HIV in Albania:
An Epidemiological Review

September 2014

World Health Organization

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Keywords

ACQUIRED IMMUNODEFICIENCY SYNDROME

AIDS

ALBANIA

HIV

SURVEILLANCE

Contents

Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
DHS	Demographic and Health Survey
EU	European Union
GP	General Practitioner
GF	Global Fund
HR	Harm Reduction
HCV	Hepatitis C virus
HIV	Human Immunodeficiency virus
IPH	Institute of Public Health (Albania)
IBBS	Integrated bio-behavioural Survey
LTFU	Lost to follow up
MSM	Men who have sex with men
MMT	Methadone Maintenance Treatment
NGO	Non-Governmental Organization
NSP	Needle and Syringe Exchange Programme
OST	Opioid Substitution Therapy
PLHIV	People Living with HIV
PWID	People who Inject Drugs
RDS	Respondent Driven Survey
SW	Sex Workers
STI	Sexually Transmitted Infections
TB	Tuberculosis
TUH	Tirana University Hospital
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

1. Introduction

This epidemiological report outlines the current HIV epidemic in Albania. It describes recent trends in HIV diagnoses, AIDS and deaths and outlines key monitoring and evaluation outputs, including access to HIV care and treatment. The report also assesses areas for development in HIV surveillance and analyses the impact of programmatic efforts on the epidemic.

This evaluation builds on a desk review and a country mission which took place from 8-11 September 2014 in Tirana, Albania. Information and data were collated from interviews with key staff involved in surveillance, prevention and treatment and care and secondary sources including national publications, epidemiological reports, WHO and The Global Fund reports.

2. Objectives

a.   To outline key trends in the HIV epidemic in Albania.
b.   To demonstrate how access to, and the quality of, HIV care can be monitored through the treatment cascade.
c.   To assess the impact of programmatic efforts and other factors on HIV epidemic.
d.   To identify areas for development in HIV surveillance.

3. Surveillance methods

HIV surveillance in Albania is conducted centrally at the national Institute of Public Health (IPH), Tirana. The purposes and methods for surveillance are based upon the national evaluation and monitoring plan published in 2005 *(1)*. Data are collected throughout the year from the following sources: voluntary and confidential HIV testing (VCT) centres, laboratory HIV antibody confirmatory reports, data from blood donor database and case notifications from hospital settings.

The surveillance data are received on paper forms which are entered, stored and manipulated in an Epi-Info database kept at IPH. Information collected on new diagnoses includes date of HIV diagnosis, demographic information (name, sex and date of birth) HIV testing information (place of diagnosis), clinical information (CD4 count at diagnosis, AIDS diagnoses and infection stage) and probable exposure to HIV (e.g. through heterosexual contact, sex between men, injecting drug use (IDU), mother-to-child transmission (MTCT)). Clinical information (CD4 counts, viral loads and ART information) is updated each year for those patients in treatment and care at the Infectious Disease Clinic of Tirana University Hospital (TUH). These updates are collected manually from case notes.

No epidemiological follow up is undertaken where risk of exposure is not reported, nor those who do not attend HIV care. While notification of AIDS diagnoses is collected, the specific AIDS defining illness is not recorded centrally. Albania cannot currently undertake estimates HIV prevalence, undiagnosed infection or incident infections.

It is not currently possible to link HIV surveillance data to tuberculosis datasets to assess the extent of coinfection.

Three integrated bio-behavioural surveys (IBBS) have been conducted in 2005 *(2)*, 2008 *(3)* and 2011 *(4)* among MSM, PWID, Roma persons and the general population. Each survey was conducted in Tirana and each of the key groups were tested for HIV, hepatitis B and C and syphilis with information about sexual and other behavioural risk factors completed by survey participants. Respondent driven sampling (RDS) was used to recruit men who have sex with men (MSM) and people who inject drugs (PWID) in Tirana, while cluster based sampling was used to recruit Roma and the general population. In 2011, 200 MSM, 200 PWID and 610 Roma participated in the survey.

Further information relating to sexual behaviour, HIV testing and knowledge of HIV/AIDS was collected in the Demographic and Health Survey (DHS) in 2008-2009. The sample included 7584 women and 3013 men aged 15-49 years *(5)*.

No surveillance information is collected relating to HIV and sex workers.

4.   Results

4.1   Outline key trends in the HIV epidemic in Albania

4.1.1 New HIV diagnoses

Albania is a country with low-level HIV epidemic. The first HIV/AIDS case was reported in 1993 and a total of 699 diagnoses have been reported by the end of 2013. The annual number of cases reported remained low, and under 40 per year, until 2006. Between 2008 and 2013, the number of HIV diagnoses more than doubled from 48 to 124 cases (Fig. 1). In 2013, the number of diagnoses was equivalent to 4.3 per 100 000 population. While this rate is lower compared to the 7.8 per 100 000 reported in the WHO European region, it is more than double the 1.9 per 100 000 population in the central European region *(6)*.

The HIV epidemic in Albania is concentrated in the capital, Tirana, in which over a quarter of the 2 900 000 Albania population lives. Overall, 52% of all HIV diagnoses were made in Tirana, followed by other major cities including Durres, Elbasan and Vlora. All but three of the 36 districts in the country have reported a least one case (Fig. 2).

Probable route of exposure was reported for 94% of all new HIV diagnoses between 2008 and 2012 (Fig. 3). For all years, where information is available, heterosexual transmission is reported to be the predominant route of transmission (83%) followed by sex between men (10%), mother to child transmission (MTCT) (3.5%) and blood transfusion or receipt of other blood products (2%). Less than 1% of diagnosed cases were reported to be associated with injecting drug use.

Through these analyses, it has been assumed that the HIV epidemic is in the general population, rather than concentrated in specific risk groups. Typically, countries with low level epidemics, such as Albania, are concentrated epidemics with MSM, PWID, migrants from high prevalence countries and sex workers primarily affected. Such high proportion of reported heterosexual transmission should be explored further. Despite the highest reported transmission route being among heterosexual men and women in Albania, overall, 70% of diagnoses were reported among men, with the ratio of male to female diagnoses being consistently 2:1 over time (Fig. 3). This ratio suggests that the reported figure of 10% of new diagnoses occurring among MSM and data on PWID (typically higher among men) are likely to be a substantial underestimate.

Elsewhere in central Europe, the number of new HIV diagnoses reported among MSM has almost tripled from 251 in 2006 to 703 in 2012 *(6)*. This indicates the potential for an increase, or at least the recognition of an increase, in new HIV diagnoses in MSM in Albania.

