Republic of Serbia

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Status at a glance

Strategic, Policy, and Programmatic Framework

The Republic of Serbia is a democratic state located in the central part of the Balkan Peninsula, on the most important route linking Europe and Asia.

Serbia has 7.1 million inhabitants, primarily characterized by continuing trends of low birth rates and population ageing. According to the most recent projection for 2012 average age is 42.2 years while the index of population ageing is -125,30. Over the previous decade, the population in Serbia is growing older, has longer life expectancy, and is decreasing in volume. As of January 1, 2015 an estimated number of citizens of the Republic of Serbia (excluding Kosovo under UN resolution 1244) were 7,114,393. This compared to data from 2002, when there were 7.516.346 citizens, represents a population decrease of 5% (natural growth was – 37,786 or -4.9 per 1000 population in 2014) [1].

The health status of the Serbian population is consistent with other Central and Eastern European countries but below that of Western Europe. Serbia compares well with similar countries in terms of life expectancy at birth (75.1 years at 2014). In terms of principal causes of death, the picture is similar to many developed and transitional economies with high levels of heart disease, stroke, and cancer.

The Republic of Serbia is middle income country with unemployment rate of 19% in 2014. Belgrade is the capital of Serbia. With a population of almost 1.7 million, it is the country's administrative, economic and cultural center [1].

It is estimated that almost 24% of the population in Serbia reside in the four key cities of Belgrade, Novi Sad, Nis and Kragujevac [1].

In the past 15 years Serbian society has experienced major changes in cultural, social, economic and has had to overcome many challenges.

All these contribute to public lack of interest and certain intolerance in relation to vulnerable groups. Much work is dedicated to fighting stigma and discrimination, both in the projects, but also through activities of other stakeholders; however results are not yet encouraging.

After the overall changes in the society in 2000 and as a follow up of the responsibilities undertaken with the adoption of the Declaration of Commitment on HIV/AIDS at the UN General Assembly Special Session on HIV/AIDS (UNGASS) in June 2001 [2], the Government of the Republic of Serbia established its National HIV/AIDS Commission (NAC) in March 2002, which had been newly re-established in June 2004 and revised in 2008. New National Commission for fight against HIV/AIDS and Tuberculosis (NCHATB) was established by Government in August 2013. NCHATB is the governmental multi-sector body with Ministry of Health as Coordinator and comprises of president, vice-president and 22 members, including representatives from the Ministries of Health, Interior Affair, Justice, Education, Labor and Social Policy, Youth and Sport, as well as, representatives from regional and local health authorities, Red Cross of Serbia, NGOs; PLHIV; academic institutions; public medical institutions/organizations and observers from UN agencies. NCHATB is tasked to monitor and evaluate the national response, to formulate strategic directions and to develop proposals of programs for fight against HIV/AIDS and tuberculosis at national level for the Government, and to define priority activities and coordinate programs and projects dealing with the diseases.

The Government of Serbia designed and developed the strategic national response on HIV and AIDS in line with international standards and approaches. It follows the "Three Ones" principles [3], establishing a single action framework (National Strategy) and a single country wide M&E system. Government also established a single National AIDS coordinating authority. The assumptions underlying the "Three Ones" approach is that HIV/AIDS is a development issue and requires a multi-sector response that is integrated into the national development agenda and many strategic documents.

After the broad public debates and consulations with various stakeholders about the most important issues which were conducted throughout the country the new **National HIV Strategy for the period 2011-2015** has been adopted at March 2011 by the Government of Republic of Serbia. The Strategy is in line with Joint UNAIDS HIV/AIDS Strategy for 2011-2015, the Global Health Sector Strategy for HIV/AIDS 2011-2015, European Commission Communication on combating HIV/AIDS in EU and neighboring countries 2009-2015, Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia 2004 and other relevant international documents [4].
The general goal of the National Strategy for response on HIV and AIDS in Serbia was prevention of HIV infection and other sexually transmitted infections, and providing treatment and support to all people living with HIV [4].

The Strategy recognizes **7 strategic areas:** prevention; health and social protection of people living with HIV (PLHIV); support to people living with HIV; role of local community in the response to HIV; protection of human rights; communication in the area of HIV; and, epidemiological surveillance, monitoring, evaluation and reporting on the national response to the HIV epidemic [4].
Under the strategic area **Prevention**, Strategy recognize different measurements and activities related to: voluntary counseling and testing; prevention among PLHIV (*positive prevention*); prevention among most at risk population (such as sex workers, men who have sex with men, injecting drug users, prisoners, uniformed persons, youth – especially those vulnerable on HI, etc); and, prevention of blood transmitted infections in health facilities. The objectives of preventive programs are, generally:
• Lowering the number of newly infected and early diagnosis of HIV infections;
• Maintaining a low STI incidence rate;
• Increase in coverage of preventive services and increase in quality of the provided services;
• Creating conditions within state authorities and institutions, and citizen associations for highly efficient response to persons living with the risk for the purposes of reducing this risk.
Further, area of **Health and social protection of HIV infected persons** includes:
• Improvement of life quality of PLHIV;
• Creating conditions for early diagnosis of HIV infected persons resulting in successful treatment, including timely treatment of children born of HIV infected mothers;
• Continued improvement of quality of provided health care services at all levels;
• Securing conditions for timely laboratory testing to monitor successfulness of antiretroviral treatment in PLHIV.
Area of **Support to people living with HIV** includes:
• Recognizing, strengthening capacity and involvement of PLHIV, other civil society organizations and Red Cross in response to HIV epidemic;

• Improving quality of services to PLHIV;
• Improving quality of life of PLHIV by increased accessibility of health services, care and support to PLHIV and their families.

Area of **Role of local authorities in response to HIV infection epidemic** includes:
• Increase of accessibility and coverage of services related to prevention and control of HIV infection and providing support to PLHIV in local communities;
• Strengthening of systematic, continued and planned multi-sect oral response of local communities to HIV epidemic.

Area of **Human rights in the area of HIV** includes:
• Adhere to, protect and promote human rights of PLHIV.
• Adhere to, protect and promote human rights of other sensitive and marginalized social groups
• Lowering social, legal, cultural and socio-economic vulnerability with securing comprehensive participation of PLHIV and other marginalized and vulnerable groups in response to the HIV epidemic.
• Creating discrimination and stigmatization free environment for PLHIV and other vulnerable and marginalized groups.

Area of **Communication in the area of HIV** includes:
• Improving health communication in the response to HIV infection in the field of prevention
• Improving communication with the purpose of lowering stigma and discrimination related to HIV infection.

Area of the **monitoring, evaluation and reporting** include:
• Timely and adequate reaction to the current epidemiological situation.
• Defining effective Benchmarks of HIV infection control supported by evidence on all levels, through securing appropriate data for continued follow-up of epidemiological situation and trends
• Improvement of institutionalized network for data gathering and analysis on the level of Republic/province/region
• Improvement of the system for monitoring and evaluation of successfulness of comprehensive response to HIV infection epidemic
• Development of research capacity of institutions, associations and individuals and support to researches in the area of HIV infection.

