

# SUMMARY REPORT

# 2014

## A REGIONAL ANALYSIS:

HIV, TB and Associated Infections  
(*hepatitis B and C, syphilis, gonorrhoea*  
and *Chlamydia trachomatis*)  
in the Baltic Sea region countries



The Agency of the Ministry of Health

A leading partner of HATBAL project



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## *List of abbreviations and acronyms*

AIDS	Acquired Immune Deficiency Syndrome
AIs	Associated infections
ARV	Antiretroviral treatment
CT	Chlamydia trachomatis
CDC	Centers for Disease Control and Prevention
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
ENP	European Neighbourhood Policy
EU	European Union
FSW	Female sex workers
GDP	Gross domestic product
GP	General practitioner
HATBAI	HIV/AIDS, TB, and Associated Infections
HBV	Infection with hepatitis B virus
HCV	Infection with hepatitis C virus
HIV	Human Immunodeficiency Virus
IDU	Injecting drug user
IHR	International health regulations
MDR-TB	Multidrug-resistant tuberculosis
MoH	Ministry of Health
MTC	Mother to child transmission
NDPHS	Northern Dimension Partnership in Public Health and Social Well-being
NG	Neisseria gonorrhoea
NGO	Non-governmental Organization
PLHIV	People living with HIV
PWID	People who inject drugs
STIs	Sexually transmitted infections
TB	Tuberculosis
WHO	World Health Organization
XDR-TB	Extensively drug-resistant tuberculosis

## *Introduction*

The framework of the Seed Money Project envisaged description of the epidemiological situation in the 11 countries: **Lithuania, Poland, Norway, Finland, Estonia, Germany, Denmark, Sweden, Belarus, Latvia, and Russian Federation (especially the North-Western part)** that have been involved in HATBAI project implemented within the framework of *Health* priority area of the Strategy of the European Union for the Baltic Sea Region. This report overviews and summarizes information on HIV, TB and Associated Infections (hepatitis B and C, syphilis, gonorrhoea and Chlamydia) received from the countries – mentioned in hereafter.

The National AIDS Center of Poland was the main project leader, together with *Young Leader's Army*, an NGO from Kaliningrad (Russian Federation) and the Finnish Lung Health Association – Filha.

## *Acknowledgements*

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## *Executive summary*

HIV, TB and AIs remain a significant health threat across the 11 countries due to the growing number of HIV infections and high rates of TB and the continuing threat from hepatitis B and C, syphilis, gonorrhoea and Chlamydia trachomatis. Despite better tools to test and treat, the incidence of some of these infections is increasing. Many infections, especially if asymptomatic or with only a mild symptoms are not diagnosed or can be misdiagnosed (Chlamydia trachomatis infection) which facilitates their spread and increases the probability of the occurrence of complications. The majority of transmissions occur among those who are unaware of their infection. With regards to HIV the main routes of the virus transmission vary between countries. In Estonia, Latvia, Lithuania, Northwest part of Russia we observe concentrated epidemic among PWID, whereas in Germany the MSM population accounts for the highest proportion of the new infections. Serious concern is the recent rise of STIs, and coexistence in some countries of HIV and MDR-TB and XDR-TB.

Chlamydia infections are the most commonly diagnosed STI. The decrease in gonorrhoea and syphilis rates are observed in Estonia, Latvia, Lithuania, Belarus and Northwest Russia, however the rates remain high.

The increasing trends in gonorrhoea and syphilis infections among MSM are reported in Denmark, Sweden and Finland. MSM accounts also for significant proportions of hepatitis B and C infections. Countries outside Europe, especially in the sub-Saharan Africa, and Asia are playing an increasing role in HIV, TB and AIs epidemic in Europe as these countries are the source of infection of immigrants coming to Europe, mainly to the richest European countries (e.g. Germany, Sweden, Finland, Norway). Majority of the countries possess multiannual national strategies for reducing HIV, TB, and AIs as well as leading institutions and organizations responsible for disease prevention and control at national and local level. The reporting rates of HIV, TB and AIs vary across the countries, with differences in national surveillance systems and considerable overall underreporting.

Financing and organization of health care in the countries rely on funding mechanisms based on a mixed funding sources. The majority of funds are state-controlled and relatively a small part comes from direct payments for health care services. The predominant method of financing health care is public taxation and/or compulsory social/health insurance.

The partial reports provided by the 11 countries unveiled outstanding challenges and provided recommendations on broadly defined prevention as well as treatment and care of HIV, TB and AIs.

## Methodology

This report follows the *Outline for the country-level analysis of HIV, TB and AIs (Hepatitis B and C, syphilis, gonorrhoea and Chlamydia)* that has been elaborated by the National AIDS Centre of Poland through a number of meetings and consultations with Experts participating in HATBAI project. The outline encompasses specific thematic areas as described below:

- » HIV, TB and AIs situation considering country's background; epidemiological trends covering recent 5 years; situation of the most at risk populations; factors contributing to HIV, TB and AIs transmission and expected trends in prevalence among the group; epidemiological situation among general population; provision of treatment, care and support for PLHIV, TB and AIs patients.
- » Analysis of national response to HIV, TB and AIs including description of governmental coordination, management and financial support for HIV, TB and AIs response; description of normative framework and legal environment; implementing prevention strategies, treatment, care and support for PLHIV, TB and AIs patients as well as issues that need to be further addressed.

## Report limitations

The completeness of data and information provided, varied across the countries and diseases. In some instances the information was missing or hasn't covered all thematic areas defined in the outline document. These limitations in availability of data made authoritative conclusions and detailed comparisons between countries problematic.

## 1. HIV, TB and AIs situation in the countries

### 1.1. Country background

Countries included in the report comprise more than 11 nations and almost 303 million inhabitants including people representing ethnic minorities. The Baltic Sea Region encompasses: Estonia, Latvia and Lithuania, the Nordic countries of Denmark, Finland, Iceland (not participating in the HATBAI project), Norway, Sweden, Northern Germany, Northern Poland, and Russia's Northwestern region including Kaliningrad. Belarus is embraced in the European Union's European Neighborhood Policy (ENP). Migrations and ethnic dimension is an important consideration for the Baltic countries in the context of threats posed by HIV, TB and AI. For example in Norway, 14% of population falls on migrants born abroad and born in the country by their migrant parents. In Russian North-West Federal District and

city of Saint Petersburg we can observe high influx of labor migrants (450 thousands annually).

Health care systems of the 11 countries stem from specific political, historical, cultural and socio-economic traditions. As a result, the capacities and organizational arrangements for health care differ considerably between the countries. There exists significant variation in the financing of health care and this is reflected in health expenditure comparisons in particular in the ratios between health expenditures as a percentage of GDP. Wide variation in overall health spending levels can be observed ranging from Norway with total spending per capita of 5970 in international dollar rates (Intl \$) to Belarus spending only 790 dollars. Significant variations exist between

Table 1: Country profiles (2012)

Country	Total population (in million)	Gross national income per capita (PPP international \$, 2012)	Life expectancy at birth m/f (years, 2012)	Total expenditure on health per capita (Intl \$, 2012)	Total expenditure on health as % of GDP (2012)
Sweden	9,6	43980	80/84	4158	9,6
Denmark	5,6	43430	78/82	4720	11,2
Germany	80	42230	78/83	4617	11,3
Estonia	1,29	22500	71/81	1385	5,9
Finland	5,4	38220	78/84	3545	9,2
Norway	5,07	66960	80/84	5970	9
Lithuania	2,98	23560	68/80	1426	6,7
Belarus	9,46	14960	67/78	790	5
Poland	38,5	21170	73/81	1489	6,7
Russian Federation	143	22720	63/75	1474	6,3
Latvia	2,02	21920	69/79	1188	6
Total	302,92				

Source: Country reports, WHO



spending per capita in Sweden (4158 Intl \$), Denmark (4720 Intl \$) and Germany (4617 Intl \$) and Poland, Russian Federation, Latvia and Lithuania that spend less than 1500 Intl \$. With regards to finance and organization of health care, countries developed their own funding mechanisms based on a mixed funding sources. The majority of funds are state-controlled and relatively a small part comes from direct payments for health care services. The predominant

method of financing health care is public taxation (e.g. in Sweden and Finland) and/or through compulsory social/health insurance (e.g. in Germany, and Estonia).

As indicated (Table 1) there are variations between countries in life expectancy at birth although we can't correlate these figures with country's spending on health care.

## 1.2. Epidemiological trends with respect to HIV, TB and AIs

This paragraph summarizes collected data on HIV, TB and associated infections: Hepatitis B and C, syphilis, gonorrhoea, and Chlamydia trachomatis. The availability of data varies across diseases. For a number of countries data was not available (or missing).

### Syphilis

Over the past five years the overall incidence of syphilis has been falling. The declining trend has been observed in countries: Estonia, Latvia and Lithuania, in Northwest Russia and Belarus, although rates in the countries remain high. The opposite trend has been noted in Denmark, Finland, Norway, Sweden and Germany which is primarily caused by an increase of syphilis among MSM (in 2012 in Norway, MSM accounted for 88% of cases) and among heterosexual men (often infected outside the home country). In Germany, Sweden, and Norway the proportion of men among all notified cases of syphilis is above 80% (e.g. 93% in Germany). The most affected age group are males of age 20–49 years.

In Sweden where about 190 new cases of syphilis are reported annually and in Poland (with 960 cases) the incident rates remain relatively stable, 3/100,000 (Sweden) and 2,49/100,000 (Poland). Syphilis cases in Eastern Europe are more common among teenagers and young adults as well as those who are unemployed, sex workers and PWID.

Between 2010–2012 in Lithuania syphilis incidence dropped from 10.3 cases /100 thousand population (2010) to 7.6 cases/100 thousand population (2012). However, the disease incidence is one of the highest among the EU Member States.

Table 2: Number of cases and syphilis incidence per 100 000 in selected countries (2012)

Country	Year 2012	
	Number of cases	Incidence per 100 000
Denmark	345	6,3
Germany	4410	5,4
Finland	206	3,8
Norway	110	2,2
Lithuania	-	7,6
Poland	961*	2,49
Russian Federation	-	32
Latvia	-	7,2

Source: Country reports

\* Inborn syphilis not included.

In Russia (2012) there were 248,000 syphilis patients registered which is a three-fold less than in 2001. Among 83% of newly registered cases in 2011, the source of infection was unknown. Men and women are equally represented in syphilis patients (although, females represent 74% of patients among teenagers and young adults). Males are more prevalent in patients 30+ years of age.

Within 11 countries a majority of new syphilis infections occur in metropolitan areas and big cities.

### Gonorrhoea

In recent years the incidence of gonorrhoea has increased, although transmission routes and disease trends vary between the countries. In Estonia, Lithuania, Latvia, Northwest part of Russia and Belarus heterosexual transmission dominates with high number of cases among young and mobile populations, sex workers, substance users (PWID) and unemployed.

In Lithuania gonorrhoea incidence rate dropped between years 2010–2012 from 9.5/100,000 to 7.3/100,000. In Latvia the number of cases remained relatively stable within last years. In 2013 the incidence was 27.7/100,000 comparing to 2012 (29.4/100,000). In Estonia the trend occurs opposite as the incidence rate increased from 10.9/100,000 (2011) to 16.8/100,000 (2012). Gonorrhoea is more prevalent among women in the country. Similarly, in Poland where the incidence was 2.5 fold higher in 2012 (1.9/100,000) than in 2011.