New HIV diagnoses - key messages:

- *New HIV diagnoses have doubled in the last five years, but Albania remains a country with a low-level HIV epidemic.*

- *The HIV epidemic is concentrated in the capital, Tirana.*

- *The ratio of male:female diagnoses indicates that the HIV epidemic in MSM (and potentially men who inject drugs) is likely to be greatly underestimated.*

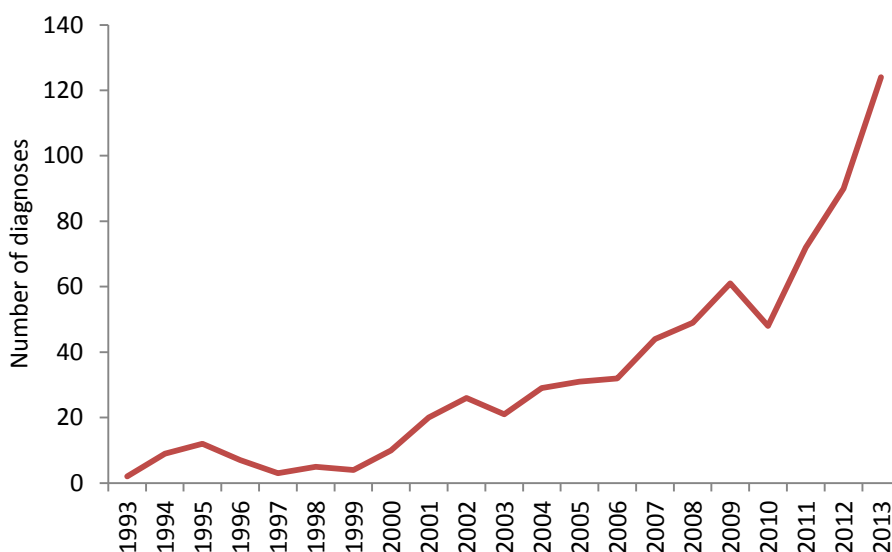Fig. 1 - Number of new HIV diagnoses: Albania, 1993-2013

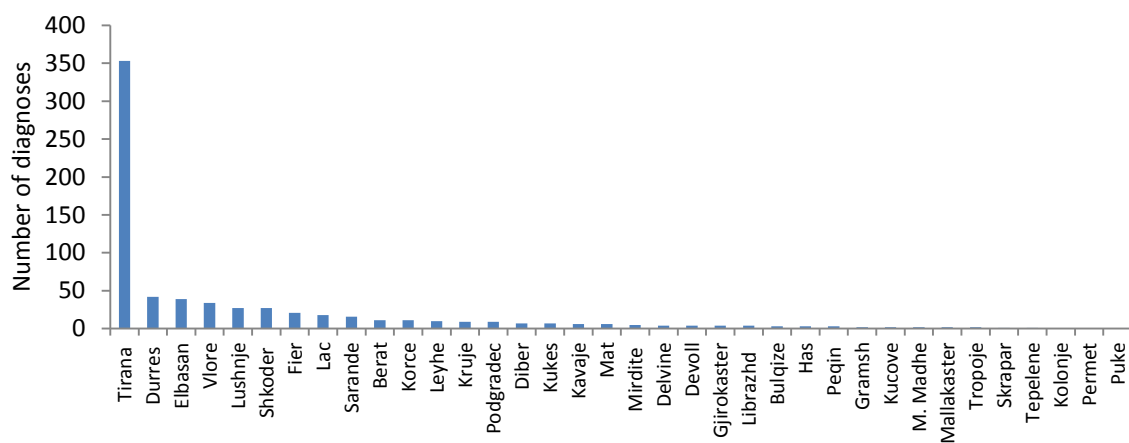Fig. 2 - Number of HIV diagnoses, by district: Albania, 1993-2013

Fig. 3 - Number of new HIV diagnoses by gender, and reported probable route of exposure: Albania, 2008-2012
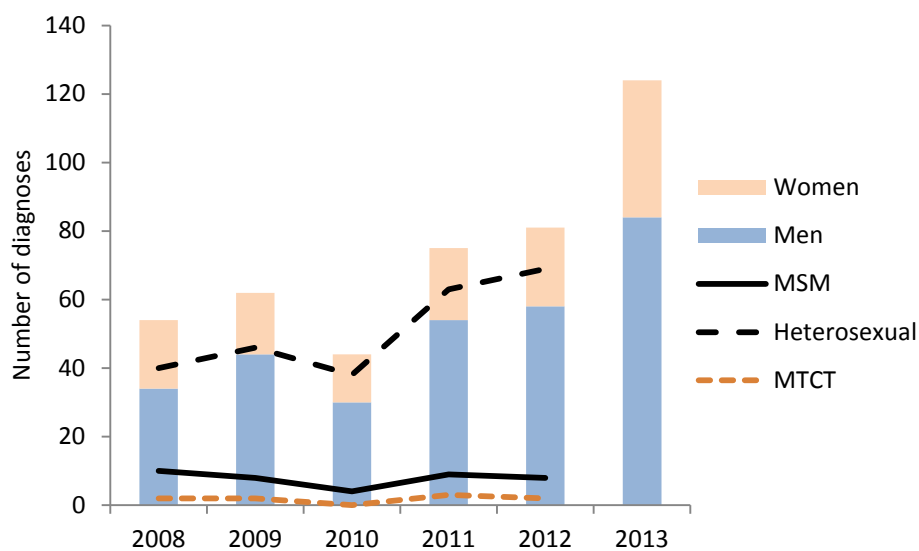
4.1.2 Late HIV diagnoses, AIDS and deaths

Late HIV diagnoses

A late HIV diagnosis is defined as having a CD4 count <350 cells/mm^3. An important indicator of the success of HIV testing programmes, reducing late HIV diagnoses decreases short term mortality and morbidity (including the occurrence of opportunistic infections) and the size of the undiagnosed population. People unaware of their HIV infection are likely to contribute substantially to HIV transmission; an HIV diagnosis provides the opportunity for behaviour change and antiretroviral therapy (ART) which, if successful, reduces the risk of onward HIV transmission to negligible levels.

Where CD4 data are available (% unknown), overall, late HIV diagnosis is common with 75% of patients being diagnosed with a CD4 count <350 cells/mm^3 and 52% CD4 counts <200 cells/mm^3 (representing severe immunosuppression). The high proportion of diagnoses made at a late stage of HIV infection indicates that a large proportion of those living with HIV in Albania are unaware of their HIV infection.