The National HIV Strategy is based upon the following **principles**:
• Complete guarantee and protection of human rights based on EU recommendations and other international conventions;
• Equal accessibility of health and social protection to PLHIV in all vulnerable categories of population over the entire territory of the Republic of Serbia;
• Key roles of PLHIV in policy development, planning and evaluation of support and protection program;
• Significant role of young people and other vulnerable population groups in planning, implementation and evaluation of activities set forth in this Strategic plan;
• Prevention of HIV transmission by promotion of healthy lifestyles, lowering risky behavior and strengthening individuals and groups
• Appreciation and respect of specific/different needs, roles, responsibilities and limitations regarding gender identity, ethnicity, persons with special needs and others.
• Privacy protection and confidentiality appreciation at all the levels of activism as set forth by this strategy;
• Respect for the dignity of PLHIV;
• Continued inter-sector activities in reaching strategic goals, with all the partners in the public, private and non-profit sectors;

• Integrated response to HIV epidemic through biomedical aspect and socio-economic factors which increased risk of HIV infection;
• Continued education and improvement of skills for all participants involved in implementation process of preventive Benchmarks and
• Sustainability of strategic activities in conditions of reduced international donation/aid [4].

A new Law on Psychoactive Controlled Substances was adopted in 2010. The National Strategy for fight against drugs for the period 2009-2013 is evaluated and the new national Strategy on prevention of drugs misuse in the period 2014-2021 which is in line with the EU Drug Strategy and covers both drug demand and drug supply reduction has been formulated and launched by Government on December 27, 2014 [5].

The low HIV prevalence rate and socially conservative values means that HIV/AIDS is still a low profile issue in Serbia. Its low ratings on the health and social agendas understandably restrict the level of resources.

Funding the HIV Response

The National HIV/AIDS program has been funded from different domestic sources at national or subnational level. Approximately, only 3% of the funds allocated for HIV/AIDS are covered directly through the Central Government contribution while 97% (mainly related to treatment, diagnostics and monitoring of ART effects and OST) is covered by Republic Health Insurance Fund.

The Government fully covers the costs of blood screening, routine surveillance on HIV infection and other STIs, prevention activities and costs for VCT services provided by the network of 23 district public health institutes and by the Institute for Students Health Care in Belgrade. Routine surveillance, prevention and VCT activities, as well as coordination and M&E activities at national level are covered through Central Government contribution through the MoH budget for implementation of activities of «common interest».

Costs of methadone and buprenorfine for drug dependance treatment, as well as costs for testing on HIV, hepatitis B and C and other STIs on referral are covered by the Republic Health Insurance Fund.

According to available data a total amount of 9,744,894 EUR has been spent for HIV/AIDS program in Repubic of Serbia in 2015. Out of a total HIV/AIDS spending 9,611,472 EUR has been provided from domestic sources at national level (8,051,571 EUR for ART and other treatment and diagnostics of PLHIV; 1,241,842 EUR for OST; 208,062 EUR for surveillance, prevention and VCT activities and 49,325 EUR for coordination and M&E activities conducted by IPHS) or at sub-national/local level for projects conducted by NGOs (60,672EUR) while other funds were provided by external donors (133,422 EUR) for projects implemented by NGOs.

Specific preventive programs among military force implemented by Military Health Department of Ministry of Defense is funded by Department of Defense HIV/AIDS prevention program (DHAAP) - USA government organization.

GFATM Funded Project(s) 2003-2014/2015

The first HIV project financed by Global Fund for the Fight against AIDS, Tuberculosis and Malaria was implemented in 2003 –2006 (2.6 millions EUR) and two further projects financed through the Global Fund was implemented in 2007-2012 and in June 2009-September 2014). Projects were worth 9.4 and 10.3 millions EUR respectively [6].

Ministry of Health was responsible for implementation of R6 GF funded HIV project in the period 2007-2012. Together with NGO Youth of JAZAS Ministry of Health was responsible for implementation of R8 GF funded HIV project in the period June 2009-2013, while the MoH implemented HIV project alone in the period January-September 2014 [7].

Overall goal of the HIV Project supported by GFATM 6th round was to halt the spread of HIV among all vulnerable groups and to provide care, support and treatment to PLHIV [7].

The overall project goal is achieved through focus on four objectives:

1. To prevent HIV transmission in people involved in high risk behaviors;
2. To ensure continuity of care and treatment services for PLHIV
3. To create supportive environment for HIV prevention and care; and
4. To strengthen the capacity of the health system for development of the effective, efficient and accessible HIV/AIDS services.

In order to achieve these objectives the Project scaled up existing and set up new prevention programs, supported PLHIV and their families and supported National M&E System. This Program was focused on the risk groups that have been under increased risk due to the social determinants of health, such as poverty, marginalization and involvement in high risk behaviors, and are often hard to reach with mainstream activities or non-mobile health services. These groups included: 1) injecting drug users (IDUs), 2) men who have sex with men (MSM), 3) commercial sex workers (CSWs) , 4) Roma youth 5) prisoners, 6) institutionalized children and children without parental care and 7) people living with HIV/AIDS. All these target groups are highly vulnerable, stigmatized and discriminated, and are not likely to benefit from mainstream prevention activities [7].

GFATM R8 HIV project tends to build on so far achieved results and activities initiated in the R6 HIV project such as: NEP and MMT programs for IDU, out-reach activities and counseling among SW, out-reach activities and counseling among MSM population, out-reach activities and peer education among Roma youth, HIV comprehensive activities and VCT in prisons, Health Life Skills Based Education among institutionalized children, psychosocial and other means of support to PLHIV, etc. The new services that have been provided to groups at risk for HIV and that were not provided within the 6th round of the GFATM grant were: drop-in centres for IDUs, SW, MSM and MARA; distribution of lubricants for MSM; sensitization trainings for police, social workers and medical staff on how to provide services to most-at-risk groups; training of VCT staff in positive prevention; establishment of the system of surveillance of resistance to ART; training of medical doctors in ART prescribing;training of social workers in provision of the legal support to PLWHA; procurement of STIs tests in order to establish STI surveillance system; reduction of stigma by carrying out de-stigmatization mass-media campaigns; training of judges, public prosecutors and lawyers in HIV/AIDS and gender-related discrimination; strengthening the M&E system by employing two staff in the national AIDS office; participation of civil society representatives in international meetings and conferences [8, 9].

The GFATM HIV Projects from R6 and R8 application, boosted cooperation among key stakeholders in the country. The process scaled up communication and consultation between governmental and NGO sector. In the HIV Projects implementation, the members of vulnerable groups were involved in overseeing the program implementation as CCM members and they acted as peer educators within the prevention programs. They also participated in implementation of planned studies

and evaluation activities to ensure their feedback on the effectiveness of activities implemented through these programs.
Moreover, in the period 2011-2015 within GFATM TB project implemented by Serbian Red Cross active case finding of TB patients among PWID and SW in drop in centres has been done by NGOs providing prevention services for them. Additionally, within GF Round 9 TB project implemented by MoH HIV/TB co-activities has been realized in the period 2010-2015 (these activities include: survey on HIV prevalence among TB patients in Serbia, development of protocol and guidelines on HIV/TB collaborative activities, active case finding of TB patients among OST users, capacity building of service providers for HIV testing among TB patients, training of health professionals on clinical management of TB/HIV co-infection, and development and distribution of the booklet on HIV/TB co-infection for people living with HIV) [10, 11].

National indicators on HIV response

In order to monitor the results of the undertaken activities ***in 2015***, and progress of national response to HIV and AIDS in line with National HIV and AIDS Strategy, as well as, in line with Political Declaration on HIV/AIDS 2011 and other international declarations and action plans, Serbia selected 14 core indicators for reporting (table 1), as well as, some additional relevant indicators.

