Novovolynsk (Volyn oblast), Kryvyi Rig (Dnipropetrovsk oblast), Donetsk, Makiivka, Mariupol (Donetsk oblast), Zaporizhzhya, Lugansk, Alchevsk (Lugansk oblast), Lviv, Chervonograd (Lviv oblast), Mykolaiv, Odesa, Poltava, Pervomaiskiy and Kupyanskiy (Kharkiv oblast), Khmelnytskyi, Sevastopol	13-50	1, 908 among them:	0,7	19,3	33,0
					1, 382 boys 526 girls	0,7	17,7	47,5
Monitoring the behaviour of injecting drug users as a component of the second generation HIV surveillance	SIFYD, Alliance, MoH	2004	14 regions: Volyn, Dnipropetrovsk, Donetsk, Mykolaiv, Odesa, Poltava, Pivne, Sumy, Ternopil, Kharkiv, Kherson, Cherkasy oblasts, Kyiv city, AR Crimea	12-60	3, 542 among them:	0,6	12,2	32,5
					2, 434 boys 1, 108 girls	0,7	11,9	31,6
Preventing involvement of vulnerable adolescents and youth in using injecting drugs	UISR after O.Yaremchenko, UNICEF	2004	4 cities: Kyiv, Odesa, Pavlograd, Poltava	12-24	808 among them:	2,1	25,5	72,4
					634 boys 174 girls	2,2	25,2	72,6
Monitoring the behaviour of injecting drug users	UISR after O.Yaremchenko, Alliance	2006	12 regions: AR Crimea, Odesa, Mykolaiv, Donetsk, Kherson, Cherkasy, Dnipropetrovsk, Poltava, Sumy, Volyn and Kharkiv oblasts, Kyiv city	13-58	1, 820 among them:	0,6	9,4	21,3
					1, 289 boys 531 girls	0,5	8,8	21,7
						0,9	10,9	20,2

Table 3 cont.

Studies among IDUs	Implementers	Year	Survey location	Age of respondents, years	Total number of respondents, persons	Proportion of respondents %		
						15 years (inclusive) and younger	16-19 years	20-24 years
Harm reduction in the context of HIV/AIDS prevalence among injecting drug users in Ukraine (survey of IDUs in Zaporizhzhya city)	UISR after O.Yaremchenko, Ukrainian Red Cross Society	2006	1 city: Zaporizhzhya	15-49	301 among them:	0,3	11,0	27,9
Monitoring the behaviour of injecting drug users	UISR after O.Yaremchenko, Alliance, HPI	2007	14 regions: AR Crimea, Kyiv city, Volyn, Dnipropetrovsk, Donetsk, Kirovograd, Lugansk, Mykolaiv, Odesa, Poltava, Sumy, Kharkiv, Kherson, and Cherkasy oblasts	13-65	4, 143 among them:	0,3	6,3	20,4
Monitoring the behaviour of injecting drug users as a component of the second generation HIV surveillance	SOCIS-CFEA, Alliance, AIDS Centre	2008	16 cities: Dnipropetrovsk, Donetsk, Kyiv, Kirovograd, Lugansk, Lutsk, Lviv, Mykolaiv, Odesa, Poltava, Simferopol, Sumy, Kharkiv, Kherson, Khmelnytskyi, Cherkasy	16-65	3, 711, among them:	0,0	3,6	17,6
Monitoring the behaviour and prevalence of HIV infection among IDUs and their sexual partners as a component of the second generation HIV surveillance	UISR after O.Yaremchenko, Alliance, AIDS Centre	2009	17 cities: Simferopol, Vinnytsya, Dnipropetrovsk, Kryvyi Rig, Zhytomyr, Yzhgorod (Zakarpatska oblast), Zaporizhzhya, Ivano-Frankivsk, Kyiv, Severodonetsk (Lugansk oblast), Chervonograd (Lviv oblast), Mykolaiv, Rivne, Ternopil, Cherkasy, Chernivitsi, Chernigiv	14-79	3, 962, among them:	0,4	11,1	18,7
					609 among them:	0,0	5,3	11,7
					144 boys	0,0	1,4	9,0
					465 girls	0,0	6,5	12,5

1.2 Calculation based on the coverage index of prevention programmes

We used the following data to calculate the number of IDUs covered by the targeted programmes:

1. ICF International HIV/AIDS Alliance in Ukraine provided information from the database Syrex on the number of people who received services within HIV prevention projects from 1st January 2009 to 30th September 2010. However, given that a bio-behavioural surveillance study was conducted in 2009 calculations are based on data from 1 January till 31 December 2009
2. Given that Syrex contains information on IDUs with assigned individual codes, estimates are based on data in the bio-behavioural surveillance study. IDUs answered the following question affirmatively: **‘Are you a client of any non-governmental organization (have a card or an individual code) that works with injecting drug users?’**

Table 4

Population size estimation of adolescent IDUs (14–19 years) based on the coverage index of prevention programmes (database Syrex), 2009

Data from the bio-behavioural surveillance study			Syrex	PSE of adolescent IDUs at the country level, persons
Number of adolescent IDUs	Number of adolescent IDUs – NGO clients	Proportion of adolescent IDUs – NGO clients	Number of adolescent IDUs – clients of HIV prevention programmes	
A	B	C=A/B	D	F=D*C
345	38	8,3%*	4,147	49,964

* Calculation of the proportion of adolescents was made by using the ‘leverage’ calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

1.3 Calculation based on the estimated total number of IDUs in Ukraine and the proportion of adolescent based on the results of the behaviour monitoring

Calculations were made on the basis of the estimated total number of IDUs in Ukraine, including the adolescent group. Indicator calculations used the following data:

1. Estimated interval of the number of IDUs at the country level, recommended for usage (230,000 – 360,000).¹⁵
2. Proportion of adolescent IDUs (11.6per cent) among all respondents of the bio-behavioural surveillance study.