In Germany, Sweden, Norway and Finland gonorrhoea is mainly reported in MSM and among heterosexual males. Most new infections (in both men and women) are domestically acquired (e.g. in Sweden, 67% in 2013). In 2013, 1114 cases of gonorrhoea were reported in Sweden (12/100,000). Heterosexual contact is the main route of transmission but almost half of the men that was reported with gonorrhoea are MSM. Within last five years, Sweden reported annually 840

cases of gonorrhoea. 58% of all reported cases were diagnosed among age group 15–29 years old. Most cases are reported from three major city regions and Stockholm County (57% in 2013). In Norway among all cases notified in 2012 the proportion of gonorrhoea cases in MSM was 54%.

Within the group of the 11 countries large proportion of new infections falls on metropolitan areas and big cities.

**Table 3: Number of cases and gonorrhoea incidence per 100 000 in selected countries (2012)**

Country	Year 2012	
	Number of cases	Incidence per 100 000
Denmark	659	12,5
Finland	314	5,8
Norway	443	8,8
Lithuania	-	7,3
Poland	733	1,9
Estonia	-	16,8
Latvia	-	29,4

Source: Country reports

## Chlamydia trachomatis

Infections with Chlamydia trachomatis (CT) are the most commonly reported bacterial STIs. It usually affects heterosexual adolescents and young adults – mainly young women (30<). Most infections remain asymptomatic.

In Estonia we observe a vast gender difference in the incidence rate of Chlamydia with more than 80% of the newly diagnosed cases in 2008–2012 being women. In Lithuania Chlamydia incidence in years 2010 – 2012 dropped from 11 to 8.9 cases/ 100 thousand population. In 2013 we observe an increase from 8.9 to 10.3/100,000. In Latvia a stable increase in number of cases of CT can be observed with 100.3/100,000 (in 2013).

Chlamydia is the far most reported bacterial STI in Sweden with 35 866 cases reported in 2013 (incidence 374/100,000) – a decrease compared with the figures for the previous five years. The incidence varies between the counties from 310 to 480 cases per 100 000 inhabitants which may reflect differences in testing volumes and prevention activities targeting young men and women. In Sweden women accounts for 57% of all cases and the mean age for Chlamydia diagnosis is 21 years in women and 23 years in men. More than

85% of cases are in the age group 15–29 years. Most cases (>80%) are reported to have been contracted domestically. In Finland among all cases diagnosed between 2008–2012 women accounted for 59%.

In Germany the prevalence of urogenital CT infection was 4–5% in sexually active adolescents and young adults. Screening uptake is very low, and most infections remain undiagnosed. In Poland (in 2007–2011) we observed a decline in the number of Chlamydia infections (627 in 2007 and 319 in 2011). However, due to the fact that routine or clinical testing is not widely practiced, the true incidence may be higher.

Table 4: Number of cases and Chlamydia incidence per 100 000 in selected countries (2012)

Country	Year 2012	
	Number of cases	Incidence per 100 000
Denmark	26385	478,4
Finland	13249	249
Norway	21489	431
Lithuania	-	8,9
Latvia	-	85,1

Source: Country reports

## Hepatitis B

Prevalence of HBV in the general population varies widely between the countries, with low to intermediate. Variations may be linked with differences in testing as well as underlying epidemiological differences in the countries as well as national case definitions.

In some countries the high numbers of chronic hepatitis B are linked with the influx of migrants from HBV medium and high endemic countries. Countries report more chronic than acute HBV cases. The decline in reported rates of acute hepatitis B can be tied with on-going implementation of vaccination

programs. Whereas, the rise in numbers and rates of chronic hepatitis B with testing and screening among key populations.

Heterosexual transmission was reported as the most common route of transmission for acute HBV cases, followed by nosocomial transmission, injecting drug use and transmission in MSM.

In recent years in Poland the incidence of hepatitis B has been determined primarily by chronic cases. Males got ill more often than females (more than

twice), the majority of them lived in cities. The peak incidence shifted to older age group in comparison to previous years – from 26–29 to 30–34 year olds and older 65–74 years. The main probable way of transmission of acute hepatitis in Poland were common medical procedures (55%).

Since 1990, Lithuania has been observing a drop in the incidence of acute viral hepatitis B. The incidence decreased from 10.9 cases/100 thousand population (in 2001) to 0.8 cases/100 thousand population (in 2012). In 2013 the incidence of HBV increased in the country. The location of infection acquirement in the majority of acute cases (91.3% in 2012) was not detected. According to the ECDC surveillance data, the incidence rate of acute HBV in Lithuania is one of the highest compared to other EU countries.

In Germany the prevalence of acute and chronic Hepatitis B virus infection in the general population is 0.3%, and increases with age. The routine childhood immunization for HBV has been recommended since almost two decades. Lower vaccination coverage and higher prevalence of HBV in the countries of origin are thus the likely reasons for an increased HBV prevalence among children and adolescents with a migration background. The case definition for epidemiological surveillance of HBV in Germany currently requires laboratory markers for acute HBV infection and clinical symptoms. Consequently, many new infections are missing (undiagnosed) as they don't meet the current case definition. In 2012, just 679 cases meeting the case definition of acute symptomatic HBV infection have been reported in Germany, resulting in an incidence of 0.8/100,000 population. Incidence was higher in males compared to females (1.2 per 100,000 vs. 0.5 per 100,000). Information on routes of transmission is scarce: the dominant mode of transmission (50%) seems to be sexual, followed by close household contacts with a virus carrier, and sharing of drug injection equipment. A disproportionally large share of sexual transmission is observed among MSM. The majority of chronic

HBV infections in Germany are diagnosed among migrants.

In Estonia the incidence of acute HBV has decreased since 2002 to 0.8 cases per 100,000 (2013). Studies conducted among vulnerable populations have shown a high prevalence of HBV among PWID. In Sweden (2012), 1476 cases of chronic hepatitis B infections were reported (16/100,000). That is a slight higher incidence compared with the previous 5 year-period (mean 1350 cases per year). Chronic hepatitis B are very much related to migrants from countries where hepatitis B are more prevalent. More than 80% of all chronic hepatitis B cases are infected abroad. In 2012, 62% of all chronic cases was in men, and the mean age (despite sex) was 31 years old. Only 82 acute hepatitis B cases were reported in 2012 (1/100,000). The incidence has decreased significantly over the last 10 years which is mainly related to a decrease of cases among PWID. Since 2011 heterosexual route is the most common route of transmission accounting for 38% of the acute cases. Unknown/not reported route of transmission is 16%. About 40% of the acute cases infected via sexual contact were infected outside the home country. 72% of the acute cases were diagnosed in men and the mean age was 39 years old.

In Finland (2012) men accounted for 71% of the acute hepatitis B with the heterosexual contact as the main route of transmission. In 39% of cases the routes remain unknown. Foreigners accounted for 85% of acute cases. Altogether, 248 cases of hepatitis B have been detected (18 acute – 0.3/100,000 and 230 chronic – 4.2/100,000). In Norway (2012), 705 (14.2/100,000) cases of hepatitis B have been diagnosed (both acute and chronic). The incidence of hepatitis B remains low in the country during the past few years. The relative high number of diagnosed cases of chronic hepatitis B reflects an increase among migrants from medium and high endemic countries.

## Hepatitis C

There are differences among reporting countries in their surveillance systems which also embraces case definition used and reporting practices with regards to hepatitis C acute and chronic cases. Variations in reported cases may also be linked with country-specific testing and screening programs among key populations as well as other epidemiological differences. The most commonly reported route of transmission (in both acute and chronic cases of HCV) was injecting drug use.

Since 2001, Lithuania has observed a decrease in the incidence of acute viral hepatitis C. The incidence dropped from 5.36 cases/100,000 (in 2001) to 1.3 cases/100,000 (in 2012). The incidence of acute hepatitis C for men was higher than for women. The highest rates for men were in the 25–34 age group whereas for women in the group of 15–24 years. In 2013 the incidence of acute HCV has increased in Lithuania to 2 cases per 100 000 population (1.3/100,000 in 2012).

In Poland (2011) the frequency of diagnosis of hepatitis C was increasing, but was still lower compared to the years 2006–2008. The incidence of HCV infections was twofold higher in cities than in rural areas and higher among men than women. The upwarding trend of the incidence of hepatitis C observed in 2009–2011 may be linked with the increased access to diagnostic tests during that period.

In Latvia since 2008 the incidence of acute HCV has dropped, whereas rates of chronic HCV have increased since 2010. In 2013 there were 55 cases of acute infection registered (2.7/100,000 pop.) as well as 1232 cases of chronic infection (60.9/100,000). Chronic HCV is spread mainly in the central part of the country and can be related with the size of drug using population in this region. In 2013 the incidence of chronic HCV infection was higher among males (75.9/100,000) than among females (48.2/100,000). The most affected age groups are 30–29 years and 40–49 years old.

In Norway (2012) the hepatitis C situation is dominated by chronic infections among persons born in the country and those infected through injecting drug use (85% among all cases notified in 2012). In Finland no significant changes have occurred in the annual number of HCV cases. By the end of 2012, the total number of new HCV infections ever reported in Finland was 26 705 (1995–2012). High percentage, around 80%, of intravenous drug users have been found to have HCV antibodies. In total men accounted for 65% of the cases.

Based on health survey data the prevalence of hepatitis C virus in the general population in Germany is 0.3%, increasing with age, and with no significant differences between genders. Since laboratory tests are unable to discriminate between longstanding and recently acquired Hepatitis C virus infection, newly diagnosed HCV infections do not necessarily represent actual HCV incidence. Almost 5,000 cases of newly diagnosed HCV infection have been reported in 2012, representing an incidence of 6.1 new diagnoses per 100,000 in the general population. The highest incidence of HCV diagnosis among males was 19.2 per 100,000 in the age group 30–39, while among females the highest incidence was observed in age groups 25–39.

The rate of acute hepatitis in Estonia has decreased since 2002 to 2.1 cases per 100,000 in 2013. Studies conducted among vulnerable populations have shown a high prevalence of HCV markers among PWID (for example in Tallinn, 94% of PWID were positive for HCV antibodies in 2007).

During the last decade in Sweden the number of reported cases has stabilized at the level of 2000 cases per year – 2 078 cases (22/100,000) in 2013. The majority of cases (67%) is reported in the age group 20–49 years. More than 50% of the cases is reported to have been infected in Sweden. The main

route of transmission is injecting drug use which accounts for about 50% of all reported cases.

HCV infections decline in Russia since 2001. In 2012 there were 2169 cases registered. However, for chronic hepatitis the trend is reverse: incidence of chronic hepatitis C increased from 12.9 per 100,000 in 1999 to 39.1 per 100,000 in 2012. Patients with

chronic hepatitis C are usually of the age of 30–39 years. HCV is being transmitted, mostly, through sexual contacts (28.1%) and using contaminated equipment when injecting drugs (23%). In Belarus (2012) the incidence of acute hepatitis C among the general population is decreasing. The number of newly diagnosed cases of HCV in 2012 was 5517 (0.8/100,000).