Table 1. List of core national indicators reported for 2015

Name of indicator	Value	Source of data	Note
1. WHO Policy and Programmatic Questions	/	Key stakeholders, interview	
2. Percentage of people living with HIV who know their status	**66%**	Surveillance data, IPH of Serbia	Denominator: Best estimates of PLHIV at national level
3. Total number of people on OST in all OST sites	**4336**	RHIF	
4.Percentage of people who inject drugs receiving opioid substitution therapy (OST)	**21.7%**		Denominator : Estimated number of opioid -dependent people who inject drugs in the country 20,000
5. Total number who have died of AIDS-related illness in 2015	**15**	Surveillance data, IPH of Serbia	
6. Number of adults and children currently receiving ART at the end of 2015	**1400**	RHIF	
7. Percentage of HIV positive persons with first CD4 cell count <200 cells/ml in 2015 (Late HIV diagnosis)	**47%**	Surveillance data, IPH of Serbia	Denominator: Diagnosed HIV cases in 2015 with available data on CD 4 count or with diagnosed clinical AIDS
8. Percentage of adults and children receiving antiretroviral therapy who were virally suppressed in the reporting period (2015)	**96%**	Combined national HIV register data and data from patients health records for 2014 cohort of patients (newly diagnosed HIV infected people in 2014)	Out of 80 people newly diagnosed in 2014 who started ART a total of 77 were virally suppressed (VL <500 copies) recorded at latest visit in 2015

9. Percentage of facilities with stock-outs of antiretroviral drugs	**0%**	Departments for HIV/AIDS in 4 clinical centers	
10.Number of HIV-positive pregnant women who received antiretroviral drugs during the past 12 months to reduce the risk of mother-to-child transmission during pregnancy and delivery	**3**	PMTCT and ART programme data, GAK Narodni front and Clinic for Infectious Diseases Department for HIV/AIDS, Belgrade	Estimated number of HIV+ pregnant women is less than 10 in 2015
11.Percentage/number of infants born to HIV-positive women who received an HIV test within two months of birth	**100%/3**	PMTCT programme data, Clinical Cenre of Serbia/Clinic for Infectious Diseases/Department for HIV/AIDS	Every infant born to diagnosed HIV positive women received a virilogical test for HIV within 2 months of birth
12.Percentage/number of infants born to HIV-infected women provided with antiretroviral prophylaxis to reduce the risk of early MTCT in the first 6 weeks	**100%/3**	PMTCT programme data, Clinical Cenre of Serbia/Clinic for Infectious Diseases/Department for HIV/AIDS	Every infant born to diagnosed HIV infected mother received ARV prophylaxis (AZT) in the first 6 weeks of life
13.Percentage (%) : Total number of people living with HIV having active TB expressed as a percentage of those who are newly enrolled in HIV care (pre-antiretroviral therapy or antiretroviral therapy) during the reporting period	**1.2%**	Surveillance data, IPH of Serbia	
14. Percentage of reported congenital syphilis cases (live births and stillbirth)	**0%**	Surveillance data, IPH of Serbia	

Key results of IBBSS among IDU, MSM and SW conducted in 2013 had been reported through GARPR 2014, as well as results of national health survey among general population realized in 2013. Also, some qualitative analysis on behavior practice and other risk factors at the same time for MSM, as well as data on behavior, quality of life and needs of PLHIV are available [12].

Overview of the HIV/AIDS epidemic

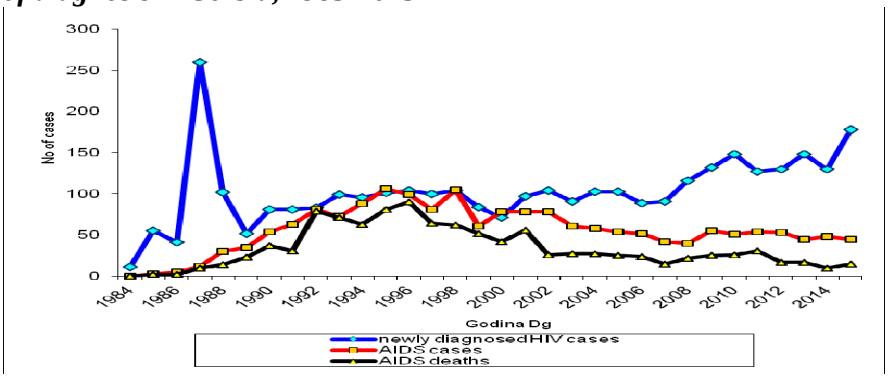
Epidemiological overview

The first AIDS cases were registered retrospectively in 1985. According to current data released by the Institute for Public Health of Serbia "Dr Milan Jovanovic Batut" (the National Institution that has the mandate for surveillance and monitoring and evaluation of the national response on HIV/AIDS) the cumulative number of HIV-infected people reported till 31st December 2015 was 3312, of whom 1788 developed AIDS while 1192 died (1086 AIDS-related deaths while for 106 HIV-infected people was reported to be died from causes not related to HIV).

In 2015, 178 newly diagnosed HIV cases, 45 AIDS cases and 15 AIDS-related deaths were reported to IPH of Serbia, as well as 4 non-HIV related deaths among people infected with HIV. The decreasing trend of AIDS cases and AIDS-related deaths in

the last decade is the result of the introduction of HAART which is available for all PLHIV in need and fully covered by Republican Health Insurance Fund since 1997 (*graph 1*).

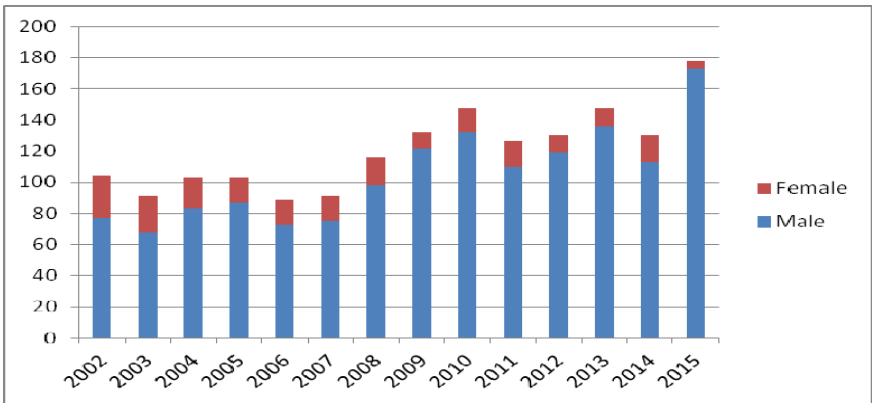
Graph 1. Newly diagnosed HIV cases, AIDS cases and AIDS- related deaths by year of diagnosis in Serbia, 1985-2015



Source: IPH of Serbia "Dr Milan Jovanovic Batut", 2016

Based on central register of HIV cases in the period 2002-2015 a total of 1690 newly diagnosed HIV cases were reported in Serbia (1466 males : 224 females or males to females ratio was 6,5:1) (*graph 2*). Increasing trend of newly diagnosed HIV cases is notified (127 cases in 2011, 130 in 2012, 148 cases in 2013, 130 in 2014 and 178 cases in 2015 versus 91 cases in 2003) mostly due to promotion of VCCT and increasing number of people most at risk tested on HIV. Majority of HIV cases diagnosed in period 2002-2015 lived in Belgrade region (913 cases or 54%), and in Vojvodina region (341 cases or 20%) where the greatest number of people have been tested on HIV.