¹⁵ *Estimation of the Size of Population Most-at-Risk of HIV in 2009*; Analytical Report, ICF International HIV/AIDS Alliance in Ukraine. — K., 2010. — p.12

Table 5

Population size estimate of IDUs aged 14–19 years based on the the proportion of the adolescent group in the total number of IDUs

	Estimation of the total number of IDUs at the country level	Proportion of adolescent IDUs (14–19 years) according to the results of the bio-behavioural surveillance study 2009*	Estimated number of adolescent IDUs aged 14-19 years, persons
	A	B	C=A×B/100
Min estimate	230,000	11,6%	26,680
Max estimate	360,000	11,6%	41,760
Estimated number recommended to be used for planning the group coverage with prevention programmes	290,000	11,6%	33,640

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

1.4 Calculation based on the index of hospitalization caused by the use of drug substances

The following sources were used to calculate an estimate:

1. Official statistics on the incidences and prevalence of mental and behavioural disorders caused by the use of drug substances by children aged 15–17 years (inclusive)
2. Data from the bio-behavioural surveillance study with affirmative answers to the question: «**Have you ever been treated against drug addiction (not alcohol) during 2008 and /or in the period from January to June 2009 (inclusive)?**»

Table 6

Population size estimate of adolescent IDUs aged 15–17 based on the data on hospitalization

Data from the bio-behavioural surveillance study			Medical statistics	Estimated number of adolescent IDUs aged 15-17 years at the country level, persons
Number of adolescent IDUs aged 15-17 years	Number of adolescent IDUs aged 15-17 years who received treatment	Proportion of adolescent IDUs aged 15-17 years who received treatment	Number of adolescent IDUs aged 15-17 years, diagnosed with mental disorders caused by drug use	
A	B	C=A/B	D	F=D×C
151	3	2,1%*	47	2,238

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

The received data did not allow for an analysis of 10–13 year olds, only an approximation to the older age groups using the results of the bio-behavioural surveillance study. Therefore, to calculate the PSE of adolescent IDUs aged 14 to 19 (inclusive) the following data were used:

1. Data from the behavioural study which was used to calculate the proportion of adolescents who began using drugs at the age of 14, 15, 16, 17, 18 and 19
2. Proportion of IDUs who reported the beginning of drug use at the age of 15–17 years (data from the bio-behavioural surveillance study) correlated with the hospitalization index (Table 6 – 2 238 people). The PSE of adolescent IDUs aged 14 years, 18 years, and 19 years were calculated by using the obtained ratio and applying the method of interpolation.
3. The sum of received numbers makes an estimated number of adolescent IDUs (14–19 years) at the country level (Table 7).

Table 7

Extension of the estimates provided in Table 6 using the proportions of the age groups according to the data of the bio-behavioural surveillance study
Population size estimate of adolescent IDUs aged 14–19 based on the hospitalization index

	14 years	15 years	16 years	17 years	18 years	19 years
Proportion of IDUs who started using drugs at a specified age*	4,5%	6,4%	10,4%	12,8%	14,1%	10,2%
Estimated number of IDUs at the country level for each specified age separately	340	2,238			1,066	771
PSE of IDUs at the country level	4,415					

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

The estimated number is calculated by using the hospitalization index and is almost equal to the number of adolescent IDUs – clients registered in the database Syrex (see Table 4). So it can be concluded that the 'accessible' group of adolescent IDUs, who identify themselves as IDUs and tell their true age to service providers includes between 4,000 and 5,000 people (close to the specified number).

1.5 Calculation of an estimated number based on the survey of school youth on injecting drug use

Estimations used the following information:

1. Data from the sociological study *European School Survey Project on Alcohol and Drugs* (ESPAD) 2007 with answers from 15–17 year-old respondents to the question: «**How many times in life have you used injecting drugs?**» among those with experience of injecting drug use.
2. Official statistics on the number of adolescents aged 15–17 in Ukraine in 2007.

Table 8a

Population size estimate of adolescent IDUs aged 15–17 years based on the survey of school youth

	15 years (N=1823)	16 years (N=2464)	17 years (N=835)	Total
Total number of people in this age group in Ukraine, <i>thousands of people, 2007 (year of survey)</i>	611,500	643,700	675,000	1,930,2
Proportion of those who have a lifelong experience of injecting drug use (<i>data from the sociological study ESPAD</i>)	1,0%	0,3%	0,9%	0,6%
Estimated number of adolescent IDUs who have had experience with injecting drug use	6,115	1,931	6,075	14,121
Proportion of those who have used injecting drugs three or more times during their lives (<i>data from the sociological study ESPAD</i>)	0,9%	0,2%	0,6%	0,5%
Estimated number of adolescent IDUs who have used injecting drugs three or more times	5,504	1,287	6,075	12,866

To expand these estimates on the age group of 14–19 year olds an assumption will be made that the prevalence of injecting drug use among 14 year-olds is equal to the average result of 0.6 per cent, whilst in the group of 18 and 19-year-olds the prevalence of injecting drug use is the same as in the group of 17 year olds. Thus, through mathematical interpolation it becomes possible to calculate a population size estimate for adolescent IDUs aged 14–19 (see table 8b).

Thus the interval of obtained estimates of the number of adolescents aged 14–19 years who have experience of injecting drug use can be put between 25,000–31,3000 people. However, it should be noted that these estimates relate only to those adolescents who are secondary school students / students at higher education institutions and attend classes. Otherwise they would not have been respondents in the survey.

Moreover, as it is indicated by experts and confirmed by the results of programme monitoring of clients at the centres for social services for children and youth, as well as programme monitoring at various non-governmental organizations (civil, charitable, etc.) which provide services to young people in this age group, most of those who request services because of their drug use never study or work.

**Expansion of the population size estimate of adolescent IDUs aged 15–17 years
based on the survey of school youth**

	14 years	15 years	16 years	17 years	18 years	19 years	Total
Age group, thousands of people as of 1 January 2007	670,700	611,500	643,700	675,000	719,400	744,800	4,065,1
Proportion of those who have a lifelong experience of injecting drug use	0,6% (estimate)	1,0% (ESPAD)	0,3% (ESPAD)	0,9% (ESPAD)	0,9% (estimate)	0,9% (estimate)	
Estimated number of adolescent IDUs who have had experience with injecting drug use	4,024	6,115	1,931	6,075	6,475	6,703	31,323
Proportion of those who have used injecting drugs three or more times over their lives (<i>data from the sociological study ESPAD</i>)	0,5% (estimate)	0,9% (ESPAD)	0,2% (ESPAD)	0,6% (ESPAD)	0,6% (estimate)	0,6% (estimate)	
Estimated number of adolescent IDUs who have used injecting drugs three or more times	3,353	5,504	1,287	6,075	4,316	4,469	2,500,4

1.6 Proportion of adolescent IDUs aged 10–13 years among adolescent IDUs aged 10–19

The estimates calculated in the subsections 1.2–1.5 led to the PSE for 14–19 year old MARAs. Estimates of the number of MARA in the subgroup of 10–13 year olds require further discussion.

The collected statistical information indicates that there are no data on the number of adolescent IDUs aged 10–13. According to the database Syrex, in 2009 and 2010 the proportion of adolescent IDUs aged 10–13 years was 1.2 per cent and 0.7 per cent respectively. According to data from CSSFCY (4 oblasts) only 1 adolescent IDU of this age received services in the past three years. Information obtained from other agencies / organisations (Table 2) do not contain data on the number of IDUs aged 10–13.

Despite the lack of reliable statistical information the available data leads to a conclusion that the number of adolescent IDUs in this age group is low, i.e. the contribution of adolescent IDUs aged 10–13 to the adolescent group (10–19 years) is estimated at about 1 per cent.