AIDS

Overall, 250 AIDS cases have been reported in Albania; two thirds (164) of diagnoses were reported between 2008 and 2012 (Fig. 4). As with late HIV diagnoses trends, this indicates a large proportion of Albania's HIV population are not being tested and diagnosed promptly and suggests a relatively large undiagnosed population within Albania.

The demographic profile of AIDS cases matches that of new HIV diagnoses; 74% AIDS cases were reported among men. While specific AIDS defining illnesses are not consistently collected, clinician interviews indicate that the most frequently reported cases include tuberculosis (TB), pneumonia and Kaposi's sarcoma.

Fig. 4 – Number of AIDS diagnoses, by gender: Albania: 2008-2012

Deaths

Of the 699 patients who have ever been diagnosed, a death report made by the treating clinician was received for 122 by the end of 2013. This is equivalent to a crude death rate of 17% (122/699) within the HIV-diagnosed population. Of all the 122 deaths, 48 are reported to be AIDS-related deaths (all data on AIDS deaths are reported from the TUH).

Interviews with clinicians indicate that late HIV diagnoses, delays in the management of opportunistic infections and availability of ART contribute to the relatively high numbers of deaths observed among those diagnosed with HIV.

However, the number of deaths reported is likely to be an underestimate; only patients who die at TUH Infectious Disease Clinic are reported and death certificates may not include HIV-related causes due to the stigma of HIV in Albania. Also, it is currently not possible to assess the number of deaths among those who do not access care following diagnosis. This would require regular linking of the HIV database with the official death statistics.

Late HIV diagnoses, AIDS and deaths - key messages:

- *Three quarters of new HIV diagnoses are made at a late stage infection; this contributes to a high crude death rate.*

- *The high percentage of late HIV diagnoses is indicative of a high proportion of undiagnosed infections among Albania's HIV positive population.*

- *The number of HIV-related deaths is likely to be underestimated.*

4.

In Albania, people are tested for HIV infection through VCT (available in 12 cities) and "recommended testing" (where HIV tests are recommended by health care workers in settings such as outpatient hospital clinics, IPH and general practitioners). In addition, Albania screens all blood donors for HIV. Blood donors are either volunteers, or are family members of those scheduled for surgical procedures. The number of HIV tests carried out in each of these settings is summarised in Table 1.

Overall in 2013, 36 040 HIV tests were conducted (Table 1). This is equivalent to an HIV testing rate of 1.2% (36 040/2 900 000). Excluding blood donations, 3140 HIV tests were performed in 2012, which is equivalent to 1.1 per 1000 population; this is the lowest rate among the countries that submitted these data to the ECDC/WHO *(6)*.

Table 1 - Number of HIV tests performed: Albania, 2013

Institution	Voluntary testing	Recommended testing	Blood donors			Total
			Voluntary	Family related	With payment	
IPH	383	1012	Not applicable			1395
VCT	1438	0	Not applicable			1438
HIV outpatient clinic	40	190	Not applicable			230
Transfusion clinic	0	0	7178	24 469	2768	34 415

In 2011, the IBBS survey found that the proportion of general population who had ever tested for HIV was low, at 7.7% (table 2). Among key populations, 24% of MSM reported ever having an HIV test compared to 60% of PWID and 7% among the Roma population. The DHS in 2008-09 found 2.6% of men and 1.5% of women reporting ever having an HIV test, and 0.6% and 0.2% having a test in the past 12 months, respectively. Knowledge of where to get an HIV test was also poor with only 40% of men and 26% of women knowing where they could be tested for HIV. These data, together with recent trends in late HIV diagnoses and AIDS demonstrate efforts to improve the coverage and frequency of HIV testing require urgent intensification.

Table 2- IBBS survey, proportion reporting testing for HIV: Albania 2011

	Number of respondents	Ever had an HIV test?	Of those ever tested, what proportion tested in past 12 months?
General population	N/A	7.7%	-
MSM	200	24%	21%
PWID	200	60%	40%
Roma	610	7%	8%

Voluntary Confidential Testing

Centres for VCT have been established since 2005 and are available in 12 prefectures - Tirana, Durres, Vlora, Lezha, Shkodra, Korca, Gjirokastra, Berat, Fier, Elbasa. Kukes and Peshkopi 1 The number of people tested in VCT settings increased from 250 tests in 2005 to 3063 in 2013.

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[1] According to the information obtained during the mission in August 2014, voluntary testing is defined as testing which is done upon request of a person, without prior consultation with a healthcare professional. Recommended testing is the one done upon recommendation from healthcare providers who have established risk factors while interviewing a client/patient.

During testing, clients are interviewed in relation to their demographic details, sexual history and reason for test. Rapid testing is undertaken using venous samples. Clients found to be HIV positive receive post counselling care from a psychologist, who also refers them to the HIV clinic in TUH. Few new diagnoses are reported through VCTs (exact number not reported) indicating that these are largely attended by low risk individuals. Interviews with VCT staff indicate that the majority of tests are conducted among persons as part of a visa requirement for work or study abroad. There is little outreach activities in relation to HIV testing.

In 2013, the Tirana VCT centre led on a targeted HIV testing among university students in Tirana for HIV testing week. Due to these efforts, 500 students had an HIV test and no positive tests were identified.

Antenatal testing

There is currently no antenatal screening for HIV, hepatitis B and C or syphilis. In 2013, there were six cases of mother-to-child transmission of HIV with some cases of congenital syphilis also reported. Assuming an HIV transmission rate of 25% among untreated HIV positive women *(7)* which means at least 24 HIV positive women were pregnant in Albania in 2013. This is likely to be a conservative estimate since other infants who acquired their infection vertically may not yet be symptomatic and presenting for HIV testing.

The lack of a screening programme not only represents missed opportunities for diagnosis among women living with HIV, but risks vertical transmission to their infants. From a surveillance perspective, an antenatal screening programme provides a reasonable estimate of population HIV prevalence, since pregnant women are broadly reflective of the general population. Data from antenatal settings also constitute the central parameter for many models of HIV prevalence, incidence and undiagnosed infection (for example UNAIDS Spectrum models).

Diagnoses in outpatient settings

While the TB strategy emphasises the importance of provider led screening among TB patients, no data are available on the uptake of testing in this outpatient settings, including TB clinics.