Graph 2. Newly diagnosed HIV cases by sex and by year of diagnosis, Serbia, 2002-2015



Source: IPH of Serbia "Dr Milan Jovanovic Batut", 2016

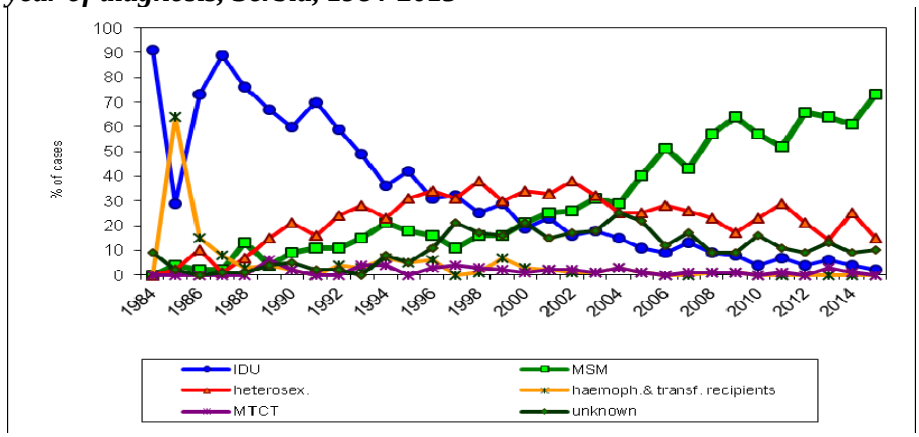
In recent years increasing trend of reported sexual transmission was notified among newly diagnosed HIV cases (88% in 2015 versus 27% in 1991) and decreasing trend of newly diagnosed HIV/AIDS cases among IDUs (2% in 2015 versus 70% in 1991). Additionally, regarding the HIV transmission categories among newly diagnosed HIV infected people reported in the period 2002-2015 in Serbia, there is clear increasing

trend among MSM (73% of all reported HIV cases in 2015 versus 26% in 2002 and 11% in 1991) partly due to increasing number of MSM tested in VCCT sites. At the other side, there is decreasing trend among newly diagnosed HIV cases among IDUs (2% of all newly registered HIV cases in 2015 versus 16% in 2002) the most likely due to extensive harm reduction programs implemented within GF HIV projects (*graph 3*).

In 2015 none cases of MTCT had been registered.

In the period 2002-2015 out of 1690 reported newly diagnosed HIV cases in Serbia one third were aged 20-29 (537 cases) at the time of HIV diagnosis. In the same period only 23 cases aged 15-19 (1% of all reported cases) were notified, as well as 15 cases in age group less than 15 years. The trend of newly diagnosed HIV infected persons in the age group 20-29 is increasing (37% in 2015, 33% in 2014, 28% in 2013, 32% in 2011 and even 47% in 2008 versus 22% in 2002).

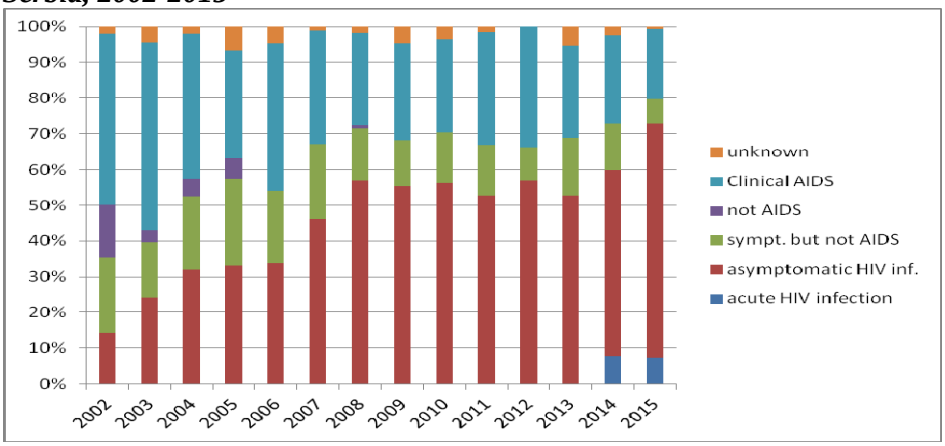
Graph 3. Newly diagnosed HIV cases by reported mode of transmission and year of diagnosis, Serbia, 1984-2015



Source: IPH of Serbia "Dr Milan Jovanovic Batut", 2016

Majority of the people infected with HIV in the past were diagnosed at the stadium of clinical AIDS (more than 70%), but in a recent years that trend is changing. Moreover, in the period 2002-2015 there is clear increasing trend of asymptomatic HIV infected persons at the time of diagnosis (117 cases or 66% of all newly diagnosed HIV cases in 2015 versus 14% in 2002) and decreasing trend of newly diagnosed HIV infected people in stadium of clinical AIDS (35 cases or 20% of all newly diagnosed HIV cases in 2015 versus 48% in 2002) (*graph 4*). The possible explanation for this trend is promotion via mass media of friendly and highly professional VCT services at all district IPHs which resulted in reduction of stigma and discrimination associated with the HIV testing. The second reason could be increasing availability of free of charge voluntary confidential or anonymous HIV testing with counseling during the whole year, not only in health facilities but also in drop-in centers or in mobile medical units for key population most at risk for HIV (IDU, MSM and SW). However, out of all newly diagnosed HIV infection in 2015 with reported first CD4 count at time of HIV diagnosis or diagnosed clinical AIDS (87 cases) 49 people (56%) were "late presenters" (CD4 count <350 cells/ml) while 47% people were diagnosed in advanced stadium/late HIV diagnosis (CD4 count <200 cells/ml or diagnosed AIDS).

Graph 4. Newly diagnosed HIV cases by clinical stage of HIV infection, Serbia, 2002-2015



Source: IPH of Serbia "Dr Milan Jovanovic Batut", 2015

Out of a total of 1788 reported AIDS cases in the period 1985-2015, three quarters (76%) were males; three quarters lived in Belgrade, 37% were IDUs, 23% MSM and 42% were aged 30-39, followed by age group 40-49 (25%).

In the period 2002-2015 a total of 736 AIDS cases had been reported in Serbia (601 males: 135 females). Out of them 266 AIDS cases were reported among MSM (36%), 162 among heterosexuals and 159 among IDUs. In the same period a total of 306 AIDS-related deaths had been reported (253 males: 53 females) and out of them 98 deaths among IDUs and 85 deaths among MSM. In 2015 out of 15 reported AIDS-related deaths 6 were reported among HIV-infected people in whom AIDS is diagnosed previously (in period 1997-2014) while 9 deaths were reported among newly diagnosed HIV/AIDS cases.

The number of PLHIV is continuously increasing due to reduction of deaths and increasing number of newly diagnosed HIV-infected people, so at the end of 2015 there were registered 2120 PLHIV for whom there is no information on death. Estimated PLHIV prevalence in population aged 15 and more years was less that 0.1% at the end of 2015. Last verified estimates provided by UNAIDS for 2013 shows that one third of PLHIV were not diagnosed.

The HIV epidemic in Republic of Serbia is moving to concentrated epidemic among MSM according to the available data from routine surveillance, as well as, according to data provided from specific surveys conducted among defined MARPs in 2008, 2010, 2012 and 2013. The HIV sero-prevalence among tested sample of IDUs in Belgrade, Novi Sad and Nis were less than 5% in the period 2008-2013 (1.5% in 2013 in Belgrade). At the other side the registered hepatitis C prevalence was high, especially among sampled street IDUs in Belgrade (61% in 2013 versus 77% in 2010 and 69% in 2008). As we expected the highest HIV sero-prevalence was registered among tested MSM in Belgrade during the last integrated bio-behavioral surveillance survey conducted in 2013 (8.3% with 95% CI 5.6-11.0) and it was almost twice higher in comparison with HIV sero-prevalence found among sampled MSM in Belgrade in 2012 (4.4% with 95% CI1.4-6.4). HIV sero-prevalence among sampled CSWs in Belgrade was almost the same in 2013 compared with results obtained in 2012 (1.6% versus 2%).There is still risky behavior among IDUs related to sharing equipment for injecting or not using sterile equipment, as well as not consistent using condoms with different sexual partners, as well as, not satisfying safer sexual behavior in MSM

population. Also, the percentage of survey respondents from key MARPs who reported being tested on HIV in the past 12 months was pretty low except for SWs. The results from national health surveys conducted in 2013 imply a high level of stigma and discrimination (33% of people aged 15-49 reported that would not buy fresh vegetables from a shopkeeper or vendor if you know that this person had HIV) which might influence on testing practice especially among those populations which are already the most socially marginalized [12].