## HIV

HIV epidemic is characterized by continuously increasing numbers of infected people. The HIV epidemic has diverse transmission patterns across 11 countries and it is concentrated in key populations at elevated risk such as MSM, PWID, sex workers and migrant populations. Many HIV infections are diagnosed late. The highest proportion of late presenters are heterosexually acquired cases, especially migrants from sub-Saharan countries. Transmission mode remains unknown in case of a large number of reported HIV infections.

In Germany the incidence of new HIV infections (excluding infections acquired abroad) has been estimated at around 3,400 in 2012. Approximately 3,000

infections (88%) occurred in males, 400 in females (12%). More than 93% of all new infections were acquired sexually, around 2,500 (74%) by sex between men, and 600 (18%) by sex between men and women. Transmission by sharing drug injection equipment accounted for approximately 200 new infections. Prevalence and incidence of HIV infections are geographically distributed in larger cities, and prevalence is still substantially higher in the western part of Germany compared to the eastern part.

In Lithuania (in 1988–2013) the cumulative number of HIV cases by the routes of transmission indicated 65.6% cases among PWID, heterosexual contact – 17%, homosexual contact – 7%, MTC – 0.1%,

Table 5: Number of cases and HIV incidence per 100 000 in selected countries (2012, 2013)

Year	2012		2013	
	Country	Number of cases	Incidence per 100 000	Number of cases
Sweden	470	-	461	5
Denmark	198	3,6	-	-
Germany	3400	-	-	-
Estonia	314	23,5	325	24,3
Finland	159	2,9	-	-
Norway	242	4,8	-	-
Lithuania	-	5,3	177	-
Belarus	1223	-	-	-
Poland	1019	-	1258	-
Russian Federation	70453	-	-	-
Latvia	-	-	340	16,7

Source: Country reports

unknown – 10.2%. The HIV incidence rate in Lithuania in 2009–2012 has slightly dropped: 5.4 per 100 000 population in 2009 compared to 5.3/100 000 in 2012. In Estonia, although the number of newly registered cases has decreased ever since (24.3/100,000 in 2013), the overall number of HIV infected people remains one of the highest in Europe. In Latvia the HIV prevalence by the end of 2013 was 236.8/100,000 population and the increasing prevalence can be observed. Latvia still takes the first leading position as regards to AIDS incidence – in 2012 the rate was 6.8/100,000 population (for the EU – 0.9/100,000). Also a statistically significant increase of mortality is still observed among PLHIV in Latvia within last years (2001–2010).

In Sweden, during the last 5 years, 75% of all reported HIV cases were infected outside the country. For-igners accounted for 70% of all reported HIV cases.

## Tuberculosis

The overall TB notification rates continue to decrease in the countries due to well-functioning TB prevention and control programs at the national level. In the Baltic countries MDR-TB is highly prevalent (e.g. North-West part of Russia, Lithuania, Belarus, Estonia). For some low-incidence countries, immigration of persons (e.g. refugees) from TB endemic countries creates serious health problem. This group of people remains hard to reach for the national healthcare system and therefore may be the main obstacle for the TB elimination.

In Sweden about 85% of all reported TB cases are diagnosed in migrants, and about half of them are from African countries, about 20% from Asia and 10% from Eastern Europe. Most migrants are infected abroad (86% of all reported cases in 2013). Within last five years the number of reported TB cases has been quite stable with about 640 reported cases a year. Altogether, 654 cases were reported in 2013 (7/100,000). Similarly in Norway migrants from high

Among newly reported HIV, men accounted for 62% of the cases and women for 38%. About 90% of all reported HIV cases have notified route of transmission. Heterosexual transmission accounts for about half of all reported cases during the last 5 years, followed by MSM with around 30% of the cases and PWID with 5% of all reported cases.

In Russia with heterosexual transmission gaining strength, the HIV epidemic is moving closer to the generalized phase. In 2012 the HIV prevalence among those 15–49 years old was 0.81%. For over ten years the proportion of HIV cases attributed to heterosexual contacts has been rising. In 2012 these type of contacts accounted for almost 42% of registered HIV cases. At the same time significance of homosexual contacts tends to be limited, with less than 1% of the cases attributed to this transmission route (2012).

endemic countries accounted for 61% of all notified TB cases in 2012.

TB incidence among foreign nationals residing in Germany was 22.1/100,000 population, being 6.5 times higher than the incidence in German citizens (3.4/100,000). In Latvia (2013) the TB incidence rate in male population was 54/100,000 population and in female, 25.4/100,000. The highest rates for males were registered in the age group 40–49 years (88.2/100,000), and for females in the age group 18–29 years (38.8/100,000).

In Russia (2011–2012) the TB incidence was reduced by 6.7%, from 73.0 to 68.1 per 100,000. Altogether 97542 cases of TB were detected in 2012. Kaliningrad, Saint Petersburg and Pskov oblasts are the regions with the highest TB prevalence. The serious concern is growing prevalence of drug-resistant forms of TB. In 2012 the 4.2% increase of this form of TB was registered, with prevalence of MDR-TB at 24.6 per

Table 6: Number of cases and TB incidence per 100 000 in selected countries (2012, 2013)

Year	2012		2013	
	Country	Number of cases	Incidence per 100 000	Number of cases
Sweden	640	-	654	7
Denmark	392	7,1	-	-
Estonia	-	-	227	17,9
Finland	275	5,1	-	-
Norway	376	7,4	-	-
Lithuania	1274	42,64	-	-
Belarus	-	39,6	-	-
Russian Federation	97542	68,1	-	-

Source: Country reports

100,000. Over a half of TB patients in North-West regions like Pskov, Arkhangelsk and Novgorod suffered from these forms of TB.

During the last decade the incidence of TB decreased significantly in Poland, although still remains higher than the average for the European countries (22.2 vs. 14.3 in 2011).

In 2010, the TB rate in Lithuania, compared to other EU countries, was one of the highest (58.2 cases/100 thousand population). According to the national TB registry data, the number of TB cases decreased by nearly 45% between 1998–2012. In 2012, the TB

prevalence was 59.61/100,000. Altogether 1274 new cases of pulmonary TB (42.64/100,000) were reported. The number of multidrug-resistant TB cases decreased during the period 2009–2012 by almost 16% (from 322 cases to 271 cases), but the ratio for previously untreated TB patients who were diagnosed with multidrug-resistant TB remains about 40% of all multidrug-resistant TB cases.

In Finland an expected moderate increase has occurred in the annual number of new TB cases during 2008 – 2012, mainly due to the increasing number of migrants. MDR-TB and double infection TB-HIV have been at a continuing low level.

### HIV co-infections

The availability of data on HIV co-infections differ across the countries. In some countries e.g. in Germany data on co-infections with HIV and hepatitis viruses B and C, syphilis, gonorrhoea or Chlamydia are not available from the surveillance system, as some of the infections are reported by name while others are not, and matching case registries is thus not possible. Surveillance studies indicate different level of co-infections among key populations. Among intravenous drug users, HCV infection is very common in HIV-positive PWID (95%), chronic HBV infection (10%). STIs like syphilis, gonorrhoea and Chlamydia are however rare in PWID.

Among HIV infected MSM in Germany the proportion of co-infection with HBV, HCV, syphilis, gonorrhoea and CT has been high in recent years. In a systematic screening study, the prevalence of NG and CT was approximately 10%. The TB incidence density rate among MSM infected with HIV was 0.22 per 100 (in 2002–2011). Among MSM the number of infections with syphilis has increased within the last 5 years that may also be the case for gonorrhoea and Chlamydia infections – but firm evidence is lacking due to a lack of appropriate surveillance data.



In Estonia PWID are one of the most at-risk populations for HIV, TB and AIs. High level of risky sexual behaviour and injecting drugs elevates high prevalence of HBV and HCV in this population. Of serious concern is continuously high HIV prevalence among TB patients. There is also a higher prevalence of MDR-TB among PLHIV than among general population. Prisoners are often considered to be a population at high risk for HIV, TB and HBV and HCV infection, but the actual number of cases of these infections among prisoners in Estonia remain low. A research conducted among female sex workers in Tallinn (2011) indicated Chlamydia as the most commonly self-reported STI among the researched participants (24%). The prevalence of both HCV and HIV was 6%. Belarus reports 60% of PLHIV being co-infected with HCV.

In Poland, Latvia and Russia we observe the increase in numbers of co-infections with HCV and HBV among PWID. The transmission of HIV, HCV and HBV takes place mainly through the use of shared needles and syringes. Another risk factor for HIV and HBV/HCV among injecting drug users is risky sex behaviour including contacts with several partners and irregular condom use.

According to the survey that was carried out in Russia (2009), the HIV prevalence among sex workers was 4.5%; HCV – 21.8% and syphilis – 5.6%. In Lithuania (2012), 26 new dual HIV/TB infections cases were reported. As compared to 2009, a number of the new HIV/TB cases has doubled.

### 1.3. The most at risk populations for HIV, TB and AIs

The country reports specify groups that remain vulnerable to HIV, TB and AIs, as well as the main characteristics and epidemiological trends within these groups in the last few years. The prevalence data may not be precise as countries use different sampling methods and different study designs. In addition the proportion of HIV cases with unknown route of transmission remains very high within the populations.

#### *People who inject drugs (PWID)*

PWID are considered one of the most at-risk populations for HIV, TB and AIs in Estonia. In 2001, they accounted for 90% of new HIV infections, whereas in 2012, only a quarter of new HIV cases were diagnosed in this group. In 2012 unprotected sexual intercourse was stated as the major transmission route of HIV, although it was unclear, whether infected persons had been sexual partners of PWID. High level of risky sex behaviour and injecting drugs additionally explains the high prevalence of HBV and HCV markers among that population. Alcohol and drug abuse is also high risk factor for TB.

In Russia people who use drugs are the group driving the HIV epidemic in the country. Blood-borne transmission through unsafe injections of drugs

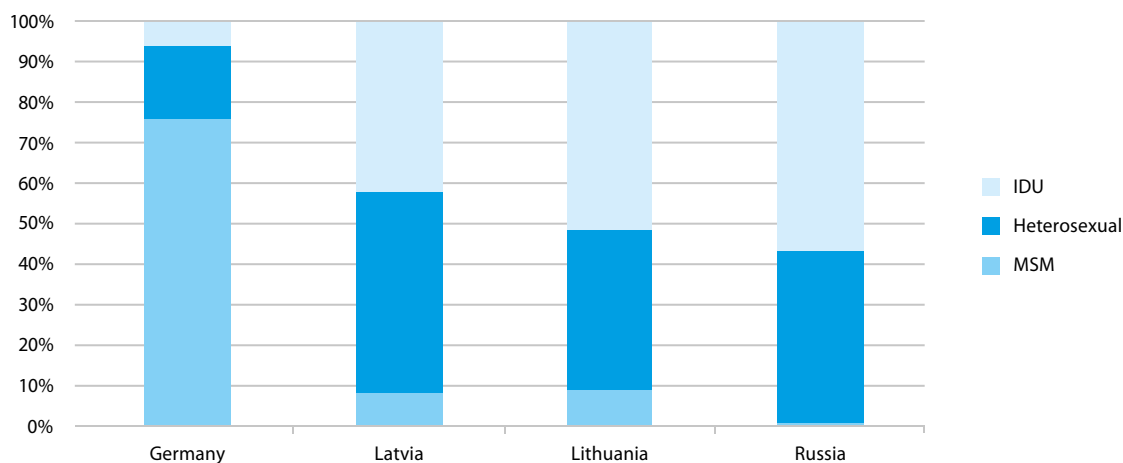
contribute to the spread of HBV and the HCV epidemics. In parallel, heterosexual contacts are playing significant role in HIV transmission. Another risk factors for HIV and HBV/HCV among drug users are unsafe sexual practices including contacts with several sexual partners and irregular condom use.