1.7 Consolidation of the population size estimates of adolescent IDUs

Using different sources of statistical information on the number of adolescent IDUs the following results were obtained:

Table 9

Consolidated data on the estimated number of adolescent IDUs

Calculation of the population size estimate of adolescent IDUs aged 14–19 years based on the following data:					
PSE of adolescent IDUs on the basis of the coverage index of prevention programmes (database Syrex) (see table 4)	Estimation on the basis of the proportion of adolescents in the total number of IDUs, (see table 5)			Estimation on the basis of the data on hospitalization (see table 6)	Estimation on the basis of the data from the survey of school youth on injecting drug use, (see table 8b), max estimate
	Min estimate	Max estimate	Estimation recommended to be used for planning the group coverage with prevention programmes		
49,964	26,680	41,760	33,640	4,415	31,323
Taking into account the contribution of the group of 10–13-year-olds and rounding off the data (contribution – 1%)					
50,500	27,000	42,200	34,000	4,500	31,600

The results of numerous interviews with experts, focus groups, as well as working group meetings held with service providers (medical, social, etc.) indicate that the group of 10–19 year olds is not completely covered. The obtained qualitative data show the existing barriers faced by MARAs in requesting medical and other services.¹⁶ Therefore, the population size estimate of adolescent IDUs calculated based on the hospitalization index is underestimated.

The PSE of adolescent IDUs obtained by using the data from the survey of school youth also cannot reflect the full picture of drug use among adolescents, because the sample included mostly ‘well-off’ young people attending educational institutions. However, this does point out that drug use is a widespread practice even among the school youth group.

The PSE of adolescent IDUs calculated based on the singling out of the adolescent group from the general group of IDUs at the country level suggests that the recommended number for planning purposes is around 34,000 people. This is pretty close to the maximum figure received through the school youth survey – 31,600 people. Given that this should be considered an underestimation because of the omission of adolescents who had lost their organizational ties with educational institutions, the estimated number of adolescent IDUs of 34,000 should be considered the minimum of adolescent IDUs at the country level.

¹⁶ *Most-at-Risk Adolescents: the Evidence Base for Strengthening the HIV Response in Ukraine: Analytical Report/ UNICEF, UISR after O.Yaremenko. – K.:K.I.S., 2008. – 192pp. Retrieved from: http://www.unicef.org/ukraine/ukr/MARA_Report_ukr_druk.pdf*

UNICEF has been advocating for the inclusion of 19 year-olds and younger adolescents to the HIV prevention group, and service delivery to that group by some NGOs with the assistance of the ICF International HIV / AIDS Alliance in Ukraine. Because of these efforts, and by using the database Syrex, it has become possible to collect data on the number of adolescent IDUs. However, the conducted qualitative analysis shows that this information remains incomplete. The study of children and young people living and/or working on the streets carried out in 2008 by the UISR after O.Yaremenko, supported by UNICEF, shows that injecting drug use is a widespread practice among this group (15.5 per cent). Moreover adolescents hardly ever request medical or social services and this hinders their registration as clients in any medical or social institution/ organisation.

Within the framework of this study, a number of interviews were conducted with the employees of some HIV-service organizations. As a result it can be concluded that children and adolescents often do not tell their real age. In order to receive services they are sometimes registered as adults, or receive syringes and condoms without any paperwork or registration done. Given these facts, the authors consider the estimated numbers calculated based on the coverage of prevention programmes to be 50,500 adolescent IDUs. Therefore, when the available statistics and calculations make it difficult to talk about higher estimates, the authors consider **the most objective estimate of the number of adolescent IDUs at the country level to be the maximum obtained estimate of close to 50,000 adolescent IDUs.**

In order to plan gender-oriented services for adolescent IDUs it is very important to determine the proportion of girls. Among adolescent IDUs aged 14–19 years the proportion of girls is about 30 per cent, as evidenced by the data obtained through Syrex, whilst the proportion of adolescent girls IDUs was 29 per cent in 2009 and 28 per cent in 2010. The data from the bio-behavioural surveillance study among IDUs conducted in 2009 also confirms the gender structure of the group of adolescent IDUs: the proportion of girls is 29 per cent.

Thus, the estimated number of IDU boys equals 35,000, whilst for IDU girls it is 15,000.

Section 2

POPULATION SIZE ESTIMATE OF ADOLESCENT BOYS WHO HAVE SEX WITH MEN (MSM)

2.1 Overview of the existing data

In 2005 the first comprehensive study providing an estimated number of MSM at the national level was conducted. It was implemented within the programme Overcoming HIV/AIDS in Ukraine and funded by the ICF International HIV/AIDS Alliance in Ukraine. The research methodology used in the study provided various sources of information, secondary analysis of existing information and implementation of special studies. As a result the following estimated numbers of MSMs were agreed: between 177,000 to 430,000 people.¹⁷

In the earlier mentioned 2008/2009 study *Estimation of the Size of Population Most-at-Risk of HIV in 2009*¹⁸ besides the estimated number of MSMs, the data on the number of their female sexual partners were obtained. All the refinements of estimates took into account the errors caused by ‘insincerity’ of respondents and were agreed at the national and local levels, including the permanent reference group on the LGBT community and MSM-service projects in Ukraine. The following were recommended for wide usage:

- Estimated interval of the number of MSMs aged 15–49 years is 95,000–213,000 people at the country level (recommended for usage);
- Estimated number recommended to be used for planning the group coverage with prevention programmes is 95,000 people.

Results of the secondary analysis of findings from the bio-behavioural surveillance studies show that the proportion of boys who practice homosexuality (under 19 years inclusive) is significant. According to the survey of men who have sex with men, in 2004 the proportion of adolescent boys aged 15–19 years was 8 per cent, 12 per cent in 2007, and 10.5 per cent in 2009¹⁹ (see Table 10).

¹⁷ *Estimation of the size of groups at risk of HIV infection in Ukraine* / O. Balakireva (editor), L.Husak, G. Dovbakh and others – Kyiv : ICF ‘International HIV/ AIDS Alliance in Ukraine’, 2006. – 28 p.

¹⁸ *Estimation of the Size of Population Most-at-Risk of HIV in 2009*; Analytical Report, ICF International HIV/AIDS Alliance in Ukraine. — K., 2010.

¹⁹ Data for 2004 – CSE/Alliance, 2007 – UISR/ Alliance, 2009 – CSE/ Alliance (for 2007 and 2009 the provided estimates were calculated with a weighted array by using the software RDSAT).

The non-governmental organisation Interregional Centre LGBT Studies Donbas SocProject conducted a study to estimate the number of MSMs. It was carried out as a part of a joint German-Ukrainian project *Network*²⁰ with financial support from the Federal Ministry of Health of Germany, the organization Connect Plus and the centre Our World. Three regions were the basis of the obtained data – Donetsk, Kyiv and Chernivtsi – and show that the proportion of adolescent MSMs is about 10 per cent²¹.