Knowledge, sexual behavior and discriminatory attitudes towards PLHIV in general population and young people

The most recent National Health Survey households based has been conducted in the period October - December 2013. The results shows that 28.3% of young people aged 15-24 have comprehensive knowledge about HIV/AIDS. Only 1.9% of young women and men aged 15-24 reported having sexual intercourse before the age of 15 (3.3% of males versus 0.4% of females), while the median age for first sexual intercourse among young people aged 15-24 was 17 years (the same as in 2006). 11.5% of women and men aged 15-49 (17.4% of males versus 5.5% of females) reported having sexual intercourse with more than one partner in the past 12 months and among them 59.6% (62.5% of males versus 50% of females) reported using condom during the last sex (70% of young people aged 15-24). Half of population in Serbia aged 20 and more years knows where they could receive counseling and testing on HIV while 6.9% reported being tested on HIV ever (38% of respondents were informed and 4.2% reported being tested on HIV ever in NHS conducted in 2006). Only 2.5% of women and men aged 15-49 reported receiving an HIV test in the past 12 months and knowing their results (0.7% of young people aged 15-19). One third of population aged 15-49 years (34.4% of males versus 30.7% of females) have discriminatory attitudes towards PLHIV which means that they responded "No" to question "Would you buy fresh vegetables from a shopkeeper or vendor if you know that this person had HIV?"(35% of young people aged 15-24) [13].

Impact indicator

Key most-at- risk populations: Reduction in HIV prevalence

In 2013, within the GFATM R6 HIV Project implemented by Ministry of Health of Serbia, fourth integrated bio-behavioral surveillance survey among PWID aged 18 and more who injected drugs in the past month were conducted in Belgrade, Novi Sad and Nis by IPH of Serbia in partnership with local NGO and health institutions (sample size was 399 respondents in Belgrade, 300 in Novi Sad and 295 in Nis). Respondent Driven Sampling methodology was successfully applied. The results showed that estimated HIV sero-prevalence among respondents was 1.5% in Belgrade (1.7% in 2012, 2.4% in 2010 and 4.7% in 2008), 1% in Nis (4.5% in 2012 and 1.6% in 2008) while in Novi Sad no one of respondents was infected with HIV (0% in 2012 and 0.3% in 2008). The estimated sero-prevalence of hepatitis C was 61.4% in Belgrade (77.4% in 2010 and 74.8% in 2008) and 54.7% in Nis (60.5% in 2010 and 58.4% in 2008) while in Novi Sad it was 50.2% (51.6% in 2008) [12].

The most recent national estimate shows that there was 20,000 PWID (0.4% of population aged 15 to 64 years) with a range of possible 10,000 to 25,000 PWID, resp. POU in Serbia in 2013 [14].

Results from repeated bio-behavioral survey among a total of 1000 MSM aged 18 to 59 who have anal sex with male partner in the past 6 months which was conducted using respondent driven sampling methodology in three cities in 2013 showed that HIV sero-prevalence among surveyed MSM in Belgrade was 8.3% (4.4% in 2012, 3.9% in 2010 and 6.1% in 2008), 5.3% in Novi Sad (2.7% in 2012, 2% in 2010 and 2.4% in 2008) while in Kragujevac it was 6.3% [12].
For men who have sex with men for planning purposes a median estimate within the national minimum and maximum was chosen as the most appropriate giving a national estimate of 55,447 MSM within a range of a possible 20,789 to 90,104 individuals in Serbia in 2009 aged between 20 and 49 years [15].

Bio-behavioral survey among a total of 400 SW both sex aged 18 and more who reported selling sex in the past 12 months which was conducted in two cities in 2013 within Ministry of Health /GFATM HIV Project showed that the HIV sero prevalence among respondents in Belgrade was 1.6% (2% in 2012, 0.8% in 2010 and 2.2% in 2008) and 0.7% in Novi Sad [12].
For planning purposes on a national level it was estimated that there were 3,901 sex workers aged 18-49 with a possible interval estimate of 1,775 to 6,027 in Serbia in 2009 [15].

National Response to the HIV/AIDS epidemic

Although the Government has adopted multi-sector approach, and appointed NCHATB to lead the response, the Ministry of Health is the institution that has probably contributed most to the national HIV and AIDS response over the past few years. National surveillance system has been improved and the scaling-up and decentralization of treatment and prevention services across the country has been done.

The response to HIV/AIDS was one of the first areas where Government included the civil society since the very beginning of national efforts to combat the epidemic. The proven partnership was further intensified with the creation of the National AIDS Commission in March 2002, joint formulation of the and GFATM 1st round proposal (where side by side Government and civil society organizations were nominated to act as implementing partners), and especially from June 2004 when reformed NAC was created the first comprehensive National Strategy for Fight against HIV/AIDS in period 2005-2010 [16]. In the period 2003-2006 (GFATM 1st round HIV/AIDS Program implementation) civil society organizations started to work more actively with marginalized and hard to reach populations most at risk for HIV, and a couple of new NGOs were created [6].

In addition to the basic requirement for the national response on HIV/AIDS epidemic a part of civil society in Serbia systematically works on strengthening human and organizational capacity, development of policies and procedures and sustainable development, especially in PLHIV sector. Support services for PLHIV provided by

NGOs in Serbia still been greatly dependent on money that came from the Global Fund or from other external donors.

As a result of the second phase of the implementation of GF supported HIV program some key surveys were conducted, many documents developed, broad education of mass-media representatives and other key partners, as well as many national campaigns had been realized related to different prevention and anti-stigmatization and anti-discrimination issues.
Within the GF HIV Project drop-in centers for the key vulnerable populations (PWID, SW, MSM and street children with focus on MARA) were established and this is very important part of HIV and STI prevention. Opioid maintenance treatment is now decentralized and OST is currently available in few primary health-care centers and on secondary and tertiary health care level (a total of 23 health-care facilities provide OST at the end of 2015 compared to 29 at the end of 2013). Since March 2010 buprenorphine were registered from National Drug Agency as drug for treatment of opiate addiction and since 2012 introduced in OST. Treatment for substance use disorders is financed through health insurance (detoxification, maintenance therapy, inpatient treatment of drug dependence and treatment of drug-induced psychoses). In 2015 a total of 4336 drug users (DUs) receiving OST in 23 public health care facilities in Serbia (in 2014 a total of 3503 DUs, in 2013 a total of 2460 DUs and in 2012 a total of 2010 DUs were on OST, [17]).
The cooperation with prisons through GF HIV project implemented by Ministry of Health has been lifted to a higher level, and those services available in the community are now available in a majority of prisons as well (education on HIV/AIDS, VCT services, OST etc).

Within GFATM HIV project eight NGOs provided psycho-social support as integral part of the treatment and care of people living with HIV, as well as peer support and counselling, personal assistance and legal aid through self-support and resource centres, while treatment literacy has been provided in a smaller extent [17].