Diagnoses made in blood donor screening programmes

In Albania, there are two systems for blood donations. The first is voluntary blood donation; patients fill in a questionnaire prior to donating which covers aspects of sexual and injecting history. Those with key risk factors are excluded from providing donations. Secondly, relatives of those scheduled for surgery are requested to donate blood.

Unfortunately, the number of HIV positives by setting of HIV test is not available. In addition to antenatal screening, positivity from blood donation from relatives would provide a reasonable estimate of HIV prevalence in Albania.

> *HIV testing - key messages:*
>
> - Under 8% of the Albanian population have ever had an HIV test (60% of PWID and 25% of MSM from community surveys).
> - Excluding blood donor screening, the rate of HIV testing in Albania is reported to be the lowest in the WHO/Europe Region.
> - These data, together with elevated rates of late diagnosis and AIDS, signify the need for urgent intensification of HIV testing.

National HIV prevalence

No formal estimates of national HIV prevalence in Albania are available. Reasonable proxies for HIV prevalence could be obtained through implementation of a national antenatal screening programme or through analysing the proportion of HIV positives found through the relative blood donation programme (section 4.1.3).

Dividing the number of HIV diagnoses in 2013 (124) by the number of HIV tests conducted (36 040) provides a positivity rate of 0.3%. However, this is not likely to reflect HIV prevalence. This is because the majority of diagnoses were made at a late stage of HIV infection, and therefore likely to be "recommended" tests. This means the rate of 0.3% is likely to underestimate HIV prevalence.

Information from the IBBS survey provides an indication of population prevalence among MSM, PWID and Roma populations.

HIV prevalence in MSM

Gay, bisexual and other MSM remain a hidden and stigmatized population in Albania. Despite strong anti-discrimination laws, anecdotal evidence suggests that MSM are likely to be victims of verbal or physical abuse. Consequently most MSM are not open about their sexual identity. There are no estimates of the size of the MSM population, however based on a 3% prevalence figure reported in most western countries, there are an estimated 350,000 MSM living in Albania.

The IBBS survey estimated HIV prevalence to range between 0.5-3.0% among MSM surveyed between 2005 and 2011. Applying this range to the estimated 350 000 MSM living in Albania means between 1750-10 500 MSM may be living with HIV in Albania. However, the IBBS sample size for each year is small (n=200) and restricted to Tirana. This, combined with the likelihood of MSM self identify as gay in a heteronormative environment limits the validity of this estimate.

The vulnerability and stigmatization of this group has several associated effects. Up to 75% of MSM are in sexual relationships with wives or girlfriends with many men reporting sex with other men only when abroad. It is estimated that more than one-fifth of MSM inject drugs (21%), with heroin being the most frequently injected drug among MSM in Tirana. Approximately one quarter to a third of sexually active MSM report having four or more male partners. Over 75% of MSM report having sex with male partners; only 14% of MSM report using condoms consistently.

The high rates of condomless sex means MSM in Albania are particularly vulnerable to HIV while high levels of stigma mean HIV testing services may not perceived as gay friendly. As above (section 4.1.3) only 24% of MSM report ever having an HIV test; sexual identity is not reported with HIV testing data. This, combined with the 2:1 ratio of male:female diagnoses suggests that HIV prevalence among MSM is likely to be underestimated in Albania, and such men are at risk of presenting late for diagnosis.

PWID

In 2011 the IPH supported by UNAIDS carried out a population size estimate of the number of PWID using the multiplier and capture-recapture method.2   It was estimated that the number of PWID in Albania ranges from 4000 to about 6000 (95% confidence interval 2500—7300) *(8)*. However, the sources of biases and population and geographic representativeness are not described. Among this population, 32% are aged 24 years or under and the majority are single (63%). Over ten percent (10.5%) of injectors are illiterate.

Data from the IBBS estimate that 1% of PWID are living with HIV infection. If this is applied to the mid-point of the estimated number of PWID living in Albania, this is equivalent to an HIV prevalence of 500 PWID living with HIV.

The median age at first injection is 21 years, with nearly one in five first injecting at 18 years or younger. Frequent injection is common with 44% reporting multiple injections daily. The most recent 2011 IBBS shows half of PWID clean their needles or syringes every time (21%) or almost every time (31%). The cleaning agents are predominantly cold or hot water (57% and 7%, respectively).

Most PWIDS are sexually active with 90% having sex in the past 12 months with half having two or more partners in this period. The median age at first sex was 16 years.

The high level of needle sharing and condomless sex is concerning and could result in a major outbreak if HIV was introduced among this population. Despite this, only 60% of injecting drug users report ever having an HIV test. While methadone maintenance therapy provides drug related treatment for PWID, HIV tests are not conducted at these settings.

HIV prevalence in Roma communities

The Roma community is particularly vulnerable with high levels of illiteracy and stigmatization from the general population. No HIV has been detected among the Roma population.

It is estimated that 40% of Roma did not receive formal education and first sex is reported at young ages. An estimated 24% report having first sex aged between 10-14 years with 84% reporting first sex before the age of 18; females are more likely to have sex at younger ages and there are reports of non-consensual sex.

The HIV/STI vulnerability among female Roma is enhanced by their early sexual initiation and lack of access to prevention programmes that are provided through the school system.

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[2] Data on the population size estimates were obtained during a mission to Albania

Sex workers

There are very limited data relating to sex workers and sex work in Albania and no estimates of prevalence. Sex work is illegal and carries the risk of prosecution and custodial sentences for both sex workers and their clients. The DHS reported that 1.1% of all men reported ever having sex with sex workers.

HIV prevalence in children

In 2013, 19 children (aged 15 years or younger) were receiving treatment for HIV. Since there is no antenatal screening programme, it is likely that further children are living with undiagnosed HIV infection. Furthermore, the absence of an antenatal screening programme may mean these children acquired their HIV infection in Albania, but the number of children who acquired their infection outside Albania is not reported.

> **HIV prevalence - key messages:**
>
> - No estimates of HIV prevalence are available in Albania; the establishment of an antenatal screening programme would provide a proxy of population prevalence.
>
> - While 699 people from all risk groups have been diagnosed with Albania, applying the 0.5-3% prevalence to the estimated 350,000 gay men and the 1% prevalence to the estimated 5,000 PWID is equivalent to 1,750-10,500 and 500 living with HIV in Albania respectively.