The number of annual HIV cases reported in Finland among PWID in 2008–2011 varied from 7 to 13. Among the group the HIV prevalence is higher than in the general population, but no significant changes have occurred in the annual number of new HIV cases in these population. In Norway PWID accounted from 15% of HBV and 85% of HCV cases that were notified in 2012. In Sweden the HIV incidence among PWID has decreased during the last 5 years.

Most cases have been in Swedish-born PWID but during the last few years the proportion has changed and foreign born PWID accounts nowadays for the majority of the cases. In acute hepatitis B the trend has been decreasing for PWID. Sexual transmission accounts for the majority of acute cases of whom many have contracted the infection abroad. In hepatitis C the incidence has been stable with injecting drugs as the main route of transmission.

In Germany the incidence of HIV among PWID remains low at an estimated 200 new infections per year. The number of new HCV infections is substantially higher, but the trend might be slowly declining. The same applies for new HBV infections. There is no indication for any significant changes regarding prevalence or incidence of syphilis, NG or CT in the PWID population.

Graph 1: Proportion of the main routes of HIV transmission in selected countries in 2012



Source: Country reports

### Men having sex with men (MSM)

Men who have sex with men (MSM) are the group most affected by HIV and some other sexually transmitted infections like syphilis, gonorrhoea, hepatitis B and C. There is a cumulative increase in numbers of MSM that are living with HIV, and co-infected with other STIs that are frequently reported in the countries.

In Germany the number of new syphilis diagnoses in the group has increased considerably by 30% between years 2008 and 2013. Trends for NG and CT are difficult to establish due to the lack of continuous surveillance data and changes in testing practices and test uptake over time. Due to incomplete information about newly diagnosed cases of HBV and HCV in

MSM drawing trends for these particular diseases can be problematic. There is no evidence for any significant change regarding TB incidence and prevalence among MSM in the country.

The number of annual HIV cases reported among MSM in Finland in 2008–2011 varied between 36–50. In Norway, MSM accounts for 31% of HIV, 54% gonorrhoea, and 88% syphilis cases that have been notified in 2012. In Sweden no significant increase of HIV cases in MSM has been reported within last years, but a significant increase of foreign-born MSM has been seen and migrants who accounts for 57% of the all new reported HIV cases in 2013.

### *Sex workers*

Sex services undergo major change due to the economic, demographic, and technological changes in Europe. Among reporting countries there has been rapid increase in migrant women and men who sell sex services and who in some countries became the main migrant workforce. Together with increasing supply, there has been increasing demand for sex services. Limited data indicates that HIV infections within sex workers is highly associated with injecting drug use. In some countries there exist close link between drug use and sex work among females. The group of sex workers play a significant role in the spread of HIV into a large population of heterosexual people.

In Russia there are no legal restrictions on providing sexual services, yet there is no official recognition of them, either. The uncertain legal status together with public disapproval of such behavior forces most of sex business either underground or in the “grey zone”. The results of the survey that was carried out in Russia among sex workers in 15 cities suggest the HIV prevalence in this group is 4.5%; HCV – 21.8% and syphilis – 5.6%. The study also disclosed the ties

between sex work and drug use, with every third sex worker admitting drug injections. Sexual transmission of infections must also be a common occurrence among this group as only 58% of sex workers admit using condoms with non-commercial partners.

In Lithuania there is no data of comprehensive sentinel surveillance among sex workers. Only those attending the low threshold services are under the surveillance. The data shows that the number of sex workers using drugs has increased. The results of the sentinel surveillance study held in Vilnius in 2011 indicated 90% of sex workers being drug users (2011). In Latvia (2011) a bio-behavioral study has been run among female sex workers in Riga and surrounding areas (117 persons). The research found high HIV and HCV prevalence in the group (HIV, 22.2%) and (HCV, 58.1%). Data concerning female sex workers indicates 82.9% of them using drugs during their lifetime and 83.5% using drugs also by injection. 62.0% of those with the experience of drug injection have ever used syringe or needle already used by someone else.

### *Migrant populations*

Countries outside Europe, especially in the sub-Saharan Africa, Asia are playing an increasing role in HIV, TB and AIs epidemic in Europe as these countries are the source of infection of immigrants coming to Europe – mainly to the richest European countries (e.g. Germany, Sweden, Finland, Norway). We observe an increasing influx of migrants from

Eastern and Southeastern European countries to the “old” EU/EEA countries. For example, in Norway (2012) migrants from high endemic countries accounted for 40% of HIV and for 61% of TB infections among all cases notified in the same year. Within last five year in Sweden, immigrants accounted for 70% of all reported HIV, and 85% of TB cases.

### *Persons living with HIV (PLHIV)*

Most persons who are aware of their HIV/STI infection remain sexually active and engage in safer sex practices. Persons who are unaware of their infection contribute to on-going spread of HIV and

other diseases. Some of them engage in high-risk sexual behaviour that put the risk of HIV/STI infection on others.

## Prisoners

Prisoners are often considered as the population at risk of HIV, TB, HCV and HBV infections. However, the number of cases of these infections dropped within last five years and remain low in the countries. In Estonia TB screening is mandatory for all prisoners and almost all prisoners undergo HIV testing upon entry. The occurrence of TB in prisons has remained low (1–6 cases a year). No new HIV transmissions have been registered in recent years. Data on AIs rates and transmission routes in prisons is not available.

In Lithuania 60% of all HIV positive persons have imprisonment experience. Each year from 40% (2009) to 26% (2013) of the new HIV cases are identified in

incarceration facilities. According to the country data, a vast majority of the newly reported HIV in prisons have acquired the virus outside prison. In 2009, 10 acute HBV and 4 acute HCV cases were registered in the Lithuanian incarceration facilities.

In Russia prisons contain up to 12% of PLHIV. Their weakened immune system promotes progressing of TB, especially when combined with such factors as prison cells being overcrowded, physical and nervous pressures. Moreover, prisons contain a significant number of homeless and unemployed, i.e. those who lived in conditions of social adversity with no access to health care. Testing for HIV and TB is mandatory for arriving prison inmates.

## 1.4. HIV, TB and AIs situation among the general population

Reporting rates of HIV, TB and AIs vary across the countries, with differences in national surveillance systems and considerable overall underreporting. Some countries do not provide continuous NG and CT surveillance data as it doesn't exist at the national level.

The HIV, TB and AIs are mainly linked with specific populations, except Chlamydia trachomatis which is common among teenagers and young adults. The prevalence of the disease in the general population is low – although, Chlamydia infections are the most frequently reported STI in Europe and the number of reported cases is increasing. The CT incidence shall be much higher than the rates reported due to the asymptomatic character of the infection and large underreporting. The highest rates of Chlamydia are reported among young people aged 15–24 years, with the majority of cases being reported among females.

Gonorrhoea and syphilis are less common and affect mainly MSM. During last years, gonorrhoea increased and a large proportion of cases were reported in

young people of the age 15–24 years. Syphilis has increased in many western European countries, mainly due to the increase in MSM.

In the Baltic countries TB is highly prevalent in the North-West part of Russia, Lithuania, Belarus, Estonia and less in low-incidence countries such as Sweden and Finland where TB threat is mainly linked with the influx of immigrants (e.g. refugees) from TB endemic countries.

Germany indicates an increase (in 2001–2012) in numbers of newly diagnosed HIV infections per 100 thousand population, decreasing and quite stable situation in reported cases of newly diagnosed TB, HBV, HCV (changes in reported HCV cases may partly result from changing in the interpretation of reportable cases) and increasing numbers of syphilis.

The TB incidence in Sweden among Swedish-born people is very low and decreased during the last decade. Majority of the cases are diagnosed in migrants from

high endemic countries. Similar situation is observed in HIV. Majority of HIV endemic cases has been transmitted in MSM and PWID. With regards to heterosexual transmission most HIV cases have been contracted from migrants from high endemic countries or from a person infected abroad who infected partner in Sweden. The overall prevalence of HIV in the country is low (<0,07%). While chronic hepatitis B is mainly diagnosed among migrants, acute hepatitis B and hepatitis C is mainly connected to PWID. The spread of Chlamydia is observed in teenagers and young adults, with the highest incidence in women of age 15–24 years (2700 per 100 000 women) and men of age 20–24 (2100 per 100 000 men). Gonorrhoea and syphilis are quite uncommon in Sweden and most prevalent in MSM.

Lithuania indicates decreasing HIV trends among PWID and increasing among their sexual partners. The Lithuanian STI surveillance data indicates STIs being highly concentrated in young people (20–29 years old), having more than one sexual partner within 12 months. Among the group, 50% never use condoms when having new sexual partner. Further growth in STIs incidence among young people is expected. Increasing HIV/STI trends among MSM were observed in the country and are expected in future as well as grow of viral hepatitis B among young people (which may be partly linked with the spread of anti-vaccine movements and growing number of children who are not vaccinated for HBV).

## 1.5. Treatment, care and support for PLHIV, TB and AIs patients

Among reporting countries all have a strong focus on delivering treatment and support for people living with HIV, TB and AIs. The countries developed their own funding mechanisms of treatment and care based on a mixed funding sources and methods of the cost sharing. The majority of funds are state-controlled and relatively a small part comes from direct payments for health care services. The predominant method of financing health care is public taxation and/or through compulsory social/health insurance. In general all necessary and clinically indicated treatment is guaranteed free of charge to those infected with HIV, TB and AIs. In general, across the countries, most people diagnosed with HIV who are in the need of treatment receive it.

Almost all countries seek to provide people living with HIV with a comprehensive range of HIV treatment and care services. In some countries, the state does not fully cover medications for HBV and HCV treatment, syphilis, gonorrhoea, and Chlamydia, although it is possible to get compensation from the national health funds.

In general medical services are reported to have good availability across most countries. Many of them

recognize that key populations have difficulty in accessing treatment services (e.g. undocumented migrants). Below provided examples of country mechanisms to scale up the provision of treatment, care and support for PLHIV, TB and AIs patients:

**Finland:** All necessary and clinically indicated treatment and care is guaranteed free-of-charge to those who have been infected with HIV, TB or AIs and who are eligible for Finnish social security benefits i.e. have a legal residence status in Finland. Temporary visitors are entitled only to emergency treatment, unless they have a private health insurance covering the costs of other treatment.

**Estonia:** All TB and HIV related services are financed from the Estonian Health Insurance Fund (EHIF) and the state budget, and they are free of charge for all patients, including those with no health insurance. Both ARV and TB medication are purchased directly by the Ministry of Social Affairs. The state does not fully cover medications for the treatment of hepatitis B (HBV) and C (HCV), syphilis, gonorrhoea and Chlamydia, although it is

possible to get supplementary benefit from the EHIF. Primary care services are provided through general practitioners to everyone insured by EHIF or who hold Estonian passport.