In 2013, IPH of Serbia through HIV project implemented by Ministry of Health, conducted KAP study on HIV/AIDS that covered 939 health care workers (HCW) in 50 health institutions at all levels of health care. Results indicate that there are no differences in the level on knowledge on protection measures in working place comparing to 2010. More than half of HCW (60%) reported being on some education on HIV/AIDS issue in the last 5 years. HCW who received education on HIV/AIDS issue possess higher level of knowledge and are more familiar with protection measures and actions to be taken in case of accident that can lead to HIV infection. A slight increase in positive attitudes and decrease of negative/discriminatory attitudes towards PLHIV has been registered comparing to 2010. However, there is still a need to work on improving the knowledge, practice and attitudes towards PLHIV among health care workers [18].

Within the GF HIV project, trainings were held focusing on the health professionals' supporting approach to HIV vulnerable groups, and in particular MSM. In addition, positive prevention approach for PLHIV has been introduced for the first time. Trainings in this area were held for health care workers, and a brochure on positive prevention was designed. The new strategy recognizes positive prevention within prevention activities.

Within GF HIV project, there were constant efforts to improve the capacities of NGOs working in the area of HIV, and regular meetings were held aimed at

networking organizations providing services in relation to response to HIV, both from non-governmental and governmental sectors.

Voluntary counseling and testing services

A great effort has been made to promote and expand VCT services. Since 2011, Ministry of Health financed all VCT services, including procurement of HIV tests in all district/regional IPHs, while some number of tests for HIV and hepatitis B and C were provided within GF HIV projects implemented by Ministry of Health. In 2015 a total number of 7065 clients had been counseled and tested in 23 Public Health Institutions and other health facilities. A significant proportion of VCT services have been provided for the key most at risk populations out of health facilities in drop in centers or mobile medical units using rapid HIV tests through several very successful national campaigns [19].

Prevention of mother-to-child transmission

A special attention was given to prevention of mother-to-child HIV transmission. Till the end of 2004 only a few pregnant women were tested on HIV in first trimester of wanted pregnancy by epidemiological indications. The new PMTCT strategy that endorses right of every pregnant women to get tested for HIV free of charge, has been developed and endorsed as a part of the National HIV strategy , 2005-2010, as well as in the current National HIV Strategy for the period 2011-2015. With support given by the Global Fund HIV Project and UNICEF the routinely voluntary counseling and HIV testing of pregnant women based on *"opt-out strategy"* was implemented as pilot project in 5 districts (in the 15 biggest Primary Health Care centers) in the period 2005-2006.
In 2015 a total of 9112 pregnant women were counseled and tested on HIV (around 15% of all pregnant women in Serbia) versus 991 tested in 2003 and 1384 tested in 2004. In 2015 two HIV infected pregnant women decided to terminate their pregnancy (both previously knowing their HIV+ status).
At the other side, in 2015 a total of 3 HIV positive pregnant women (all 3 already know their HIV positive status) decided to have a baby. They were fully covered with HAART and with PMTCT protocol, including replacement of breastfeeding and ARV prophylaxis (AZT) in the first 6 weeks of life for every infant born by HIV-infected mother. Since 2005 till now we notified that all children born by known/diagnosed HIV positive mothers are HIV negative (around 40 children). Moreover, routine surveillance data shows that in the period 2005-2015 a total of 11 children with MTCT transmission were notified versus 28 children notified in the period 1993-2004.

Blood safety

All the blood units have been voluntary donated and mandatory screened for HIV since 1987 and the costs of testing as well as promotion of voluntary donations are fully covered by national budget. All donated blood units are screened using documented standard operating procedures in a high quality manner.

Key most-at-risk populations: preventive services

The coverage of PWID, SW, MSM and prisoners with preventive services in the area of VCT is very low, even though the outreach activities are scaled-up and very well developed within GF HIV programs, especially after GF HIV project was finished due to lack of financial support.
The development of new VCT sites in the framework of the Global Fund Round 6 HIV Project implemented by MoH, increased the accessibility of the service, but didn't change in a significant way the number of reported people tested on HIV among key MARPs. This is mainly the result of the fact that people do not recognized their risk or avoid to identify themselves as belonging to one of those MARPs or even are afraid to be additionally stigmatized if going to be tested especially in smaller cities.
Community outreach needle exchange program was initiated during 2003 in Belgrade, since January 2005 in Nis, since the end of 2005 in Novi Sad and since 2011 in Kragujevac within GF/MoH HIV Projects but currently NEP is only conducted in Novi Sad by NGO Prevent. There was a good cooperation and partnership between NGOs and local IPHs in providing VCT services for PWID. Prevention services for SW and MSM provided by NGOs since 2003 with significant coverage of clients especially during GFATM HIV projects, currently are very insufficiently implemented due to lack of financing from national or other sources.
Results from the fourth round of IBBS surveys conducted in 2013 show that 69% of sampled SWs in Belgrade (65.5% in 2012 versus 32% in 2008), 14.5% of sampled PWID in Belgrade (20% in 2012, 20% in 2010 and 21% in 2008), and 51% of sampled MSM in Belgrade (50% in 2012 versus 13% in 2008) have been reached by preventive activities [12].

Testing rate in the past 12 months and condom use among key MARPs

Results from fourth round of IBBS surveys conducted in 2013 showed that 49% of surveyed SWs in Belgrade reported that have been tested in the past 12 months and knows the result of testing (65.5% in 2012, 59% in 2010 and 45% in 2008) while only 19% of sampled PWID in Belgrade (25% in 2012, 33% in 2010 and 32% in 2008) and 36% of surveyed MSM in Belgrade (44% in 2012, 34% in 2010 and 31% in 2008) reported having been tested in the past 12 months and knowing the result of testing [12].
Stigma to which SWs are exposed and the illegal status of prostitution result in a very low access to preventive services (that are now becoming more client-friendly) and a high under-reporting rate as members of the population often failing to declare their belonging to this population group. The similar situation is assumed among PWID due to legislation barriers. VCT is well accepted by patients in Special hospital for Dependence Diseases in Belgrade, the only OST health facility which provide VCT services [17].

Also, results from fourth round of IBBS surveys conducted in 2013 showed that 91% of sampled SWs in Belgrade were reported using condom with their most recent client (90.5% in 2012, 87% in 2010 and 91% in 2008), while only 32% of sampled IDUs in Belgrade reported using condom the last time they have sex (31% in 2012, 32% in 2010 and 29% in 2008)) and 62% of surveyed MSM in Belgrade reported using

condom the last time they had anal sex with a male partner (58% in 2012, 64% in 2010 and 67% in 2008) [12].

HIV treatment: antiretroviral combination therapy

Till the beginning of 2008 the ART was available only in Belgrade at Clinic for Infectious Diseases in Clinical Centre of Serbia for all PLHIV in need. Since 2008 HIV/AIDS treatment is available through a well-organized system, with out-patient and inpatient services available at Clinical Centers in Belgrade, Novi Sad, and Nis and since 2009 at Clinical Centre in Kragujevac. The need for referral obtained by general practitioners in primary health facilities, and the need for clearance from the Local Health Insurance Fund branch in locations outside of the Belgrade, Novi Sad, Nis and Kragujevac are barriers for some PLHIV to access treatment. Establishment of the new treatment sites is accompanied with comprehensive mapping of the medical and social professionals that will be part of the system for provision of comprehensive medical and psycho-social care and support. The stigma toward PLHIV that is significantly present in general population is present at some level in the health sector, too [18]. A HIV infected people who need to come for check-ups undergoes through a demanding administrative procedures that are handling referral papers with the full name and diagnosis of the patient. This in some cases compromises confidentiality and privacy and causes stigmatization and discrimination in the community [20].
Government of Serbia ensures universal access to HAART and all other drugs for prophylaxis and treatment of opportunistic infections for all people living with HIV who needed it. Treatment of PLHIV is in generally based on latest recommendations given by European AIDS Clinical Society (EACS) and WHO but still recommended first line of ARV drugs who are registered in Serbia are not covered by RHIF (ART is recommended to everyone regardless of initial CD4 count while it is strongly recommended to every HIV diagnosed person with CD4 <350 cells/ml). The lack of CD4 and PCR HIV RNK tests, as well as tests for HIV resistance on ARVs happened often, especially in Clinical Centre of Serbia in Belgrade where around 80% of PLHIV are treated.
The entire cost of the ARV treatment is covered by Republican Health Insurance Fund (*around 8 million EUR in 2015, Source: Republican Health Insurance Fund*). In the period 2003-2014 a significant increase in the number of people on HAART was observed (1400 at the end of December 2015 versus around 300 at the end of 2003).