4.1.5 HIV incidence

There are no estimates of HIV incidence in Albania. While trends in new HIV diagnosis can give an indication of HIV transmission, rates are also affected by HIV testing uptake and migration from high prevalence countries.

In Albania, the number of new HIV diagnoses increased from 48 cases in 2008 to 124 in 2013 (section 4.1.1). Over the same time period, the number of HIV tests increased from 250 to over 3000 in 2013 (section 4.1.3). While the rise in HIV tests could partially explain the increase in diagnosis, the extent that this is the case in Albania is unclear without HIV test positivity data. However, interviews with staff show most people receiving VCT are low-risk, with many doing as part of visa applications (section 4.1.3). Furthermore, the rate of HIV testing in Albania remains the lowest reported in Europe *(6)*. It is therefore unlikely that the rise in new diagnoses is due to the rise in HIV testing.

Section 4.1.2 demonstrated that 75% of patients were diagnosed at a late stage of HIV infection (<350 cells) with 52% presenting with severe immunosuppression (<200 cells). This suggests that the majority of patients are presenting when symptomatic, which also indicates that the rise in new diagnoses is not linked to the increase in HIV testing. However, the trends in late HIV diagnoses are not reported.

It can be assumed therefore, that the steep rise in HIV diagnoses in Albania is indicative of ongoing HIV transmission. The CD4 profile of those newly diagnosed indicates that the increasing trend is set to continue in future years. However, formal estimates (e.g. through laboratory tests *(9)* of new diagnoses, or CD4 back calculation methods *(10)* would help to quantify HIV incidence, and could be used to evaluate the programmatic effects of HIV prevention programmes.

HIV incidence - key messages:

- *HIV incidence estimates in Albania are not available.*

- *Despite the rise in HIV testing, the overall testing coverage and CD4 profile of those newly diagnosed with HIV suggests that the increase in HIV diagnoses is indicative of ongoing transmission*

- *Establishment of laboratory testing of new diagnoses or back calculation estimates using CD4 at diagnosis could be used to estimate HIV incidence.*

4.1.6 Undiagnosed HIV infection

Estimates of the size of the undiagnosed population are not available in Albania. However, the profile of CD4 counts at HIV diagnosis can provide an indication of how long people have been living with HIV infection at diagnosis. Through application of a CD4 back calculation method *(11)*, it is estimated that 75% of people diagnosed with a CD4 count <350 cells have been living with HIV for around three to four years and 52% for around six to seven years.

This indicates that the proportion of people living with HIV in Albania who are undiagnosed is relatively large. This can also be inferred from the crude prevalence estimates of MSM and PWID living with HIV (11 000 combined, section 4.1.4) compared to the 699 diagnoses. This is of concern since those who are unaware of their HIV infection are likely contributing to ongoing transmission (section 4.1.5). An HIV diagnosis provides the opportunity for behaviour change and treatment. ART is now so effective that if patients adhere to treatment and achieve an undetectable viral load, their risk of passing on their HIV infection through sexual contact is negligible.

Undiagnosed HIV infection - key messages:

- Estimates of undiagnosed HIV infection are not available in Albania
- The CD4 profile at diagnosis suggests that 75% of those newly diagnosed have been living with undiagnosed HIV for at least three-four years.
- The majority of those living with HIV in Albania are likely to be unaware of their infection.
- The relatively large size of the undiagnosed population among all those living with HIV in Albania is likely to be contributing on ongoing transmission.

Following a positive HIV diagnosis, patients are referred to a psychologist and referred to TUH for HIV treatment and care. There is no active follow up of patients newly diagnosed who do not attend care – otherwise known as those who are lost to follow up (LTFU).

Since the epidemic began 699 patients have been diagnosed with HIV in Albania and have had no HIV death reported. Of these, it is known that less than half (335 (48%)) are currently receiving treatment and 122 (17%) have died. While a number may be receiving HIV care but not treatment, there is no pre-ART register to monitor this. There are therefore 242 (35%) people ever diagnosed with HIV who remain unaccounted for in current surveillance and monitoring systems. The number of pre-ART diagnosed patients is likely to be very small given the CD4 profile at HIV diagnosis (section 4.1.2). The underreporting of deaths (4.1.2) may mean the actual size of the diagnosed population not in care may be an overestimate.
Once established in care and receiving treatment, clinic records used to monitor retention in HIV care. However, these data are not routinely reported.

The relatively small size of the diagnosed population and presence of only one treatment setting means that it should be feasible to follow up patients who are LTFU. This exercise is important to reduce mortality and morbidity. Factors that may be associated with loss to follow up in Albania include financial and practical difficulties attending care (TUH is the only setting in Albania providing HIV care) and consequences due to ART stock outs.

> **Linkage to and access to HIV care - key messages:**
>
> - *Excluding those reported to have died, 58% of patients ever diagnosed with Albania are receiving HIV treatment and care.*
>
> - *Over a third of persons diagnosed are not accounted in monitoring systems. Patients who do not attend HIV care following diagnosis are not actively followed up; this risks mortality and morbidity.*
>
> - *Financial and practical difficulties reaching HIV care (only available in Tirana) and ART stock outs may affect rates of link to care.*

4.2.2 ART eligibility, coverage and adherence

HIV treatment and care have been available since mid-2004 through the inpatient and outpatient units based at the TUH. The guidelines on ART are based on WHO 2004 and recommendations of 2011 and national guidelines have not been updated since 2007. These guidelines indicate ART initiation based on CD4 counts (<350 cells/mm3) and clinical criteria *(12)*. Second line drugs are funded through the global fund continuation of services agreement.

The current contractual process for pharmaceutical drugs is bureaucratic and time consuming for clinicians and hospital administrators. Patented pharmaceuticals for HIV treatment are considered deemed too expensive by the Ministry of Health. Generic drugs are available through a governmental contract with UNICEF. Whilst cheaper, there is limited choice of drugs and only 10 ARTs are currently available at TUH. Due to the bureaucracy of the process, ART stock-outs are frequent particularly over the summer, resulting in patients not receiving any treatment or switching of drugs regimens depending on drug availability. It is estimated that ART is not available for approximately three months of every year.

The number of people receiving ART has increased in recent years from 161 in 2011 to 335 in 2014. The numbers initiating ART for the first time have also increased (Fig. 5).