**Latvia:** The ARV treatment and care in Latvia are highly centralized and until 2010 were provided through the Centre of Infectious Diseases. The Centre participates in clinical trials in the area of HIV/AIDS treatment. TB services are not available. Diagnosis and treatment of hepatitis is available in the Centre although there is cost-sharing mechanisms in place which limits the uptake of the services. Patients with hepatitis B or C are not routinely offered HIV testing. The country has difficulty to follow the international guidelines for introducing the ARV for patients with asymptomatic HIV.

**Lithuania:** HIV/AIDS patients are provided with mandatory health insurance using public funds. ARV is available in the biggest cities of Lithuania – Vilnius, Kaunas, Klaipeda, and Siauliai. ARV treatment is reimbursed from the budget of the compulsory National Health Insurance Fund. Patients infected with viral hepatitis B and C undergo treatment in health care settings in compliance with the approved schemes. HCV and HBV treatment is reimbursed from the budget of the Mandatory Health Insurance Fund.

**Russia:** Provision of ARV in Russia is covered through public funds or national health insurance plan and offered at no cost to PLHIV and who have a legal status in the country. According to the local regulations, ARV is prescribed to patients with CD4 cell count below 350, yet in making this decision the physicians takes into account the patient's general condition of health. Most patients are required to cover the cost of HCV treatment out-of-pocket.

**Poland:** The HIV treatment is conducted in accordance with the recommendations of the Polish Scientific AIDS Association and updated each year. ARV therapy is provided in the reference centres

throughout the country. The treatment of the HCV and chronic HBV infections follow the recommendations of the HCV and HBV Expert groups.

**Norway:** Treatment for HIV, TB and AIs is easily accessible all over the country and free of charge for patients. At present there is no HIV treatment register and as a consequence there are no reliable data on the number of people living with HIV who are on treatment.

**Sweden:** HIV and TB treatment is offered to all patients in need. Currently, above 90% of all PLHIV receive ARV. Hepatitis B treatment is offered to chronic cases and hepatitis C treatment to acute cases and chronic cases in accordance with the national guidelines – but rarely to people who are active injecting drug users. All diagnosed cases of Chlamydia, gonorrhoea and syphilis receive antibiotic treatment for free. The spread of multi-resistant gonorrhoea is an increasing problem.

**Germany:** the country's health care system is largely privatized. Health insurance is mandatory, with approximately 10% of the population having a private health insurance and 85% having a statutory health insurance. Medical treatment, including necessary drugs and health care are available for all patients diagnosed with HIV, HBV, HCV, TB, syphilis, gonorrhoea and Chlamydia infections, who have health insurance. Health insurance covers the most treatment-related costs including drugs, with minimal co-payments from patients. Problem of access to adequate health care exist for persons without insurance, particularly for undocumented migrants and migrant sex workers. For TB and for easily curable infections such as syphilis, gonorrhoea and Chlamydia, free treatment is available. Psychological, social and additional financial support for patients with HIV, chronic hepatitis, and TB may be provided by local public health offices, non-government organisations like HIV/AIDS/Hepatitis support groups, and by charities like German AIDS Foundation (Deutsche AIDS-Stiftung).

## 2. Analysis of national HIV, TB, and AIs responses

### 2.1. Description of governmental coordination, management and financial support for HIV, TB, and AIs responses

The management and financial support for HIV, TB and AIs responses differs between the reporting countries. In most countries health services are provided and coordinated through a central health institution. The Ministry of Health (in collaboration with other authorities involved in health activities, national institutes of health, sanitary inspectorates, scientific committees and local NGOs) is usually the principal health authority responsible for coordinating health care system, and for the licensing of pharmaceuticals. The Ministry in collaboration with other institutions provide general guidance, and monitors planning for the regional and municipal curative and preventive services. Planning for health services is a joint responsibility of the health boards, the municipal councils and the municipal governments.

Some countries possess highly decentralised health care system in which responsibility for provision of health services is devolved to the country regions. Funds are provided by public sources, mostly by taxation at state, regional and municipal level. In some countries funding derives from compulsory and voluntary contributions to statutory health insurance. Only a small part is being financed by co-payments and by private insurance. Some countries (e.g. Belarus, Russia) use grants from the Global Fund for co-financing of the national HIV response programs. Non-governmental organizations (NGOs) are recognised as playing important role in providing care and support services for people living with HIV, TB and AIs. Below provided the examples of country mechanisms used for coordination, management and financing HIV, TB and AIs responses:

**Latvia:** regulations made by MoH in June 11, 2012 determine that the aim of the National HIV,

Tuberculosis and STIs Prevention Coordination Committee is to provide professional support for HIV, TB and STI health policy. The Committee includes governmental institutions (MoH, Ministry of Justice, Ministry of Defense, Ministry of Education and Science), NGOs and WHO Country Office. The Ministry of Health plans and allocates the necessary funding for the health / public health sectors according to pre-defined priorities and requests.

**Estonia:** since 2001, all TB-related services have been funded from Estonia's domestic sources. Financing of TB treatment and other services has been divided between Ministry of Social Affairs and the Ministry of Justice. Within the HIV and AIDS strategy, a high-level multisectoral HIV and AIDS committee was created as the advisory body. The Committee involves the representatives of all relevant ministries (Social Affairs, Education and Research, Justice, Defense and Interior), municipalities and counties, Parliament (the Social Committee), the office of the Prime Minister, thematic working groups (i.e. harm reduction, prevention, treatment and care, monitoring and evaluation), PLHIV and the youth organizations' union.

**Finland:** Ministry of Social Affairs and Health is responsible for guiding and overseeing health promotion. National Institute for Health and Welfare under the Ministry of Social Affairs and Health is responsible for surveillance of infectious diseases, identifying risk factors for infections, proposals of evidence-based control measures, guidelines to health care professionals and the general public. The municipalities have the responsibility to implement infectious disease control measures. Cooperation between public actors (government, regional and local authorities) and civil society (NGOs) takes place in prevention activities. NGOs

play central role in preventing HIV. The NGOs receive a large part of their funding from the Government or from other public national sources.

**Germany:** in the field of HIV/AIDS the country established close coordination and cooperation with civil society organizations – the leading ones being the German AIDS-Relief Association and the German AIDS Foundation. The country's commitment to control HIV/AIDS is reflected in a consistent allocation of public funds in this area. In 2011, these included approx. 29 million Euro for prevention, and 9.4 million Euro for research activities. In 2011, a new National AIDS Council was appointed as an independent advisory board to the Government.

**Lithuania:** implementation of the National HIV/AIDS and STI Prevention and Control Action Plan is coordinated by the MoH. The surveillance of HIV/AIDS/STI is undertaken by the Lithuanian Centre for Communicable Diseases and AIDS. HIV/AIDS/STI response is decentralized to municipalities. Methodological information on the HIV response provides a national institution – the Lithuanian Centre for Communicable Diseases and AIDS. TB/HIV care services are integrated. The TB prevention and control coordinates the MoH. The implementation of TB programme coordinates health care institution – Santariskes Clinic of the Vilnius University (TB care department). HIV/AIDS/TB/STI/VH treatment, care, prevention in prisons is coordinated by the Ministry of Justice.

**Poland:** since 2001, the National AIDS Centre, on the behalf of the Ministry of Health has been the main implementing body and coordinator of the process of purchase of ARV drugs and diagnostic tests as well as the prophylaxis activities in the frame of the goals of the National Programme for Preventing HIV Infections and Combating AIDS (2012–2016).

**Sweden:** the country's strategy on prevention of HIV and associated infections emphasis an integrated response from all relevant sectors, including health care, education, social welfare, prison and probation

services and migration services. The Government grants funding (about 146 million SEK = 16 million Euro) annually for prevention at national and regional level. The Public Health Agency of Sweden coordinates the national preventive work in the country, including allocation of governmental funding for HIV preventive work at national and regional level. The 20 County councils have the responsibility for the health care and infectious disease prevention at regional and local level and for allocation of the governmental grant for HIV prevention to the local and regional NGOs. For the preventive activities on TB and hepatitis there are no special funding from the government, except when hepatitis spread is associated with the spread of HIV in IDUs. Testing, treatment and contact tracing is funded by the County Council. The County Medical Officer is responsible for the infectious disease control and prevention in the regions.

**Russia:** the respective programs of response to infectious diseases have been developed at regional level while their national counterparts are missing. The effective model of collaboration between government agencies and NGOs in the country is under development. Another factor hindering response to infectious diseases is the absence of national standards for TB diagnostic and treatment. The same applies to hepatitis.

**Norway:** the costs of testing and care for HIV, TB and AIs are included in the normal health insurance system. Each year the Ministry of Health and Care Services provides grants and financial support to NGOs with up to 3 million Euro annually. The National HIV and AIDS Council was set up in 2007 by the Ministry of Foreign Affairs and the Ministry of Health and Care Services. The Council embraces members from affected government agencies and from civil society, including representatives for people living with HIV and from organisations that work on international development cooperation and with youths. Similar TB council is run by the Norwegian Institute of Public Health which also includes NGOs. There is no special fund for TB prevention.



## 2.2. Description of normative framework

Most countries possess supportive social and legal environment that encourage people infected with HIV, TB and AIs and people whose behaviour might put them at risk of infection to respond to education campaigns, and to make use of health services and counseling. The role of the law in response to HIV, TB and AIs is closely linked to the protection of human rights. The national laws help creating a supportive environment for infected/ill people. It also helps to shape society by providing an institutional framework that is supportive for people with particular disease(s).

It is recognised that human rights are fundamental to disease prevention and control as well as to treatment and care. Countries are also obliged to comply with instruments of international law and regulations

(e.g. IHR 2005, WHO). National health policies focusing on disease prevention aim at educating, and promoting healthy lifestyles and preventing health-risk behaviours (e.g. drug use, risky sex behaviour).

Within their normative framework countries refer to and follow universal rules that encompass prejudice-free education and prevention, universal access to testing, adequate treatment for those who are infected and suffering from a disease, creating positive climate of solidarity within the society and preventing discrimination and stigmatization, coordination of national and international activities within the domain of disease prevention and control, epidemiological surveillance, strengthening biomedical, clinical, social research, and continuous evaluation and quality assurance.

## 2.3. Legal environment

The national laws relevant to prevention and control of HIV, TB and AIs are in place in the majority of the countries. With regards to the treatment of HIV and AIs, the laws refer to partner notification and mandatory notification of infections. Partner notification is mandatory by either the patient or the healthcare provider in the country. In majority of the countries there exists a routine partner notification for HIV, gonorrhoea, syphilis, and Chlamydia trachomatis.

Countries possess the legal acts such as the Legal Act of Communicable Disease Prevention and Control (or Infection Protection Act, Epidemiological Safety Law) that defines reportable infections, regulate control measures for infectious diseases (among others HIV, TB, hepatitis B and C, Chlamydia, gonorrhoea, syphilis) e.g. free testing and treatment, contact tracing and mandatory notification of diagnosed cases from laboratories to the national public health institutes and/or to medical/sanitary inspectorates at regional level. Legal acts stipulate requirements for reporting communicable diseases and models of reporting.