The estimated ART costs per patient was around 5750 EUR in 2015. Moreover, more than 80% of the total HIV/AIDS spending from all financial sources in 2015 was related to PLHIV treatment and care and increase of 15% was notified compared to 2014.
It is important to continuously procure and make available diagnostic tests, as well as tests for monitoring and evaluation of success or failure of ARV treatment, to put on list some innovative ARV drugs which will be covered by RHIF and to implement psychosocial support, palliative care and home based care for those PLHIV in need.

Major challenges faced and actions needed to achieve the goals/targets

Reconstruction of the National Commission for fight against HIV/AIDS and Tuberculosis (NCHATB) by new Government and development of a new National HIV Strategy for the period after 2015 with budgeted mid-term action plan for implementation of it, as well as, necessary revision and continuous improvement of the overall National M&E framework that will assure better collection of good quality data from different stakeholders and proper triangulation and improvement of data analysis and use of them for better planning and acting in the future are ones of the identified major challenges. The UN TG on HIV/AIDS/UNAIDS started support related to defining and implementation of the National M&E System in November 2004.

Introduction of the Second generation of HIV/AIDS surveillance had been a special challenge that the country was faced with in order to provide more comprehensive picture and to monitor trend of HIV and other STIs prevalence in defined most at risk population groups, as well as, to monitor key behavioral data that will offer a better insight in the status of the epidemic or potential negative course. Also, triangulation of good quality data obtained through repeated surveys and adequate program data enabled comprehensive and sector wide approach in monitoring and evaluation of national response to HIV epidemic and better planning of resources and preventive activities especially among defined key hard to reach MARPs throughout the country.

The period 2012–2014 is characterized by significant progress made in the area of prevention of HIV and reduction of the HIV impact and by some reduction of the level of stigma and discrimination related to HIV among general population in Serbia. The strong partnership between governmental sector and civil society sector acting to implement the Strategy has been successfully implemented. Major prevention interventions have been expanded to national level with scaled-up access to services and programs for key populations most at risk for HIV. Also, there is need for further strengthening the health system, as well as, to raise the level of comprehensive knowledge in different populations and professionals.
Although the civil sector is present and noticeable in responding to HIV, a need has been recognized for its additional strengthening in the area of monitoring the national response, or in the system's response to HIV prevention, treatment and care, promotion of systematic and social changes which would decrease new HIV cases, and protection of the rights of the most disadvantaged groups. Coordination and better networking of organizations which deal with HIV directly, and those working on the reduction of risk, and prevention of behaviors which increase the risk of infection, would increase the representativeness of the civil sector in the relevant national and local structures and have an enhanced impact. Further building and strengthening of civil society organizations, especially in areas less well represented and among the young in particular, would be a significant contribution to the prevention efforts.

The significant contribution to the National HIV/AIDS Strategy implementation has been provided by GFATM in the areas of prevention for defined vulnerable populations and support for PLHIV, research, M&E and communication while the significant national contribution was mainly dedicated to VCT, treatment, surveillance and M&E activities.

The main challenges in the forthcoming period will be to develop and adopt by Government new National HIV Strategy with budgeted action plan in order to maintain and scaled-up already developed prevention activities and to make sustainable the universal access to good quality treatment, care and support of PLHIV and those affected by HIV. The key activities should be planning and management of drugs and routine tests for monitoring progress of HIV infection procurement (CD4, PCR tests, HIV resistance on ARVs etc.); development and implementation in the large scale of HIV testing strategy for TB patients and other patients initiated by health care providers and broader implementation of community based HIV testing using rapid tests; improvement of TB infection control in HIV treatment centers; sustainability of ART including provision of the first line of ARVs, as well as PEP in accordance with WHO/EACS recommendations. These will require an increased contribution from the national budget. Despite the progress made, the programs targeting high vulnerable groups are far from reaching enough people with comprehensive prevention services to make a significant impact.

Alternative strategies and innovative approaches based on best practices should be implemented together with a revision of current legislation with objective to encourage implementation of programs where it is necessary. Moreover, sector wide approach is needed meaning that HIV specific issues need to be integrated in different national plans and programs and to raise involvement of local community/authorities and private sector in response to HIV epidemic.
However, the recognized challenges are funding some of the key activities, such as free of charge, voluntary, anonymous counseling and testing on Hepatitis B and C, as well as provision of free of charge HIV testing for greater number of pregnant woman and continuation of procurement of monitoring test for PLHIV for all treatment centers; conducting the cost effective analysis of PLHIV treatment; standardization of OST service at all levels of health care. Nevertheless, it is planned to develop wider gender approach and to integrate gender policy in activities of different stakeholders.

After withdrawal of the GFATM HIV program funding (since October 2014), a great concern still exists about how to maintain and scaled-up already developed prevention activities for key populations at risk and to obtain support and positive prevention for PLHIV, which are recognized as an integral part of successful prevention and control of HIV/AIDS epidemic in Serbia, as well as internationally. The lack of funds for the continuation of these activities could lead to a spread of HIV epidemic, both among MARPs and the general population, especially having in mind that the results of the surveillance surveys show that according to the criteria set by WHO, Serbia has moved from low HIV prevalence country to country with concentrated prevalence among MSM (HIV sero-prevalence was more than 5% among MSM in Belgrade in 2008 and in 2013 was found) [12].

In line with recognized treats, key stakeholders made a consensus on September 2014 that the key interventions/services that are needed to be funded and supported for continued implementation in the future are:

1. Outreach Voluntary Counselling and Testing on HIV
2. Harm Reduction Programmes among drug users
3. Outreach and Mobile Medical Unit working with key populations at risk (SW, MSM, PWID)

4. Drop-in Centres for most-at-risk populations (SW, MSM, PWID)
5. Care and support programmes for PLHIV.

Key identified barriers by stakeholders in the area of prevention are: lack of funds for prevention among key populations, inadequate strategic planning, education of health professionals and other service providers, laws and bylaws with negative effects on prevention, as well as insufficiency in implementation of good laws and policies, lack of life skill based education in schools, low HIV counseling and testing coverage of key populations at risk, lack of targeted prevention intervention among key populations (such as NEP etc), lack of data and invisibility of trans* and lack of prevention programs for people with disabilities as vulnerable population for HIV prevention etc.

Key identified needs in the area of testing are: sustainable financing, scaling-up community based testing and PITC, reduction of stigma and discrimination, increasing referral for HTC of patients with STI diagnosed, tailoring of HTC services in health care facilities in line with needs of clients (working time, use of rapid tests etc), revision of laws/polices.

After the end of GF HIV project all 8 NGOs are still active in providing mainly peer counselling and some other support services to PLHIV but in a smaller extent than they used to do during the GF HIV project, primarily due to significant lack in financing from the local authorities. There is recognized a need for standardization of services for PLHIV (psycho-social support, palliative care/practical assistance, education) provided within NGO sector.