The survey of children and adolescents aged 10–19 years living and/or working on the streets showed that every tenth (10 per cent) adolescent boy has had homosexual relations. Moreover, 74 per cent had experiences anal sex with men before they turned 15, whilst 96 per cent of street adolescent boys had had an experience of such relationships before they turned 18.²²

Currently there is no research among the general population and adolescent group that analyses the practice of homosexual contacts.

For example, a large-scale medical research such as the *Demographic Survey of the Population of Ukraine*²³ includes data to calculate key indicators on fertility, reproductive health, maternal and child health, nutrition, HIV/AIDS and other health issues of the population, but has no information on homosexual contacts.

Therefore, the authors of this study have used only data obtained from the bio-behavioural surveillance studies conducted among the target group of men who have sex with men. There is no opportunity to compare those with any surveys of the general population.²⁴

²⁰ 'Network' Project : report of the project client survey / M.G.Kasyanchuk, S.S. Gavrilyuk. Donbas SocProject Donetsk : Computer typography, 2010. 38 pp.

²¹ For key results see: M. Kasyanchuk. Key client characteristics of the projects 'Network' and 'Our World against HIV/AIDS'// Projects 'Network' and 'Our World against HIV/AIDS': information package / Centre 'Our World' –K: Centre 'Our World' – p.23–27

²² *Most-at-Risk Adolescents: the Evidence Base for Strengthening the HIV Response in Ukraine*: Analytical Report/ UNICEF, UISR after O.Yaremenko. – K.:K.I.S., 2008.-192p. Retrieved from: http://www.unicef.org/ukraine/ukr/MARA_Report_ukr_druk.pdf

²³ Ukrainian Centre for Social Reforms (UCSR), State Statistical Committee of Ukraine, Ministry of Health of Ukraine (MoH) and Macro International Inc. 2008. *Medical-Demographic Survey of the Population of Ukraine in 2007*. Calverton, Maryland, USA: UCSR and Macro International.

²⁴ To conduct a survey among the general population on sexual contacts of men with men it is appropriate, taking into account the sensitivity of questions, to allow respondents to fill in individually the set of questions on 'sexual behavior' and use an individual envelope.

Proportion of adolescent boys among MSM surveyed in different years.

Studies among IDUs	Implementers	Year	Location of the survey	Age of respondents, years	Total number of respondents, persons	Proportion of respondents under 19 years (inclusive)	Proportion of respondents		
							Under 15 years (inclusive)	16-19 years	20-24 years
Monitoring the behaviour of men who have sex with men as a component of the second generation HIV surveillance	CSE, Alliance	2004	7 cities: Kyiv, Odesa, Mykolaiv, Donetsk, Lugansk, Kharkiv, Lviv	15-65	886	8%	0,1	7,9	23,6
Monitoring of men who have sex with men	UISR after O.Yaremenko, Alliance, HPI	2007	10 regions: AR Crimea, Kyiv city, Dnipropetrovsk, Donetsk, Ivano-Frankivsk, Lugansk, Mykolaiv, Odesa, Kherson and Cherkasy oblasts	15-68	1,764	12%	0,1	11,9	25,6
Monitoring the behaviour and prevalence of HIV infection among men who sex with men as a component of the second generation HIV surveillance	CSE, Alliance, AIDS Centre	2009	14 cities: Dnipropetrovsk, Donetsk, Ivano-Frankivsk, Kyiv, Lugansk, Lviv, Mykolaiv, Odesa, Poltava, Simferopol, Uzhgorod, Kharkiv, Kherson, Cherkasy	15-68	2,302	10.5%	0,1	10,4	27,6

2.2 Calculation based on the coverage index of prevention programmes

The number of MSMs covered by the targeted programmes is based on the following data:

1. ICF International HIV/AIDS Alliance in Ukraine provided information from Syrex on the number of people who received services through HIV prevention projects from 1st January 2009 to 30th September 2010. However, given that the bio-behavioural surveillance study was conducted in 2009 the data from 1 January till 31 December 2009 provide the basis for the calculation.
2. Given that Syrex contains information on MSMs, who are assigned individual codes, statistics from the bio-behavioural surveillance study are used to calculate this estimate. Affirmative answers were given by respondents to the following question: «**Are you a client of any organization (have a card or an individual code) that works with MSM?**»

Table 11

Population size estimates of adolescent MSM (14–19 years) based on the coverage index of prevention programmes (database Syrex)

Data from the bio-behavioural surveillance study			Syrex	Estimated number of adolescent MSM at the country level
Number of adolescent MSM	Number of adolescent MSM – GO clients	Proportion of adolescent MSM – NGO clients*	Number of adolescent MSM – clients of HIV prevention programmes	
A	B	C=A/B	D	F=D*C
237	75	31,9%	1,803	5,652

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

2.3 Calculation based on the estimated total number of MSM in Ukraine

Calculations of an estimate were made on the basis of the estimated total number of MSMs in Ukraine, including the adolescent group, using the following statistics:

1. Estimated interval of the number of MSMs at the country level, recommended for usage (95,000 to 213,000).²⁵
2. Proportion of adolescent MSMs (10.5 per cent) among all respondents of the bio-behavioural surveillance study (2009).

²⁵ *Estimation of the Size of Population Most-at-Risk of HIV in 2009*; Analytical Report, ICF International HIV/AIDS Alliance in Ukraine. — K., 2010. — p.12

Table 12

Proportion of the adolescent group (15–19 years) in the total number of MSM

	Estimated total number of MSM at the country level	Proportion of adolescent MSM according to the results of the bio-behavioural surveillance study*	Estimated number of adolescent MSM, persons
	A	B	C=A×B/100
Min estimate (recommended for planning group coverage with prevention programmes)	95,000	10,5%	9,975
Max estimate	213,000	10,5%	22,365

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

2.4 Proportion of MSM aged 10–13 within the adolescent group of 10–19 year old MSM

According to Syrex, in 2009, the proportion of adolescent MSM aged 10–13 was 0.2 per cent in the total number of adolescent MSM. Information obtained from other agencies / organisations (Table 2) do not contain data on the number of MSMs aged 10–13. Therefore, the contribution of this age group to the total number of adolescents is small, so it can be neglected when calculating an estimate.

However, the survey of children and adolescents living and/ or working on the streets indicates that there are cases of sexual relations between men and boys of this age group. This means that it is important to consider the potential needs of the youngest group of adolescent MSMs during the planning process.

2.5 Population size estimate of adolescent MSM based on the recommended index of 1,5 per cent of the sexually active

According to the survey of school youth²⁶ an average age for boys to start their sexual activity is 14.9 Among 15–17 year old boys who were surveyed, 38 per cent had had

²⁶ *Health and behavioural orientations of school youth in the framework of the international WHO project Health behaviour in school-aged children (HBSC)*. The survey was conducted from 23 April to 30 May 2010 in all regions of Ukraine, AR Crimea and Kyiv city. The total number of respondent was 10343 – students of 6th, 8th, 10th, 11th grades in secondary schools and students of the 1st, 2nd, and 3rd years in vocational schools and higher educational institutions of the I and II level of accreditation (based on 9-year education), students of the 1st year in higher educational institutions of the I and II levels of accreditation (based on 11 year education), and students of the 1st year in higher educational institutions of the III and IV levels of accreditation. The survey was conducted in 616 schools located in 435 populated areas (192 cities and 243 villages) of Ukraine.

their first sexual experience before 15. This shows the need for prevention work with the youngest age group.