Some countries require compulsory testing for HIV and TB for migrants arriving from high endemic countries. Intentional or reckless infection of another person with an infectious disease such as HIV is considered to be a crime.

The European Member States act within the framework of the European Disease Surveillance System and disease specific networks such as the European HIV/AIDS Surveillance Network, European Network for STI Surveillance, hepatitis B and C Surveillance Network and the European Tuberculosis Surveillance Network.

Some countries report epidemiological situation through the country database (e.g. Russia, through the Federal Statistics Agency of the Russian Federation).

The countries are expected to follow international declarations of human rights in the context of sexual and reproductive health formulated by the United Nations.

## 2.4. Implementing HIV, TB and AIs prevention strategies

Majority of the countries possess their multiannual national strategies and guidance documents for reducing HIV, TB, and AIs which build on strategies developed globally and in Europe for TB control and for HIV/AIDS and STI prevention and care. The strategies define the rationale for effective actions to tackle prevention and control of TB/HIV/STIs including the collaboration between disease specific programmes at national level. The strategies recognise populations at risk (e.g. MSM, PWID, sex workers, migrants). They include strategic components such as: key institutional players – ministries involved in health activities and their underlying agencies and contact points at local level, national NGOs and their core responsibilities as well as operations required.

In some countries (e.g. Norway) there is no national TB strategy plan, but the TB guidance document published by the National Institute of Public Health that play a role of strategy and policy document. Regions and municipalities are by law obliged to have their own TB action plan. In Latvia the network of HIV Prevention Points provide broad services including syringe and needle exchange, condom distribution, rapid testing (HIV, HBV, HCV, syphilis), dissemination of materials (brochures, posters etc.), information and counseling (health, social and psychological), support groups, and other. The services are provided to the representatives of different key populations (basically to PWID, but also to female sex workers and MSM).

In Germany, HIV prevention strategy is based on several pillars: condom promotion, delivery MSM-friendly health services, health promotion, targeted care for people living with HIV, testing, treatment. Prevention of syphilis foresees more frequent and systematic screening among men with multiple sex partners. Prevention of HBV through vaccination. In case of NG and CT a systematic screening is not offered in the country within the healthcare system.

Preventing Hepatitis C virus infections among intravenous drug users and (HIV-positive) MSM has proven difficult.

In Lithuania Low Threshold Centers (LTCs) provide services such as: syringe and needles exchange, condom distribution, health education and information, voluntary counseling and testing for HIV, hepatitis B, hepatitis C, social support and mediation, consultations for PWID on available testing and treatment, referrals to the dependency treatment programs. Since 1995 the country is carrying out substitution therapy with methadone for opioid dependent persons.

The national strategy for HIV prevention in Sweden (2006–2016) foresees reduction by 50% the incidence of HIV infections transmitted within the country. People who seek asylum and newly arrived as well as close relatives of previously arrived asylum seekers should be offered testing and counselling within two months of arrival. At country's regional level action plans for HIV and STIs prevention has been developed and collaboration groups at national level (National HIV Council) and regional levels has been established, consisting of key stakeholders from health care, governmental agencies and NGO.

In Poland the National Programme for Preventing HIV Infections and AIDS Response addresses the issue of broadly defined social protection by providing wide access to diagnostics and ARV treatment as well as by improving the quality of diagnostic and healthcare accessibility for people living with HIV/AIDS and vulnerable to HIV infection.

### 3. Conclusions

HIV, TB and AIs remain a significant health threat across the reporting countries. The prevention and control of the diseases should be considered as public health priority. The timely treatment of HIV, TB and AIs is essential to reduce infectivity. Many infections due to asymptomatic character are not diagnosed or misdiagnosed (e.g. Chlamydia trachomatis) which facilitates the spread of the disease and elevate likelihood of additional complications. Reporting rates of HIV, TB and AIs vary across the countries, with differences in national surveillance systems and considerable overall underreporting. The HIV, TB and AIs are mainly associated with specific populations, except Chlamydia trachomatis which is common among teenagers and young adults, and the prevalence in the general population is low.

In most countries genital chlamydia infection is the most commonly diagnosed STI, with high increases in Western Europe. However, the increase in prevalence and incidence of CT may be linked to implementation of extensive screening programmes in the countries.

The decrease in gonorrhoea and syphilis rates have been more observed in Estonia, Latvia, Lithuania, Belarus and Northwest Russia than in other European countries, however the rates remain high. The increase in gonorrhoea and syphilis is observed in Denmark, Sweden and Finland mainly due to the increase of transmission in MSM.

HIV prevalence remain high and shall increase due to growing number of new infections (including imported from high endemic countries). HIV transmission routes vary between the countries. In Western Europe e.g. in Germany, the increase in HIV transmission among MSM has been observed whereas in Russia, Lithuania, and Latvia the majority of new HIV infections take place through heterosexual contacts and injecting drugs.

HCV incidence and prevalence are expected to slowly decline, if trends of non-injecting drugs continue. The number of prevalent infectious cases may decline due to successful treatment and implementation of screening recommendations among the key populations. However, there is huge difference between countries as for some of them (e.g. Russia) injecting drugs (e.g. among females who sell sex for drugs) remain a serious public health problem.

HBV incidence and prevalence are expected to slowly decline as a consequence of increasing immunity in the population. However, vaccination coverage is still suboptimal, and with high mobility, and migration we may still experience high incidence of new infections.

TB notification rates continue to decrease which is related to well-functioning TB prevention and control programs at the national level. In parallel in countries: Russia, Lithuania, Belarus, and Estonia we observe continuous threat and high prevalence of MDR-TB and XDR-TB.

Majority of new HIV, TB and AI infections are registered in big, capital cities and industrialised regions as these regions absorb people through offering a better social and employment opportunities (e.g. for migrants arriving from HIV/TB endemic countries).

Most countries possess national strategies and leading institutions responsible for reducing HIV, TB, and AI. They build on international guidelines developed globally and in Europe for TB control and for HIV/AIDS and STI prevention and care.

## 4. Challenges

Below the examples of generally outstanding challenges identified in the reporting countries:

### *In the area of prevention:*

- » Lack of effective forms of STIs primary prevention accompanied by low awareness of STI transmission routes among key populations.
- » Lack of data on HIV, TB and AIs knowledge, sexual behaviour, risk perception, and risk taking among the general populations as well as among the key populations.
- » Increasing HIV/STI trends among non-injecting population linked with a higher proportion of HIV transmission from PWID to their non-injecting sexual partners as well as the increasing HIV/STI trends among MSM.
- » Insufficient coverage by TB diagnostic campaigns.
- » Difficulties with collecting and reporting TB surveillance data.
- » In some countries absence of documents such as national testing guidelines, planning documents enabling evaluation of national disease programmes.
- » Lack of sustainable financing mechanism of disease prophylaxis.

### *In the area of treatment:*

- » High cost of HCV treatment. In some countries government-funded treatment is not available.
- » High number of undocumented migrants incoming from endemic countries who are vulnerable (or infected) to HIV, TB and AIs – not eligible for treatment and care in the arriving country.

## 5. Recommendations

HIV, TB and AIs prevention and control rely on effective strategies of controlling the spread of the diseases through improvement of the epidemiological surveillance, accurate and timely diagnosis, provision of effective treatment and care, health education and building knowledge on disease prevention among the key populations and the general public, providing

voluntary counselling and testing, early identification of asymptomatic individuals, notification and treatment of STIs in sexual partners, providing vaccination.

Below the list with the examples of recommendations provided by the reporting countries:

### *In the area of education and building knowledge on disease prevention:*

- » Develop HIV/STI prevention services in primary health care (GP training, e-learning modules on HIV/STI/hepatitis).
- » Build on existing European expert networks to review current interventions targeting vulnerable groups and to provide guidance and recommendations for effective sexual health promotion and HIV/STI prevention.
- » Build knowledge (use targeted campaigns) on the diseases among vulnerable groups and the general public – consider cultural and lingual barriers (migrants).
- » Organise education on safe sex practices among sex partners of persons from the key populations (bridging groups) to avoid generalisation of HIV epidemic.
- » Build political consensus and need of a high quality health communication based on evidence and research.
- » Identify good practices from countries (both theoretical and practical examples), case studies and research methods used to carry out prevention and control of HIV, Tb and AI. Use modern tools and techniques to collect and evaluate data (e.g. social networks).

### *In the area of disease prophylaxis:*

- » Increase and promote testing among the key populations.
- » Provide HBV vaccination to all.
- » Provide free and anonymous sexual health checks.
- » Broaden the coverage of syringe exchange and methadone therapy in PWID.
- » Improve condom use.
- » Promote TB prevention activities among PWID, and other key populations.
- » Improve access to low threshold free and anonymous HIV, STI and hepatitis testing and counselling.
- » Remove barriers to health care for the key populations. Improve access to care for undocumented migrants and other migrants without health insurance coverage.
- » Support local NGOs in activities aiming at HIV, TB, AIs prevention.
- » Follow international guidelines and recommendations (WHO, CDC, ECDC) that refer to HIV, TB, and AIs prevention, treatment and care.

### *Other recommendations:*

- » In general, improve surveillance of hepatitis B and C.
- » Strengthen harm reduction programmes among at risk populations.
- » Provide 100% reimbursement from the State budget for any STI, HBV, HCV treatment.

# APPENDIX 1 | BELARUS

Igor Karpov, PhD, MD

A chief epidemiologist of the country

## 1. General Information

As of October 1<sup>st</sup>, 2013 population of Belarus was 9,465,500. 15560 cases of HIV infection were diagnosed in Belarus since 1986, when first detection was registered. Currently, the total number of people living with HIV (hereinafter PLHIV) is 12,152 patients. The prevalence rate is 128,4 per 100,000.

During 11 months of 2013, 1,382 new cases of HIV were detected. For comparison, during the same period of 2012 1,133 new cases were registered. In other words, the 2013 incidence rate was 14,6 per 100,000 (22,7% higher in comparison with the same period of 2012 – 11,9 per 100,000).

Most of HIV cases – 7, 509 (prevalence rate is 383,4 per 100,000) – were registered in South-East of Belarus, specifically in Homel region. The respective

statistics for other territories is provided here: Minsk Region – 2,174 (129,3), in the city of Minsk – 2,234 (101,0), Mogilev Region – 934 (73,9), Brest Region – 1,217 (69,1), Vitebsk Region – 839 (56,0), Grodno Region – 653 (48,2).

The age group most affected by HIV are those between 15 and 29 years old. The number of PLHIV in this group is 8,760 and it is more than 56% of all HIV infected individuals.

Significantly lower is incidence among young people between 15–19 years old (1,4%). The number of young people among newly registered HIV cases decrease from year to year. For example, there are 1,4% of people 15–19 years of age among those infected in 2013, while the respective figure for 2012 was 1,8%.

## 2. HIV Transmission Routes

Cumulative data for 1987–2013 illustrate that 42,1% (6,544 patients) were infected HIV through blood-borne transmission (intravenous drug use). Officially the number of people with the sexually-transmitted HIV is 8,635 cases or 55,5%. Still, transmission of HIV through contaminated blood is of the great importance even now.