Some of identified issues related to treatment is that recommended first line ARV drugs are not available yet (not on the list of drugs covered by RHIF), lack of HIV resistance on ARVs testing, treatment literacy for PLHIV in some extent, psycho-social and other support and care for PLHIV...

Support required from country's development partners

UN TG for HIV/AIDS members also contributed to the national efforts for better implementation of the priorities highlighted in the National HIV Strategy:

- Efforts to strengthen HIV/AIDS/STI surveillance and support the surveillance capacity building (WHO/ECDC, GFATM)
- Support in formulation of national policies and standards for PMTCT and youth friendly health, social and education services (formal and non-formal), and assessment of the community and health services provided to especially vulnerable young people, including adolescents (UNICEF)
- Assessment and response of the PLHIV on the current available healthcare, and social services (UN TG, UNDP)
- Raising funds for the medium to longer term programs and projects (bilateral and multilateral agencies).

EU influence is increasing while the UN agencies influence on funding key programs/ activities in the area of HIV/AIDS is decreasing but at EU agenda HIV is not put as remarkable issue for potential funding in Serbia.

Monitoring and evaluation environment

In 2006, the National HIV/AIDS Office was established as an operational body of the National HIV/AIDS Commission (NAC). The Office has been established within the IPH of Serbia, with support from UNDP, UNAIDS and GFATM. The Office is continued to be funded by domestic sources since 2007/2008. The main functions of the National HIV/AIDS Office were: assistance to the NAC in overseeing implementation of the National HIV/AIDS Strategy; development and implementation of broad capacity building strategy based on continuous needs and resource assessment; development of M&E plan and establishment of reporting procedures and data flows within the program, as well as to provide regular reports based on collected and analyzed different data, to establish and maintain database on program resources, provided services and financial resources, to enable further strategic planning of activities and to ensure transparency of the program implementation, by establishing information exchange channels and networks, and dissemination of all relevant information to wide audiences, trainings of journalists and health care workers, capacity building of all relevant stakeholders regarding 2nd generation surveillance and M&E and budgetary-based programming and planning.

Since July 2015 fully operational Department for HIV/AIDS, STI, viral hepatitis and tuberculosis was established instead of National HIV/AIDS Office in the Institute of Public Health of Serbia with aim to improve and to integrate coordination of activities in the area of surveillance, prevention and control of these infectious diseases, as well as to improve the M&E system and dissemination of relevant information and periodic reports to different partners.

Coverage indicators are defined to incorporate all three levels of coverage within particular service delivery areas. To ensure full participation of implementing agencies, and collection of good quality data, implementers were fully trained on M&E.

Strengthening of national M&E capacity, as well as providing training in 2nd generation HIV/AIDS Surveillance was the key activity in Serbia over the last seven years. Local trainings have been made available for selected number of national stakeholders and sub recipients of GF HIV programs. The national workshops served as consultation forums where all relevant stakeholders participated in revision and harmonization of existing and defining new indictors and designing of functional M&E system on national level. With support of UN TG for HIV/AIDS, UA targets for 2010 related to prevention, treatment, care and support have been set and endorsed by NAC.

The Plan for monitoring and evaluation of the strategic response to HIV/AIDS in Serbia in the period 2011-2015 [21] has been adopted by NAC in March 2011. Multi-agency M&E Toolkit was among few resource documents that was used for its development. The plan provided sufficient basis for monitoring key indicators.

Within GFATM HIV Projects implemented by Ministry of Health national outcome and impact indicators was planned to be measured through periodic repeated bio-behavioral surveillance surveys among defined most at risk populations, as recommended for low and concentrated epidemics. Baseline surveys for collection of these indicators have been done in 2008, second cycle of surveys in 2010, third in 2012 while the last cycle was conducted in the period October-December 2013.

In addition, the PIU of MoH for GFATM HIV Project organized regular monitoring visits to implementation sites/organizations, ensuring data verification and advising implementing partners on required improvements in data quality for the purpose of reporting. Since July 2009 introduction of a **Universal Identification Code - UIC** for every client reported in program and development of project's **web-oriented data base** has enabled crosscheck of data during and after regular monitoring activities. Mentioned database was base for development of a national HIV database which is operational and managed by Department for HIV/AIDS, STI, viral hepatitis and tuberculosis of IPHS since July 2014. Also, minimum package of services was defined and applied since July 2011 in the framework of HIV prevention activities for defined MARPs which allow us to properly measure and evaluate quality of different types of services.

Moreover, the VCT web oriented data base at national level has been developed and implemented since January 2014, in order to improve collecting data system and dissemination of final reports for different audiences.

Surveillance system for HIV and AIDS and M&E system have been substantially developed from the 6th Round of the GFATM and further strengthened through implemented MESS activities and by attending relevant courses on 2nd generation surveillance and other topics in the area of HIV/AIDS at the School of Public Health "Dr Andrija Stampar" in Croatia and other courses or conferences in country and abroad.

(Bio) behavioral surveillance surveys in six populations most at risk for HIV and among PLHIV have been conducted biannually with objective to provide the set of core national impact and outcome indicators. All four cycles of periodical integrated bio-behavioral or only behavioral surveillance surveys were conducted by the Institute of Public Health of Serbia "Dr Milan Jovanović Batut" in partnership with MoH and all relevant governmental institutions, regional institutes of public health/VCT centers and NGOs, as well as with treatment departments in clinical centers.

Strengthening the strategic planning of the national response to the HIV epidemic are based on monitoring and evaluation of the national response through the analysis of impact and outcome indicators, coverage indicators and other relevant program data. The Ministry of Health of the Republic of Serbia, as well as Principal Recipients strengthened the National HIV M&E system, in order to meet the requirements of the GFATM according to performance-based funding.

Size estimates of PWID, MSM, and SW population at local and at the national level has been done as part of M&E system strengthening within GFATM HIV project while the last one size estimates of PWID in Serbia was done within Twinning project related to drugs.

The key activity in the next period will be fully implementation of new data flow system through web oriented data base for M&E of HIV response on national level for all stakeholders; defining new minimum package of services for each MARPs; supervision and data quality control and reporting system, as well as quality of implemented activities. The major challenge is to motivate NGOs to report all defined standardized data on realized activities to national level through unique database for data collecting and reporting at national level. Moreover, it will be very important to recognise the necessity and act with the aim to implement all services/interventions according to best practice protocols/standards, to maintain continuity in monitoring the quality and availability of services, in order to adjust the national HIV/AIDS

response to the situation and the needs of the beneficiaries and to maintain continuity in monitoring and to periodically evaluate the effectiveness of Serbia's strategic response to HIV/AIDS. Realization of periodical IBBS among key population at risk, at minimum in Belgrade is crucial for monitoring the trend of HIV epidemic and risky behaviour.

Other challenge in the next period will be collecting data on AIDS spending on national level using NASA or other recommended methodology and improvement in the area of monitoring continuum of care and treatment for PLHIV with external support for training on new modeling tool for estimates of PLHIV produced by ECDC.

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Annex 1: Consultation/preparation process for this national report

The report was prepared by the Institute for Public Health of Serbia 'Dr Milan Jovanovic Batut" in close collaboration with Ministry of Health of Serbia, Ministry of Justice and other stakeholders including civil society organizations and PLHIV based on the current legislation and policy, strategic approach including level of implementation and on latest results of targeted surveillance surveys among populations most at risk for HIV and among PLHIV, as well as, on available surveillance and program data.
WHO policy questions were broadly discussed and fulfilled at the consultation meeting of key stakeholders from governmental and civil society sector on April 1, 2016.

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