Fig. 5: Number of patients receiving ART, starting ART and
newly diagnosed, Albania, 2011-2013
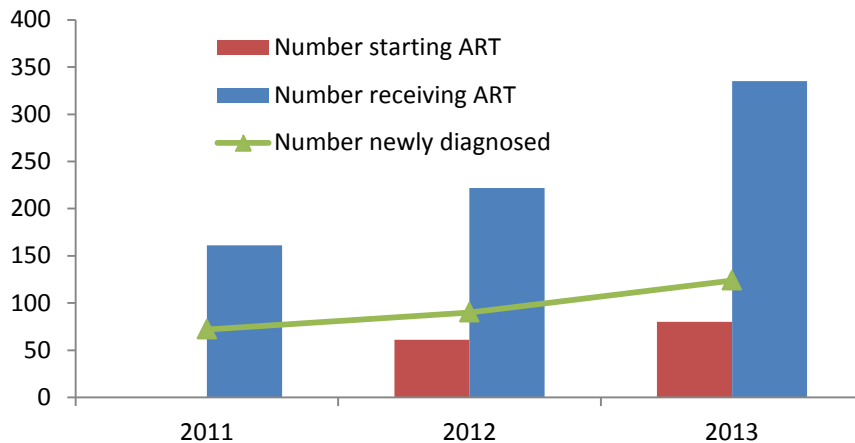
No data are available on retention on treatment after 12 months and after. However, this information is recorded in clinic notes at TUC.

ART coverage - key messages:

- 335 are receiving ART; of these, 80 are receiving second line therapy.
- Due to bureaucratic processes, ART stock-outs occur for up to three months of ever year.

4.2.3 Viral suppression

Viral load and CD4 monitoring are not performed routinely due to shortages in kits, although according to interview with staff, the situation is improving. This means the proportion of patients adherent to ART and treated successfully cannot be measured. This proportion is an important public health measure; such individuals have a negligible risk of passing on their infection through sex. The absence of viral load information also has clinical implications with decisions to switch to second line regimens based on clinical indications and/or drug availability.

4.2.4 Care of opportunistic infections

While patients receiving HIV care are referred to other departments for opportunistic infections, these data are not available. HIV positive cases are not screened for tuberculosis because no appropriate diagnostic tests are available.

4.2.5 HIV drug resistance and toxicities

There are no working facilities to monitor drug resistance within Albania. Decisions to switch ART are based upon clinical indications. The relatively high proportion of patients on second line therapy (24%, 80/335) and the frequency of stock outs indicate that drug resistance is likely to be a substantial challenge for effective HIV treatment in Albania. No data are available on toxicities.

4.2.6 Quality of life

No data are collected on the quality of life for people living with HIV. Interviews with a representative from the society of people living with HIV reported frustration in relation to the drug stock outs. The organization also reports that despite protective laws, HIV stigma and discrimination remain a reality with very few people living with HIV feeling able to disclose their HIV status safely.

4.2.7 Treatment Cascade

An HIV treatment cascade is a composite measure of the extent that the number of people living with HIV are diagnosed, linked to care, receiving treatment and virally suppressed. This measure is a useful public health tool for two reasons. Firstly, it identifies areas in the provision of HIV services where patients are being lost along the continuum of care. This can be used to inform the development of strategies and service delivery approaches to ensure people living with HIV are promptly diagnosed, in care and treated effectively. Secondly, by dividing the number of people with an undetectable viral load by the number estimated to be living with HIV it is possible to calculate the proportion of patients who are not infectious.

In Albania, it is not possible to construct the continuum of care since it requires several key measures which are not collected. The elements required, and how Albania might provide these data are summarised in Table 3.

Table 3 – Elements of the Treatment Cascade and availability of information in Albania.

Treatment cascade element	Currently available in Albania?	Can this be estimated?
Number living with HIV infection	No	Through applying the proportion of positive tests from the antenatal programme (once implemented), or positivity of relative blood screening to the size of the Albanian population.
Number diagnosed	Yes	
Number linked to care	Partial	There is only one HIV clinic in Albania. Attendance at this clinic indicates access to HIV care. IT systems at the clinic require development and this is currently assessed by manual case note review. Alternative methods could include assessing the proportion of newly diagnosed patients who have a CD4 count available.
Number retained in care year on year	Partial	Through case note review but cumbersome and slow. linkage of electronic clinical records to monitor proportion of patients retained in care annually is required.
Number receiving treatment	Yes	linkage of electronic clinical records to monitor patients on treatment is required.
Number treated who are virally suppressed	No	Through processing viral loads and data linkage to provide annual update of treated patients.

While it is not possible to monitor the treatment cascade currently, analyses above indicate that in Albania, the proportion of the population living with HIV who are diagnosed is likely to be relatively small (section 4.1.6), and around 40% of patients diagnosed are not linked to HIV care (section 4.2.1).

4.3   Impact of programmatic efforts and other factors on HIV epidemic

Albania has several strengths in its response to the HIV epidemic. The availability of free health care, HIV testing and HIV treatment is both beneficial for the individual patients living with HIV and reduces barriers for testing among those populations most at risks. Secondly, Albania has highly skilled HIV clinicians and a dedicated HIV clinic with free and accessible antiretrovirals. Finally, there is a strong legal framework that protects those living with HIV (2008) and other key groups such as LGBT against discrimination (2010).

The national AIDS Programme in Albania was established within the Institute of Public Health (IPH) in 1989 to coordinate response to HIV. Between 2007 and 2012, the country's response to the HIV epidemic was strengthened by the Global Fund grant which also enabled HIV prevention and treatment services to be scaled-up. Since the grant ended, these prevention programmes have not been sustained and have been evaluated by the National Commitments and Policies Instruments as inadequate and under-funded, particularly among key populations *(13)*. The country is in the process of preparing an application for another HIV grant to the Global Fund, which will be submitted in January 2015.

In Albania there are few NGOs that provide support for MSM. Those that do, focus on wider LGBT issues such as stigma and discrimination. Current HIV testing services and public health messages are not targeted at MSM.

NGO services for PWID focus on methadone maintenance treatment (MMT) programmes. In 2012 and 2013, 474 and 505 opioid-dependent people, respectively, were receiving MMT provided by NGOs *(14,15)*. Applying these data to the 4 000-6 000 people estimated to be IDUs (and assuming all those on OST are on treatment for injecting drug use) the proportion of PWID in treatment may range from 8.4-12.6. In the period October 2013-March 2014, the average daily dosage of methadone was 48.9 mg, which is less than the WHO-recommended level of at least 60 mg. This limits the likelihood of treatment being successful. HIV testing is not offered at MMT services.