Data from sociological surveys of children and youth allow us to determine a proportion of boys of each age group who are sexually active. Among adolescents aged 10–13 who participated in the surveys, 0 per cent indicated being sexually active. As the data of different studies give different estimates due to different methods of survey, it is reasonable to work out an average value which can be used in further calculations (see Table 13).

Table 13

**Population size estimate of adolescent MSM
by singling out those who are sexually active**

	14 years	15 years	16 years	17 years	18 years	19 years	Total (14–19 years)
Age group of adolescent boys, thousands of people, as of 1 January 2009	255,970	270,771	291,869	313,484	329,868	345,414	
Proportion of those who have experience of sexual relations according to the data from the survey of school youth, HBSC-2010 (A)	1,5	34,6	51,9	69,5	78,8	78,1	
Proportion of those who have experience of sexual relations according to the data from the survey of school youth ²⁷ (B)		8,9	25,9	40,6	55,7	68,4	
Average proportion value of adolescents who started sexual relations: (A+B)/2	1,5	21,75	38,9	55,05	67,25	73,25	
Estimated number of adolescent boys who have experience of sexual relations, thousands of people	3,840	58,893	113,537	172,573	221,836	253,016	823,695

One of the tools developed by UNAIDS to estimate the epidemic development (UNAIDS EpiWorksheets²⁸), suggests having the maximum estimated number of MSMs at 2 per cent of the male population. In the absence of reliable data in the country we recommend this percentage figure. There are also other recommendations such as the Workbook Method²⁹ for example, that makes an estimation of 3–5 per cent of the total number of sexually active men. In this case, given that the target group is adolescent MSM, the authors suggest using a lower ratio and applying the estimate of 1,5 per cent

²⁷ *Youth of Ukraine: lifestyle and values* conducted by the Centre for Social Monitoring together with GO Ukrainian Institute for Social Research after O.Yaremenko led by O.M.Balakireva, PhD in Sociology. A survey was conducted in all the regions of Ukraine in April 2010. The survey included 1800 respondents aged 15–34 years. Results of the study are published in *Youth and Youth Policy in Ukraine: social and demographical aspects* / edited by E.M.Libanova. – K.: Institute for Demography and Social Studies, National Academy of Sciences of Ukraine, 2010 – 248 pages.

²⁸ http://www.unaids.org/en/HIV_data/Epidemiology/episoftware.asp.

²⁹ http://data.unaids.org/pub/Manual/2007/workbook_manual_2007_en.pdf.

to the total number of sexually active men. Therefore, if the total number of sexually active adolescents aged 15–19 years is estimated at 823,695 thousand people, an estimated number of boys who have experienced homosexual relations is 12,355.

2.6 Consolidation of the estimates on adolescent MSM

MSM service organizations do not target adolescents, avoid working with minors and their targets are MSMs over the age of 18. This leads us to surmise that the information received from Syrex, which contains information on MSMs among clients of HIV service programmes, provides an underestimated data on their number. Therefore, we suggest ignoring Syrex's population size estimate of adolescent MSMs (5,652 adolescent MSMs) which is the lowest estimate obtained within this study.

There is no statistical information on this target group from any governmental agencies (social services, shelters, etc.) (see Table 2).

The group of children and adolescent boys living and/ or working on the streets is underestimated. This group includes every tenth boy who has had experience of homosexual relations. Representatives of this group are outside the circle of potential clients of the MSM service organizations. Therefore their number should be added to the estimates obtained by using the co-efficients. According the State Social Service the total number of adolescent boys who temporarily stayed in shelters for minors was about 10,000 in 2009. Among children living and working on the streets every second child gets some kind of shelter at some point. Thus, the minimum calculation of the number of boys aged 10–17 who belong to the group of children and young people living and/ or working on the streets is about 20,000, including about 2,000 adolescent boys who have sex with men.

There is no data that would allow for a similar calculation in the age group of 18–19-year-olds living and/ or working on the street. But according to experts, their number is approximately equal to the number of adolescents in the 10–17 age group. So the total number of adolescents who have sex with men among a marginalized part of adolescent boys (especially those living and/ or working on the streets) can be placed at 4,000. Therefore, the total number of young men who have sex with men would be 16,355 (12,355 + 4,000), which is approximately equal to 2 per cent of sexually active young men of a particular age group.³⁰

³⁰ Recall that 2 per cent is a measure recommended by UNAIDS as a benchmark for estimating the number of MSMs.

Summary of the calculated estimates of adolescent MSM aged 14–19 years

Calculated estimates of the total number of adolescent MSM on the basis of different approaches:				
Estimated number of adolescent MSM based on the coverage index of prevention programmes (database Syrex) (see Table 11)	Estimation on the basis of the data on the proportion of the adolescent group in the total number of MSM (see Table 12)			Estimate of 1.5% of sexually active adolescent boys including the number of young men in the marginalized groups (see Table 13)
	Min estimate	Max estimate	Average estimate	
5,652	9,975	22,365	16,170	12,355 + 4,000 = 16,355

Thus, taking into account all the available information, the authors assume the estimated interval of MSMs aged 10–19 is between 16,400 and 22,400 people. To determine an **estimated number of adolescent MSMs** an average value of this interval should be taken, which is close to **20,000 people**.

Section 3

POPULATION SIZE ESTIMATE OF THE NUMBER OF ADOLESCENT GIRLS WHO ARE COMMERCIAL SEX WORKERS (FCSWs)

3.1 Analysis of the existing data

The first calculations of the estimated number of FCSWs in Ukraine were made within the UNAIDS project ‘Creating a network of NGOs working with female sex workers in Ukraine’³¹, which was carried out in 12 cities of Ukraine between 1999–2000. The project was implemented by the Ukrainian Institute for Social Research in collaboration with UNAIDS, and with financial support from the Government of Germany. In total 636 female commercial sex workers were interviewed, 25 per cent of them under 19 years of age (inclusive). The youngest age stipulated for providing commercial sexual services (receiving money, services, food, etc.) was 12.

In 2001, calculations were made about the numbers of female commercial sex workers in cities with populations over 200,000 were calculated individual cities with populations over 200,000. The total number was estimated to be 17,500 (with numbers varying from 130–150 in Kherson to 1,500–2,000 in Donetsk). According to experts the number of FCSWs at the country level at that time was no less than 180,000.³²

Some experts place the estimate between 110,000–250,000 people if the ‘anonymous friend’ notion is taken into account.