During the 11 month of 2013, blood-borne HIV transmission was registered in 184 HIV cases or 13,5% of infections. At same period of 2012, there were 233 cases or 20,6% related to blood-borne transmission. The sexual transmission of HIV infection in 2013 was reported for 1,174 registered cases (85,0%), in 2012 – 877 cases (77,4%).

As to gender breakdown, the percentage of men among PLHIV is 59,5% (9,265 patients), women – 40,5% (6,295 patients). Among the 2013 HIV registrations (11 months), men constitute 52,5% (726 patients), women – 47,5% (656 patients). The respective figures for 2012: men – 54,2% (614), women – 45,8 (519).

Since the epidemic's start, 2,462 children were born by the HIV-infected mothers, 219 of them during 11 months of 2013. Among children born from HIV-infected mothers, the HIV infection diagnosis is

confirmed in 228 cases. In total, 244 cases of HIV infection are registered among children in age group from 0 to 14 years of age.

Cumulative number of AIDS cases as of 01.12.2013 is 4,031. During 11 months of 2013, 408 patients were diagnosed with AIDS (for 11 months of 2012 the respective number is 560).

During the 11 months of 2013, 326 patients died, among them 201 people died of AIDS-associated complications (244 cases in 2012).

Chart 1. Number of newly registered HIV cases by gender, 2004–2012

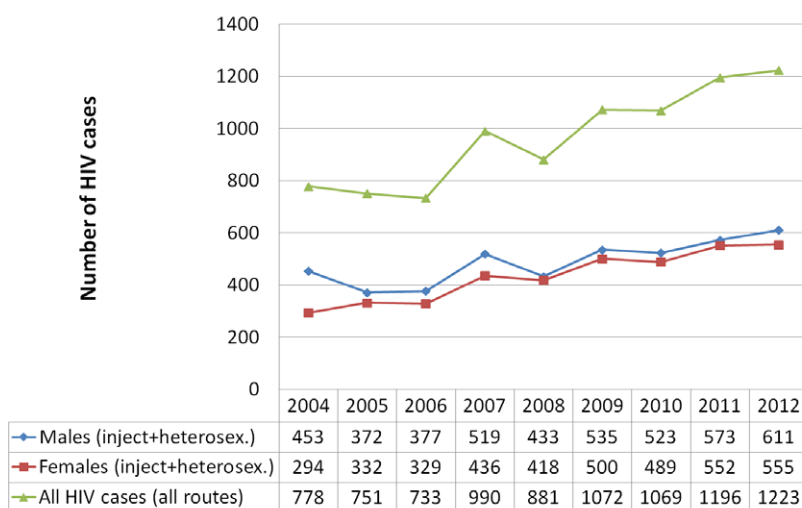


Chart 2. Newly registered HIV cases among men by reported route of transmission, 2004–2012

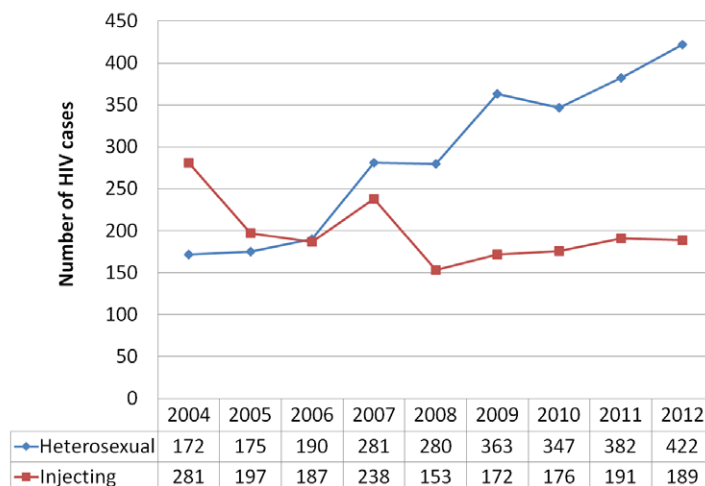
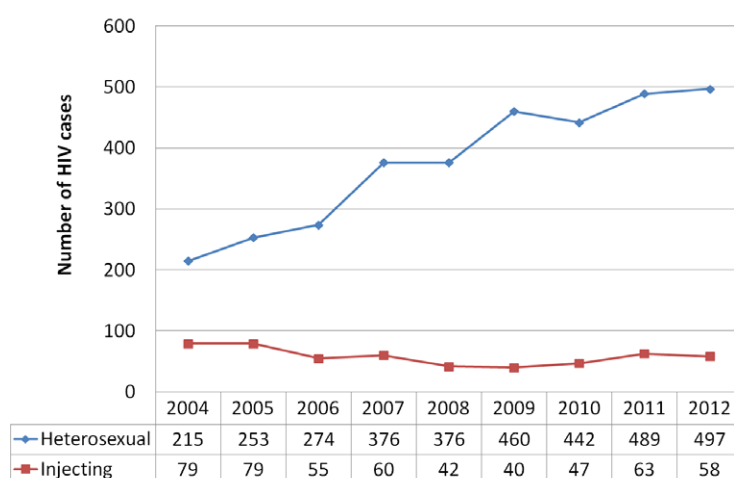


Chart 3. Newly registered HIV cases among women by route of transmission, 2004–2012



There were no cases of nosocomial HIV transmission during recent years. The total number of HIV-positive children from 0 to 14 years old is 246 (tested since 1986). Homosexual transmission took place at 9% of new cases in 2013. There were no nosocomial cases of HIV in 2013.

So, it is possible to say that sexual transmission of HIV is on the rise. Yet it is important to underline that about 60% of PLHIV are co-infected HCV that implies that the people who use injecting drugs (hereinafter PWID) are still the dominant group among PLHIV. Data on HCV prevalence among PWID is provided below.

In other words, the HIV issues including testing need to be considered in the context of drug use patterns and trends. Annually more than 850,000 HIV tests are performed among general population yet among PWID, only 4–5 thousands of them are among PWID. Accordingly, HIV testing should be focused on PWID more sharply.

Table 1. HCV incidence among PWID by years, 2009–2012

Years	2009	2010	2011	2012
Incidence of HCV among new cases of PWID registered, [%]	7,5%	4,6%	8,5%	15,9%



### 3. Needle Exchange Programs

Needle Exchange Programs (hereinafter NEP) were initiated at Belarus in 1997 and are continued now. All efforts are supported by the state HIV-prevention Programme and international foundations. From 2005 to 2010 the Global Fund to Fight AIDS, Tuberculosis and Malaria (hereinafter Global Fund) allocated more than 3,5 million USD for Needle/Syringe Exchange programmes in Belarus.

From December 2004 to June 2013 total number of customers of the NEP reached 46,523. During 6 months of 2013, 14,267 PWIDs were NEP clients. Total number of distributed syringes is more than 20 million; during 6 months of 2013 – 1,191, 325 syringes were distributed. Cost-effectiveness of NEPs for prevention of HIV and HCV was analyzed in 2011 by the Kirby Institute, University of New South Wales, Australia, with help from UNAIDS. According to their results, during 2005–2010 NEPs prevented from 32,6% to 44,2% of new cases of HIV among PWID and from 29,2% to 39,7% of new cases of HCV and saved from 7,9 to 12,5 million US dollars in treatment costs. NEP in Belarus are economically effective, and the long-run return is 2,3-3,6 times bigger than investments.

### 4. ART in Belarus

The ART is one of the most active programs initiated and is actively supported by medical professionals. It started in 1997, yet until 2005 only 168 people were recruited there. More intensive treatment process started from 2006, with the support from the Global Fund. From 2013 on financial contributions by government started. The Government's funds covered significant part of ART (about \$1,350 mln) in 2013.

As of November 1, 2013 5002 PLHIV or 41% of their registered number (21% of the estimated number PLHIV) received ART in Belarus.

Pilot opioid substitution treatment (hereinafter OST) programs were implemented for 115 clients in Gomel from October 2007 to October 2009. More intensive opening of OST centers in all regions started from late 2009. Currently more than one thousand people receive OST treatment in 20 OST centers. In prisons OST is not provided. OST programs are considered to have positive and significant influence to adherence to antiretroviral therapy (hereinafter ART) among PWID. But their reach among drug-users is very limited among.

Table 2. Incidence and prevalence of HIV among PWID by years, 2006–2012

Years	2008	2009	2010	2011	2012
<i>Incidence of HIV among newly-registered PWID, [%]</i>	-	5,0%	3,5%	3,0%	4,3%
<i>Prevalence of HIV among PWID, [%]</i>	16,7%	13,7%	n/a	13,3%	n/m

Health care costs for HIV take important place in forming general policy for patient care support. The ART for one patient cost 480\$ annually; total cost of ART in 2013 was \$2,4 mln, with \$1,9 mln provided by the Global Fund. All other expenses covered by government sources.

Cost of ART monitoring (laboratory tests and counseling) – \$137/patient/year– \$685 000 totally per year. Cost of HIV screening (testing and counseling) – \$2 615 000 per year. More than 900 000 tests for HIV were done in 2012.

The analysis of the HIV situation at Belarus shows that it is a complex problem, with medical and social implications. Although during recent years HIV was transmitted, mostly, through sexual contacts, injecting drug use has great influence over the

epidemiologic situation. Therefore main efforts must be focused on detecting HIV detection among PWID. Also, providing PLHIV with ART must be intensively increased.

## 5. Tuberculosis in Belarus

There are about 10,000 patients with active tuberculosis (hereinafter TB) in Belarus. About 5 thousand people get sick annually, however, every year their number decreases. Specifically, in 2012 the incidence decreased by 3,9% in comparison with 2011. In 2012 TB incidence in Belarus was 39,6 per 100,000 which is 3,9% lower in comparison with 2011 (41, 2%). The highest incidence of tuberculosis is noted in the Gomel and Mogilev Regions. During last 15 years TB mortality decreased by 29, 4% and now stands at 5,9 per 100,000.

Still, the TB situation in the country remains intense. First of all, it is related to high prevalence of MDR-TB. MDR-TB is diagnosed from 15% to 30% cases of active TB and among patients with HIV. According to WHO data prevalence MDR-TB makes in the world 26% among for the first time revealed patients and 60% – patients with recurrence. There are certain risk groups in this respect: migrants from the countries with high level TB prevalence, PLHIV and people released from penal institutions. Also to be noted is that socially-dislocated people are hard to reach with diagnostics and treatment so that the actual TB situation in this group is not clear and they may present concern for public health.

Implementing the “State TB Program for 2010–2014” and UN Technical Assistance Program “Introduction of Strategy of STOP TB in Belarus”, in particular, aimed at stopping the spread of MDR TB proceeds successfully. Significant budget contributions were committed to implementing the above-mentioned

state program in 2012, with 40,4% coming from local budgets and 59,6% – from the Global Fund. The considerable volume of allocations (43,3%) were spent on acquisition of drugs to treat patients with tuberculosis.

HIV/TB co-infection is a serious problem. TB is one of the most wide-spread infections among HIV-infected patients. This opportunistic infection is detected in 36% of the cases of those at the IV stage of HIV (AIDS). TB was responsible for 42% cases of HIV-associated deaths in 2011–2012. The same tendency remains in 2013. HIV/TB co-infection is the especially serious problem in Homel region.