The focus of prevention has been centered on sex education in schools. However, the results of the 2008-2009 DHS indicate that many Albanian adults lack accurate knowledge about the ways in which HIV can be transmitted: 28.4% of women and 20.3% of men were able to described how HIV could be transmitted and prevented.

Almost half of men aged 15-49 years in Albania are circumcised. This is likely due to cultural/religious reasons rather than a biomedical intervention. While male circumcision has been found to reduce the risk of sexual transmission of HIV through heterosexual contact, this effect has not been demonstrated for MSM.

In summary, while Albania benefits from free health care and HIV testing and treatment services, the programmatic response to HIV has had no demonstrative impact on the HIV epidemic in Albania. While the 335 patients receiving ART clearly benefited from care at the TUH, the absence of HIV testing data stratified by risk group and positivity makes it difficult to directly evaluate the impact of programmes on HIV prevention. There are clearly many opportunities for improvement; these are detailed in the accompanying WHO country review report.

4.4   Recommendations for development in HIV surveillance

In order for a programmatic response to the HIV epidemic to be effective, it must be based on robust and timely HIV surveillance data. These data should be used to directly inform the public health response to HIV. Albania benefits from a central public health laboratory with public health infrastructure, and a dedicated AIDS coordinator. The IPH has passionate and committed epidemiological expertise with established HIV surveillance systems for monitoring testing and epidemiological trends.

Albania has the systems in place to deliver a comprehensive surveillance system and monitoring and evaluation activities. Rather than investment in future IBBS projects, which are costly and provide data that do not easily translate into public health interventions, specific developments to improve the current surveillance infrastructure are both feasible and of relatively low cost.

The production of regular surveillance reports, stratified by risk group, age group and geography, that bring together recent trends with monitoring and evaluation outputs would help to direct HIV testing initiatives, prevention programmes and improve monitoring and evaluation outcomes.

Recommendations for the public health response to the HIV epidemic are provided in an accompanying document. Specific developments for HIV surveillance and monitoring and evaluation are listed as recommendations below.

4.4.1   New HIV diagnoses

a)   Epidemiological follow up of patients reported to have acquired HIV infection
        through heterosexual transmission.

Follow up on HIV cases where no significant risk factor is identified, through in-depth interviews, would help to better ascertain the extent of underreporting of sex between men (section 4.1.1). Interviews should be conducted in a safe environment of patients' choosing and with friendly, non-judgemental staff. The data could be used to better plan and target prevention strategies, and ensure services are friendly and welcoming to LGBT groups.

b)   Electronic reporting of new HIV diagnoses

The replacement of HIV notifications on paper forms with electronic reporting would have several benefits. Firstly, it could help reporting to be more timely and comprehensive. Secondly, the inclusion of mandatory fields would help with the completeness of data. Thirdly, it would better enable database linkage to other databases including VCT data and clinical data.

4.4.2   Late HIV diagnoses, AIDS and deaths

c)   Report the proportion of diagnoses with CD4 count available within three months of
        diagnosis

Feedback of the completeness of CD4 count at diagnosis to reporting sites would help to improve data quality. It is important that CD4 count at diagnosis is as complete as possible. In addition to monitoring late diagnoses (section 4.1.2), these data can be used to produce estimate of HIV incidence (section 4.1.5) and undiagnosed infection (section 4.1.6) through back calculation methods. Finally, monitoring the proportion of patients newly diagnosed with a CD4 count available within a specific time frame allows an assessment of the speed with which newly diagnosed patients are linked to HIV care (section 4.2.1).

d)   Present late HIV diagnoses over time, and by exposure group

The production of late HIV diagnoses over time can help to evaluate the effectiveness of HIV testing initiatives (4.1.3). Stratification by exposure group can be used to inform and monitor the effectiveness of targeted HIV testing programmes.

e)   Collect specific AIDS-defining illnesses

The collection of specific AIDS-defining illness should be relatively simple since data on AIDS notifications are already collated routinely from TUH. These data would have an important role in directing service planning for care of opportunistic infections. Secondly, these data would indicate where health care worker "recommended" testing should routinely offered.

f)   Collate and analyse national all causes mortality reports

Currently death data are only reported from TUH and therefore likely to represent an underestimate. The collation of national death reports and linkage to the HIV surveillance database would enable non-HIV related deaths or deaths occurring outside of TUH to be reported. This would provide a more representative estimate of mortality due to HIV/AIDS.

4.4.3 HIV testing

g)   Establish HIV screening in antenatal settings

Albania already has a commitment to develop an antenatal screening programme. In addition to being an effective mechanism to prevent HIV transmission vertically, the data derived can be used as a proxy for national HIV prevalence.

h)   Provide HIV testing data by exposure group and positivity

The development of electronic reporting of HIV testing at VCT, donor and recommended testing settings would inform HIV testing services and enable services to be targeted at key populations. Providing breakdowns of number of tests offered, and received by HIV risk group would provide useful information of HIV testing coverage in key populations. Data on HIV positivity by HIV testing setting could be used to evaluate whether those at greatest risk of HIV infection are being effectively targeted.

4.4.4 HIV prevalence

i)   Provide estimates of HIV prevalence

Using methods outlined in f) and g) above, estimates of HIV prevalence directly inform service planning and form the basis of the treatment cascade (section 4.2.7).

4.4.5 HIV incidence

j)   Provide estimates of HIV incidence

HIV incidence estimates can be used to evaluate the national public health response to HIV. While trends in new HIV diagnoses can be difficult to interpret (section 4.1.5), trends in numbers of newly acquired infections can demonstrate the impact of prevention activities. Methods to measure HIV incidence could include laboratory tests that can identify recently acquired infection *(9)*, or use a CD4 back calculation method to estimate incident infections *(10)*.

4.4.6 Undiagnosed HIV infection

k)   Estimates of undiagnosed HIV infection

Used to target HIV testing strategies and service planning, methods to measure undiagnosed HIV infection could include using a CD4 back calculation method using a published method for example CD4 data at diagnosis *(10)*.