ICF “International HIV/AIDS Alliance in Ukraine” provided financial support for the following activities:

- The first complex study in the framework of the project “Overcoming HIV/AIDS epidemics in Ukraine” was conducted in 2005 for FSW population size estimation at the national level. Research methodology encompassed use of different sources of information, secondary analysis of data and specific studies. Due to

³¹ *NGOs working on HIV/AIDS prevention among female commercial sex workers based on the project results ‘Creating a Network of NGOs Working with Female Sex Workers in Ukraine’ / O. Balakireva, L. Andrushchak, M. Varban et al. Kyiv : Ukrainian Institute for Social Research, 2000. 176 pages; Sex Business in Ukraine: an attempt of social analysis / O. Balakireva, T. Bondar, Y. Galustyan et al. Kyiv – Ukrainian Institute for Social Research, 2001. 159 p.; Monitoring the behavior of women sex workers – Methodological guidebook. Kyiv, 2003. 72 p..*

³² *Estimation of the size of groups at risk of HIV infection in Ukraine / O. Balakireva (editor), L.Husak, G. Dovbakh and others. — Kyiv : ICF International HIV/ AIDS Alliance in Ukraine, 2006. 28 p.*

high stigmatization and illegal nature of such behaviour the data on FSW population size received through “anonymous acquaintance” method are considered to be underestimated. Most experts agree on more realistic numbers of 110 – 250 thousands of people.

- The 2009 study *Estimation of the Size of Population Most-at-Risk of HIV in 2009*³³ offered the following FCSW figures:
 - Estimated interval of the number of FCSWs at the country level (recommended for usage): 65,000 – 93,000 people;
 - Estimated number recommended for planning the group coverage with prevention programmes: 70,000 people.

The method of ‘social network scale-up’ at the national level indicates that the number of FCSWs aged under 15 years is 1,600 (interval of the estimate with the confidence level of 95 per cent between 940 and 2,200); 15–17 years of age: 7,800 (interval of the estimate with the confidence level of 95 per cent between 5, 200 and 10,000).

The analysis of the secondary data obtained from the behavioural studies for the period 1999 to 2009 shows that the number of adolescent FCSWs (under 19 years inclusive) is significant (Table 15). The proportion of these adolescent FCSWs among the surveyed population depends significantly on the research methodology (sampling design, including defined / non-defined age limits; method of recruitment of respondents, and cities/towns where a survey is conducted).

An overview of the data of the bio-behavioural surveillance studies leads one to the conclusion that the proportion of this adolescent group is constantly decreasing. But experts refute this. According to service providers and employees of HIV service organisations that work with FCSWs, the adolescent group is not decreasing. Also, the mobility of FCSWs is increasing. There are also cases of girls temporarily providing commercial sex services and, it should be noted, temporary sex workers do not usually become clients of HIV service organizations. Hence it could be concluded that the adolescent group of FCSWs is more latent than the adult group of FCSWs, and thus the proportion of girls in reality may be higher than the one recorded in the behavioural studies.

In quantitative analysis methodological approach of identifying adolescent FSW share in the overall group of FSW and developing indices thereof can be based on the available data on female sex workers.

A methodological approach of estimating the proportion of FCSWs in the total population of adolescents and youth is impossible to use due to the lack of an appropriate empirical base. No data exists related concerned with the provision of sexual services among the general population or young people. Typically, studies conducted among the general population on reproductive health do not include questions that would clarify the number of women who provide commercial sex services or the number of men who use these serv-

³³ *Estimation of the Size of Population Most-at-Risk of HIV in 2009*; Analytical Report, ICF International HIV/AIDS Alliance in Ukraine. — K., 2010.

ices. Surveys of school youth also contain questions on early sexual activity and for ethical reasons do not include indicators related to commercial sex services. There have been no studies among girls enrolled in vocational schools and higher educational institutions at levels I and II. According to the results of the bio-behavioural surveillance study there is a certain percentage of girls (students of different educational institutions) who are involved in providing commercial sex services occasionally but do not define themselves as FCSWs and do not go to non-governmental organisations and, therefore, are not registered in the database Syrex.

So the available data includes those who have chosen to provide commercial sex services as a 'profession'. Typically, FCSWs do contact non-governmental organisations for help and in most cases they are registered in Syrex.

The baseline study among adolescents living or working on the streets shows that 82 per cent of surveyed girls (under 19 years inclusive) have had a sexual experience.³⁴ Almost one third (28 per cent) had provided commercial sex services, while 57 per cent of girls (including 12.5 per cent between 10–13) had provided commercial sex services before turning 15. Indeed, 95 per cent of respondents had had this experience before reaching adulthood. The average age for girls to begin providing commercial sex services is 14.

3.2 Calculation based on the coverage index of prevention programmes

To calculate the number of FCSWs covered by the targeted programmes the following data were used:

1. ICF International HIV/AIDS Alliance in Ukraine provided information from Syrex on the number of people who received services from HIV prevention projects between 1st January to 30th September 2010. However, given that the bio-behavioural surveillance study was conducted in 2009, the data from 1 January till 31 December 2009 was used.
2. Given that the database Syrex contains information on FCSWs assigned individual codes, data from the bio-behavioural surveillance study were used. Affirmative answers were given by respondents to the following question: «**Are you a client of any non-governmental organization (have a card or an individual code) that works with female commercial sex workers or injecting drug users?**»

³⁴ *Most-at-Risk Adolescents: the Evidence Base for Strengthening the HIV Response in Ukraine.* Analytical Report/ UNICEF, UISR after O.Yaremenko. – K. : K.I.S., 2008. 192pp. Retrieved from: http://www.unicef.org/ukraine/ukr/MARA_Report_ukr_druk.pdf

Proportion of adolescent girls among FCSWs surveyed in different years

Studies among IDUs	Implementers	Year	Survey locations	Age of respondents years	Total no. of respondents, persons	Proportion of respondents			
						10–19 years (inclusive)	15 years (inclusive) and younger	16–19 years	20–24 years
Survey of female commercial sex workers as a part of the project 'Creating a network of NGOs working with female sex workers in Ukraine'	UISR,	1999	12 cities: Vinnytsya, Dnipropetrovsk, Donetsk, Kyiv, Lviv, Mykolaiv, Sevastopol, Simferopol, Kharkiv, Kherson, Uzhgorod, Odessa	14–42	362	26%	0,9	25,1	37,3
	UNAIDS	2000		15–45	636	24,8%	1,1	23,7	40,3
Development of the management system, monitoring and evaluation of the national programme for HIV/AIDS prevention in Ukraine, based on the second generation surveillance, survey of FCSWs	SIFYD, CSM, UISR, UNICEF	2002	7 cities: Donetsk, Odessa, Mykolaiv, Poltava, Simferopol, Lutsk, Kharkiv	14–48	1,416	18,2%	0,7	17,5	36,2
Monitoring the behaviour of female commercial sex workers as a component of the second generation of HIV surveillance	SIFYD, CSM, UISR, UNICEF	2004	14 regions: Volyn, Dnipropetrovsk, Donetsk, Mykolaiv, Odessa, Poltava, Rivne, Symu, Ternopil, Khakiv, Kherson, and Cherkasy oblasts, Kyiv city and AR Crimea	12–50	1,413	25,2%	1,4	23,8	39,3
Monitoring the behaviour of female commercial sex workers	UISR after O. Yaremko, Alliance	2006	12 regions: AR Crimea, Odessa, Mykolaiv, Donetsk, Kherson, Cherkasy, Dnipropetrovsk, Poltava, Sumy, Volyn, and Kharkiv oblasts, Kyiv city	13–50	1,208	19,6%	0,6	19,0	31,6

Table 15 cont.