4.4.7 Link to and Access to Care

l)   Actively monitor the proportion of patients diagnosed who attend HIV care

The proportion of patients linked to HIV care can be measured by calculating the time between HIV diagnosis and first CD4 count. Patients who do not attend HIV services should be actively followed up to reduce HIV mortality and morbidity and onward transmission. This measure is a vital part of the treatment cascade (section 4.2.7).

m)   Linkage to clinical datasets

Linkage of HIV surveillance and clinical datasets using limited patients identifiers will enable the proportion of patients retained in care year by year to be monitored. As with l) it is important to ensure patients are retained in HIV care in order to prevention mortality, morbidity and HIV transmission.

n)   Monitor HIV care for pre-ART patients

Through linkage of surveillance and clinical datasets using limited patient identifiers, the proportion of patients diagnosed who are receiving HIV care before ART can be monitored. Measuring pre-ART retention is an important indicator because of high mortality and attrition rates in pre-ART care in some settings.

4.4.8 ART coverage

o)   Monitor ART interruptions and adherence

Linkage of clinical and surveillance datasets would enable the clinical outcomes of patients receiving ART to be tracked over time. Specifically, it would enable the extent of treatment interruptions and adherence to be monitored among the diagnosed population.

4.4.9 Viral load monitoring

p)   Monitor viral load

The monitoring of viral load would enable measurement of successful treatment and the proportion of the diagnosed population who are no longer infectious. Through linkage of clinical and surveillance datasets, an annual update of viral load by treatment status could be monitored.

4.4.10 Drug resistance monitoring

q)   Monitoring of transmitted and acquired drug resistance

With high levels of national ART stock outs and relatively high proportions of patients receiving second line therapy (section 4.2.2.) it is critical for Albania to measure the extent of drug resistance for both clinical and public health purposes. These data will directly inform treatment guidelines to reduce HIV mortality and morbidity.

4.4.11 Treatment Cascade

r)   The development of the Albanian treatment cascade

Development of systems to monitor HIV prevalence, linkage to care and viral suppression would enable the construction of an Albanian treatment cascade. This metric will inform areas of service provision that require strengthening, and provide a measurement of the proportion of the Albanian HIV positive population who are diagnosed, in care, and treated effectively.

5.   Cost implications for surveillance development

The majority of the developments listed in (a) to (r) above can be achieved with the current staff capacity. This is because the diagnosed population in Albania is relatively small and work is facilitated by the location of only setting for HIV care. In-depth interviews for patients newly diagnosed with HIV can be achieved through adapting the role of HIV psychologists, with whom patients are currently referred to come to terms with their diagnoses.

While recommendations relating to HIV prevalence, CD4, viral load and drug resistance monitoring may be more costly to achieve, all of these are dependent upon programmatic improvements to which Albania is already committed. The production of surveillance data as a by-product of these initiatives should therefore be cost-minimal.

The biggest cost in the development would be the investment in HIV databases that enable linkage from surveillance datasets to clinical and HIV testing datasets. It is recommended that development of this infrastructure is prioritized in the Global Fund bid, in place of future IBBS work.

6. Conclusions

Albania remains a country with a low-level HIV epidemic. However, the recent rise in new HIV diagnoses combined with the high proportion of patients diagnosed at a late stage of HIV infection indicates ongoing transmission and a relatively large-sized population unaware of their infection. Albania is therefore likely to experience a rapid increase in the number of people diagnosed with HIV and requiring treatment over the next few years.

While Albania benefits from a health service that is free at the point of access and a dedicated surveillance team, there are several gaps in the current surveillance programme. Firstly, data are likely to be substantially underestimating the HIV epidemic in MSM. Secondly, the absence of data on specific AIDS defining illnesses and HIV positivity rates by HIV testing setting makes it difficult to inform and evaluate HIV testing services. Thirdly, the absence of antenatal HIV surveillance data not only risks mother to child transmission but also deprives Albania from a rich data source that can be used to estimate HIV prevalence. Fourthly, the number of HIV-related deaths is likely to be underreported. Finally, monitoring and evaluation activities require development to better track the proportion of patients linked to care, retained in care, treated, and virally suppressed. It should be noted that many of these gaps also affect the clinical monitoring of patients living with HIV and are therefore being addressed through programmatic efforts.

Currently, it is difficult to measure the impact of programmatic efforts on the Albania epidemic, partly because of the investment needed to develop monitoring and evaluation activities. The current structure of surveillance activities, the size of the diagnosed population and the presence of only one treatment centre means that the development of surveillance and monitoring evaluation activities can be achieved relatively easily and at minimum cost.

7. References

1. Monitoring and evaluation plan and operational manual for Albania's national program. 2005.
2. Bino S, Rjepaj K, Harxi A, Bani R, Ylli A, Qyra S et al. Albania Biological and Behavioural Surveillance Study. Family Health International 2006.
3. Yli A, Bino S, Kakrriqi E, Rjepaj K, Harxhi A, Bani R et al. Albania Biological and Behavioural Surveillance Study Report. ISOP 2008.
4. Roshi E, Bino S, Burazeri G, Rjepaj K, Bani R, Boci A et al. Albania Biological and Behavioural Surveillance Study Final Report. 2011.
5. Albania Demographic and Health Survey 2008-2009. Institute of Statistics, Institute of Public Health, ICF Macro, 2010.
6. European Centre for Disease Prevention and Control/WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2012. Stockholm: European Centre for Disease Prevention and Control; 2013.
7. Connor EM, Sperling RS, Gelber R et al. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. N Engl J Med. 1994 Nov 3;331(18):1173-80.
8. Country Overview: Albania. European Monitoring Centre for Drugs and Drug Addiction. Updated March 2013.
    Available at: http://www.emcdda.europa.eu/publications/country-overviews/at
    Accessed on 12 September 2014.
9. European Centre for Disease Prevention and Control. Monitoring recently acquired HIV infection in the European context. Stockholm; 2013.
10. Birrell PJ, Gill ON, Delpech VC, Brown AE, Desai S, Chadborn TR, Rice BD, De Angelis D. HIV incidence in men who have sex with men in England and Wales 2001-10: a nationwide population study. Lancet Infect Dis. 2013; 313-8.
11. Rice BD, Elford J, Yin Z, Delpech VC. A new method to assign country of HIV infection among heterosexuals born abroad and diagnosed with HIV. AIDS 2012; 26: 1961-6.
12. Antiretroviral therapy of HIV infection in adults and adolescents; recommendations for a public health approach, 2010 revision. Geneva World Health Organization, 2010.
13. National Commitments and Policies Instruments - 2012. Albania Report. UNAIDS. Available   at http://www.unaids.org/en/dataanalysis/knowyourresponse/ncpi/2012countries/
    Accessed on 14 September 2014.
14. GARPR Online Reporting Tool. UNAIDS, 2012 period.
15. GARPR Online Reporting Tool. UNAIDS, 2013 period.