Studies among IDUs	Implementers	Year	Survey locations	Age of respondents years	Total no. of respondents, persons	Proportion of respondents			
						10–19 years (inclusive)	15 years (inclusive) and younger	16–19 years	20–24 years
Monitoring the behaviour of female commercial sex workers	UISR after O. Yaremchenko, Alliance, HPI	2007	12 regions: AR Crimea, Kyiv city, Volun, Dnipropetrovsk, Donetsk, Mykolaiv, Odesa, Poltava, Sumy, Kharkiv, Kherson, and Cherkasy oblasts	13–52	1,602*	17,5%	0,9	16,6	34,8
Monitoring the behaviour of female commercial sex workers as a component of the second generation of HIV surveillance	KIIS, Alliance, AIDS Centre	2008	16 cities: Dnipropetrovsk, Donetsk, Kirovograd, Kyiv, Lugansk, Lutsk, Lviv, Mykolaiv, Odesa, Poltava, Simferopol, Sumy, Kharkiv, Kherson, Khmelnytskyi, Cherkasy	14–49	1,619*	12,2%	0,6	11,6	33,8
Monitoring the behaviour of female commercial sex workers as a component of the second generation of HIV surveillance	KIIS, Alliance, AIDS Centre	2009	15 cities: Rivne, Zhytomyr, Ivano-Frankivsk, Vinnytsya, Chernigiv, Zaporizhzhya, Ternopil, Cherkasiv, Uzhgorod, Cherkasy, Kharkiv, Donetsk, Poltava, Simferopol, Kyiv	14–55	2,278*	15,7%	0,4	15,3	25,1

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT.

Table 16

Population size estimate of adolescent FCSWs (14–19 years) at the country level based on the coverage indicator of prevention programmes (database Syrex)

Data from the bio-behavioural surveillance study			Database Syrex	Estimated number of adolescent FC-SWs at the country level, persons
Number of adolescent FC-SWs	Number of adolescent FC-SWs – GO clients	Proportion of adolescent FC-SWs – GO clients *	Number of adolescent FCSWs clients of HIV prevention programmes	
A	B	C=A/B	D	F=D*C
361	113	31,2%	2,398	7,685

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

3.3 Calculation based on the estimated total number of FCSWs in Ukraine

Calculations of an estimate were made on the basis of the estimated total number of FC-SWs in Ukraine, including the adolescent group. To calculate it the following data were used:

1. Estimated interval of the number of MSM at the country level, recommended for usage (65000 – 93000).³⁵
2. Proportion of adolescent FCSWs (15.7 per cent) among all respondents of the bio-behavioural surveillance study.

Table 17

Proportion of the adolescent group (15–19 years) in the total number of FCSWs

	Estimate of the total number of FCSWs at the country level	Proportion of adolescent FCSWs based on the results of the bio-behavioural surveillance study*	Estimated number of FC-SWs, persons
	A	B	C=A*B/100
Min estimate	65 000	15,7%	10,400
Max estimate	93 000	15,7%	14,880
Estimate recommended to be used for planning the group coverage with prevention programmes	70 000	15,7%	10,990

* Calculation of the proportion of adolescents was made by using the 'leverage' calculated using the software RDSAT. The absolute numbers are given with a non-weighted array.

³⁵ Estimation of the Size of Population Most-at-Risk of HIV in 2009; Analytical Report, ICF International HIV/AIDS Alliance in Ukraine, — K., 2010. — p.12

3.4 Proportion of adolescent FCSWs aged 10–13 in the adolescent group of FCSWs aged 10–19

The collected statistical information indicates that there are no data on the number of adolescent FCSWs aged 10–13 years. According to Syrex in 2009 and 2010 the proportion of adolescent FCSWs aged between 10–13 was 0,5 per cent. According to the regional CSSF-CY (4 oblasts) there were no adolescents of this age among clients in 2010, and only 2 FCSWs aged 10–13 were registered in 2009. Information obtained from other agencies / organisations (Table 2) do not contain data on the number of FCSWs in this age group. Despite the lack of reliable statistical information, the available data does allow us to extrapolate that the number of adolescent FCSWs in this age group is low, i.e. the contribution of adolescent FCSWs aged 10–13 to the adolescent group (10–19 years) is about 0,5 per cent.

3.5 Consolidation of the population size estimate on adolescent FCSWs

Based on the obtained results the population size estimate of adolescent FCSWs at the country level varies between 7,685 (Table 16) and 14,880 people (Table 17).

Table 18

Consolidated data on the population size estimates of adolescent FCSWs aged 14–19 years

Calculated estimates of the total number of adolescent FCSWs on the basis of different approaches:			
PSE of adolescent FSWs based on the coverage index of prevention programmes (database Syrex) (see Table 16)	Estimation based on the data on the proportion of the adolescent group in the total number of FCSWs, (see Table 17)		
	Min estimate	Max estimate	Estimate recommended to be used for planning the group coverage with prevention programmes
7,685	10,400	14,880	10,990

Taking into account the arguments mentioned above:

- Non-governmental organizations (public, charitable, etc.) do not target minors in their activities (and especially not a group of 10 to 13 year-olds). Barriers include fear of criminal liability for involvement of minors in the provision of sexual services
- High level of mobility and ‘temporary employment in sex-business’ of adolescent girls;
- In most cases survey methodologies do not target minor respondents, significantly complicating identification about the actual number of underage girls involved in this business
- The average age of girls involved in providing commercial sex services is decreasing, according to experts, and therefore it is reasonable to assume that the performed calculations underestimate the adolescent group of FCSWs, and that much of the youngest age group of FCSWs remains hidden.

It can therefore be concluded that the estimates are actually lower than the real number of children and adolescent FCSWs. There are reasons to accept the maximum estimated number of adolescent FCSWs as 14,880 and to forecast the PSE of adolescent FCSWs at 15,000 (as well as considering a small contribution of adolescent group of 10–13 year-olds involved in providing sex services for a reward or exchange).

CONSOLIDATION OF THE RECEIVED POPULATION SIZE ESTIMATES ON THE MOST-AT-RISK ADOLESCENTS AGED 10–19

The performed analysis of specific groups of MARA indicates that the size of this age group among most-at-risk groups in Ukraine is significant: number of adolescent IDUs – 50,000 (35,000 of boys and 15,000 of girls); number of adolescent MSMs – 20,000; number of adolescent FCSWs – 15,000.

It is important to note that the figures are not limited to the quantitative estimates of the adolescent group among IDUs, FCSWs and MSMs (see Tables 19 and 20). They determine the number of the broader adolescent group, including those who do not identify themselves with risk groups but can practice risk behaviour (vulnerable adolescents).

Table 19

Proportion of the adolescent group among most-at-risk groups (IDU, FSW, MSM): according to the bio-behavioural surveillance studies

<i>Risk groups</i>		Year of a survey		
		2007	2008	2009
IDUs	Sample size, persons	4,143	3,711	3,962
	Size of the adolescent group, persons and %, age interval	259 (6%) aged 13–19 years (170 boys and 89 girls)	112 (3%) aged 16–19 years (66 boys and 46 girls)	345 (9%) aged 14–19 years (261 boys and 84 girls)
FCSWs	Sample size, persons	1,602	1,619	2,278
	Size of the adolescent group, persons and %, age interval	281 (18%) aged 13–19 years	197 (12%) aged 14–19 years	361 (16%) aged 14–19 years
MSMs	Sample size, persons	1,764	<i>(no survey was carried out)</i>	2,302
	Size of the adolescent group, persons and %, age interval	212 (12%) aged 15–19 years		241 (10,5%) aged 16–19 years

Summary of the population size estimates of most-at-risk adolescents

Risk groups	According to the data of the bio-behavioural surveillance study, 2009		Agreed estimated number of MARA (in the broad sense) aged 10–19 years
	Proportion of the adolescent group (14–19 years) in the risk groups, %	Size of the adolescent group (14–19 years) among the risk groups (interval and recommended for usage) on the basis of the agreed estimated number of risk groups, 2009, persons	
IDUs	9%	26,680–41,760 (33,640)	50,000 (33,000 boys and 15,000 girls)
FSWs	16%	10,400–14,880 (10,990)	15,000
MSMs	10,5%	9,975–22,365 (16,170)	20,000

It is very important to understand the scale of the problem in order to estimate the volume of prevention measures necessary for combating HIV among the adolescent group. The figures give an estimated total number of most-at-risk adolescents in Ukraine (see Table 21) – about 85,000 or 1,602 MARA for every 100,000 adolescents. This is equal to 1.6 per cent of the total number of the adolescent group.

Table 21

Estimated total number of most-at-risk adolescents in Ukraine

	Estimated number 10–19 years, persons	Total group of 10–19-year-olds, persons	Estimated number of MARA for 100 000
MARA	85,000	5,306,900	1,602 of MARA for 100,000 of adolescents (1,6%)
<i>Including:</i>			
MARA-boys	55,000	2,718,200	2,023 persons for 100,000 adolescent boys (2%)
MARA-girls	30,000	2,588,700	1,159 persons for 100,000 adolescent girls (1,2%)

The obtained MARA estimates were agreed with stakeholders that included representatives from governmental, international and non-governmental institutions and organisations, namely: GO Institute of Economics and Forecasting of National Academy of Sciences of Ukraine; State Social Service for Family, Children and Youth; Centre for Monitoring and Evaluation of Programme Activities, Ukrainian Centre for Prevention and Fight against AIDS at the Ministry of Health; ICF International HIV / AIDS Alliance in Ukraine; HIV/AIDS Service Capacity Project funded by USAID, UNICEF, WHO, and the Ukrainian Institute for Social Research after O.Yaremenko; UNAIDS; Gay-Forum of Ukraine; the Interregional Centre for LGBT Studies Donbas SocProject.

AFTERWORD

These estimates are very important for the future planning of MARA services, considering their specific needs that are significantly beyond the usual package of services for harm reduction. However, it is important to understand that this was the first attempt to draw together such information and therefore the research team faced significant challenges related to sources of information, completeness and the quality of information received.

Data limitations:

- **Statistical information about the number of MARA clients / patients in NGO and medical institutions:**
 - NGOs do not target minors in their work (and especially not a group of 10–13 year olds) principally because of their fears about criminal liability;
 - MARAs have particular barriers that impede them from requesting help/services: fear of arrests by the police, they do not consider their health to be valuable, they do not have any good experiences of their own, etc;
 - Adolescents often do not give their real age, registering instead as adults or receiving syringes and condoms without any registration or paper work.

- **Reliability of the data of the sociological studies:**
 - The survey of school youth cannot provide the total number of most-at-risk adolescents, because the sample includes mostly ‘well off’ young people who attend educational institutions;
 - In most cases, a survey method does not target minors, which makes it much more difficult to determine the real number of most-at-risk adolescents.

- **Behavioural characteristics of the target group:**
 - There is a high level of mobility among all the groups of most-at-risk adolescents and the ‘temporary employment in sex-business’ among adolescent FC-SWs;
 - There is an underestimation of the numbers of children and young people living and/ or working on the streets and practicing risk behaviours;
 - There is an underestimation of the group of 10–13 year-olds among most-at-risk adolescents.

➤ **Methods of estimating the total number:**

- The methodology of this estimation and the available data did not allow for the determining of different age subgroups (for example, 15–17 year-olds, 18–19 year olds), which is important for planning future services, taking into account the different legal frameworks in relation to these age subgroups;
- The estimation does not include any regional fluctuations, dependence for the number of MARAs or the type of settlement (regional centre/ city/ village). Therefore, the estimates can be used at the national, but not regional, level.

Recommendations

1. Population size estimates should be updated as soon as new data become available from bio-behavioural surveillance surveys and based on the annual data update from the programme monitoring.
2. A series of activities need to be conducted with HIV-service organizations, to explain the legal framework for service delivery to adolescents, the needs of MARAs, and the importance of accurate age recording.
3. When planning studies among risk groups, it is important to pay special attention to the inclusion of adolescents.
4. Consider the implementation of pilot studies (in different cities during a full year) to keep the records of clients in ‘trust rooms’ registering their age, gender and involvement in risky practices.
5. Conduct a co-ordinating meeting between service providers in order to standardize indicators for internal monitoring of clients and delivered services.
6. For regions where the total number of most-at-risk groups is substantial, make a regional estimation of the number of MARAs.
7. Consider the inclusion of questions on sexual practices and homosexual relations in studies on reproductive health among adults, including the youth of Ukraine.
8. Ensure implementation of a representative sociological survey on sexual behaviour of the population of Ukraine (including minors), and behavioural and sexual practices associated with an increased risk of HIV infection (age when the first sexual intercourse occurred, practice of unprotected sex and/ or anal sex, injecting drug use, incidence of sexual intercourse under the influence of alcohol or drugs, group sex practices, presence of STDs in personal medical histories, use and delivery of commercial sex services, etc.) to obtain a sound evidence base for a better response to HIV-infection/AIDS.