Isoniazid prevention is available on limited scale. The main objective is to cover all PLHIV with TB prevention (isoniazid course) in 2014–2015. One of the problems related to prevalence of tuberculosis among HIV-positive patients is low level of motivation of patients to receive medical care and also that HIV infections are being detected late. For example, 125 patients (10,5% of their total number in 2011) were registered at the stage of AIDS.

## 6. HCV in Belarus

Viral hepatitis C (hereafter HCV) is one of the most actual and wide-spread medical problem all over the world, Eastern Europe and as well as in the Republic of Belarus. Estimated prevalence of HCV – 1–2% of population of Belarus (WHO Wkly Epidemiol. Rec. 2000).

Estimated number of people with HCV in Belarus is from 95 thousands to 190 thousand. From the moment of registration (1996), there are about 44 thousand cases of chronic HCV were registered and are under the medical control.

At the same time the incidence of acute forms of hepatitis C among the population is decreasing (in absolute numbers, annual registrations are under 80 cases). The incidence rate in 2012 is 0.8235 per 100,000, for those under 17 years it is 0,0559.

The increasing number of cases of chronic HCV is explained by changing the criteria for examination for virus hepatitis. Specifically, new contingents of people are being covered by examinations. The laboratory base of medical hospitals received new possibilities for detection, management and treatment. This disease is widespread among all social groups, however among persons practicing a risky behavior (injection introduction of narcotic substitutes, multiple sexual connections). HCV is more prevalent among them – by 7 times, according to some estimates. In particular, among the HIV-infected patients (significant number of them got infections via drug injections) prevalence of HCV is to 55–60% (about 6000 patients); among PWID it is 70%.

The main medical help and treatment for such patients is carried out at an out-patient stage on the basis of offices of infectious diseases in territorial out-patient establishments or are carried out by forces

Table 3. Number of HCV cases newly registered by year, 2009–2012

Year	Number of cases			
	2009	2010	2011	2012
Acute HCV	61	76	74	78
Chronic HCV	2114	1834	2095	2765
Carriers of HCV	3630	2760	2949	2674
Total number of new cases	5805	4670	5118	5517

of local therapeutic service. Medical actions include regular – 2 times per year – medical examinations, and after the transferred acute forms of hepatitis not less than 1 time in 2–3 months.

If necessary, additional examination and treatment at infectious hospital take place. It is system of consulting support by specialist of highest qualifications in all cases and for all social contingents. Specialized treatment for acute forms is available, and also anti-viral therapy regimes for HCV are provided.

There were programs supported by Global Found for treatment of HIV-positive patients with HIV/HCV co-infection in 2010–2012. It is important to note that treatment with interferon was available for free before 2009. 32 PLHIV received treatment in 2011–2012.

Treatment with short-term interferon among residents of Belarus started in 1996. It was free until 2008. Treatment by PEG-interferon + ribavirin started in 2003. Triple therapy is available and initiated at Belarus in from 2012.

## 7. STDs in Belarus

The number of the persons suffering from STDs in the last ten years has a tendency to decrease. Cases of syphilis decreased by more than 5 times, and gonorrhoea by two times. Similar tendencies are characteristic for trichomoniasis and the clamidiosis – both have been in decline since 2005. Medical care for these patients is provided by the system of venereology dispensaries, both in out-patient and hospital formats.

The number of syphilis patients has been in decline since the mid-90s. Compared to 2002, it was reduced by a half. The number of gonorrhoea patients has shrunk by 5 times since 2002. Similar trend is typical for Trichomoniasis and Clamidios. The therapy for these infections is widely available.

In recent years vaccination against a human papilloma virus infection became available. Two vaccines are officially registered and provided to patients. The

positive tendency to decrease in STD incidence still remains now. Trends in STD incidence in Belarus are presented in the Table 4.

Table 4. Sexual-transmitted infections in Belarus, 2002–2012

	<i>Syphilis</i>	<i>Gonorrhoeae</i>	<i>Trichomoniasis</i>	<i>Clamidios</i>
2002	58,8	66,3	268,4	155,3
2003	40,7	60,3	273,5	177,7
2004	41,1	61,2	293,3	204,7
2005	32,7	62,6	284,8	237,8
2006	27,1	62,5	242,8	219,9
2007	22,5	56,6	220,4	185
2008	19	50,3	195,7	165,6
2009	18	44	168,1	140,3
2010	12	36,6	149,5	113,3
2011	11,7	33,6	129	99,9
2012	10,3	35,6	106,8	111,3

## 8. Recommendations

### 8.1. Policy-level:

- a. active involvement of drug users in HIV-testing
- b. change national guidelines for HIV treatment in 2015
- c. promote patients' adherence to HIV treatment

### 8.2. Treatment-level:

- a. Treatment of HIV patients should be started from CD<500 cl.
- b. Introduction of new options in ethiology treatment of chronic HCV and HBV infection.

### 8.3. Prevention-level:

- a. Active support and introduction of OST treatment for HIV infected patients
- b. Active introduction of syringe exchange programs for drug users
- c. Improving adherence of patients in prevention of vertical transmission

## APPENDIX 2 | DENMARK

The incidence of HIV, tuberculosis, gonorrhoea, syphilis, genital chlamydia, hepatitis B and C DENMARK 2012 and 2009.

	2012	2012	2009	2009
	<i>per 100.000</i>	<i>total</i>	<i>per 100.000</i>	<i>total</i>
HIV	3,6	198	4,4	240
Tuberculosis (total)	7,1	392	6,1	338
Hepatitis B	0,4	21	0,4	23
Hepatitis C	4,1	224	4,9	272
Genital chlamydia	478,4	26.385	538,8	29.825
Gonorrhoea	12,5	659	10,1	561
Syphilis	6,3	345	4,6	256

Reference: EpiNorth, A cooperation project for Communicable Disease Control in Northern Europe.

# APPENDIX 3 | ESTONIA

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National Institute for Health Development, Estonia

## 1. HIV, TB & AIs Situation in the country

### 1.1. Country's background

Estonia is situated in northern Europe, in the Baltic region. It is bordered by the Gulf of Finland to the north, by Latvia to the south, by Lake Peipus and the Russian Federation to the east and by the Baltic Sea to the west. Estonia gained its independence in 1918, became part of the USSR at the beginning of the Second World War, and regained its independence on 20 August 1991. Since 1 May 2004, Estonia has been a European Union Member State.

The territory of Estonia covers 45,227 km<sup>2</sup> and is divided into 15 counties. The population is 1.29 million,

of which 69.8% are Estonians, 24.8% Russians, 1.7% Ukrainians, 1% Belarusians, and 3.4% are of other ethnic groups. The capital is Tallinn, with a population of 430,000 (542,900 with surrounding Harju county), thereby being the largest city in Estonia. The next most populous counties are Ida-Viru (in the north-east) with a population of 153,000 and Tartu county (in the south-east) with 150,000. The official language is Estonian, which is a Finno-Ugric language closely related to Finnish.

#### 1.1.1. Financing and organisation of health care

In Estonia, the Ministry of Social Affairs (MoSA) coordinates both health care and social affairs. The core purchaser of health care services is the Estonian Health Insurance Fund (EHIF) that operates under MoSA. EHIF covers the cost of health services required in case of illness, and this is independent of the amount of social tax paid by the person concerned. In 2013, about 96% of the total population was covered by national health insurance (25). In addition, MoSA covers emergency care from the state

budget, whereas the Ministry of Justice coordinates and finances health care in prisons (also from the state budget).

Primary care services are provided through general practitioners to everyone insured by EHIF or who hold Estonian passport (including Estonian alien's passport). In the latter case, funding of primary health care is partly covered by MoSA. To visit a medical specialist, a family physician's referral is required.

However, no referral is needed to visit a gynaecologist, pulmonologist (e.g. for tuberculosis treatment), infectious disease specialist (e.g. for HIV treatment), psychiatrist, dermatovenerologist, ophthalmologist, dentist, or in case of trauma.

All health services that are related to tuberculosis (TB) and HIV are financed from the EHIF and the state budget, and are therefore free of charge for all

patients, including those with no health insurance. Both antiretroviral (ARV) and TB medication are purchased directly by the MoSA. The state does not fully cover medications for the treatment of Hepatitis B (HBV) and C (HCV), syphilis, gonorrhoea and chlamydia, although in some cases it is possible to get supplementary benefit from the EHIF for pharmaceuticals (i.e. when the cost exceeds 384€) or compensation for medicinal products.

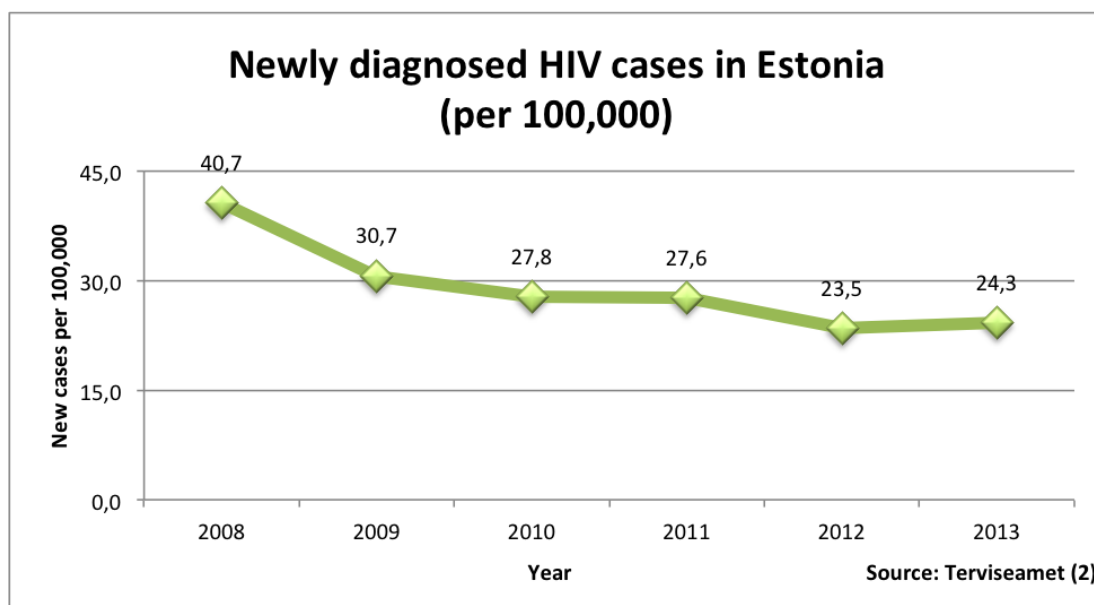
## 1.2. Epidemiological trends with respect to HIV, TB and AIs

### 1.2.1. HIV

The first HIV-case in Estonia was registered in 1988. In 1988–1999, the cumulative number of registered HIV-cases in Estonia was 96. In the second half of 2000, the number of newly diagnosed HIV cases increased rapidly, reaching a total of 1474 cases (108 per 100,000) in 2001. Although the number of newly registered cases has decreased ever since (24.3 cases per 100,000 in 2013), the overall number of HIV infected

people remains one of the highest in Europe. According to the Estonian Health Board (EHB), by the end of 2013, 8701 people had been diagnosed with HIV and 413 with AIDS altogether. (3) Lack of and poor management of harm reduction measures as well as low awareness among the risk groups have been named as some of the core factors to trigger rapid transmission of HIV in Estonia (1).

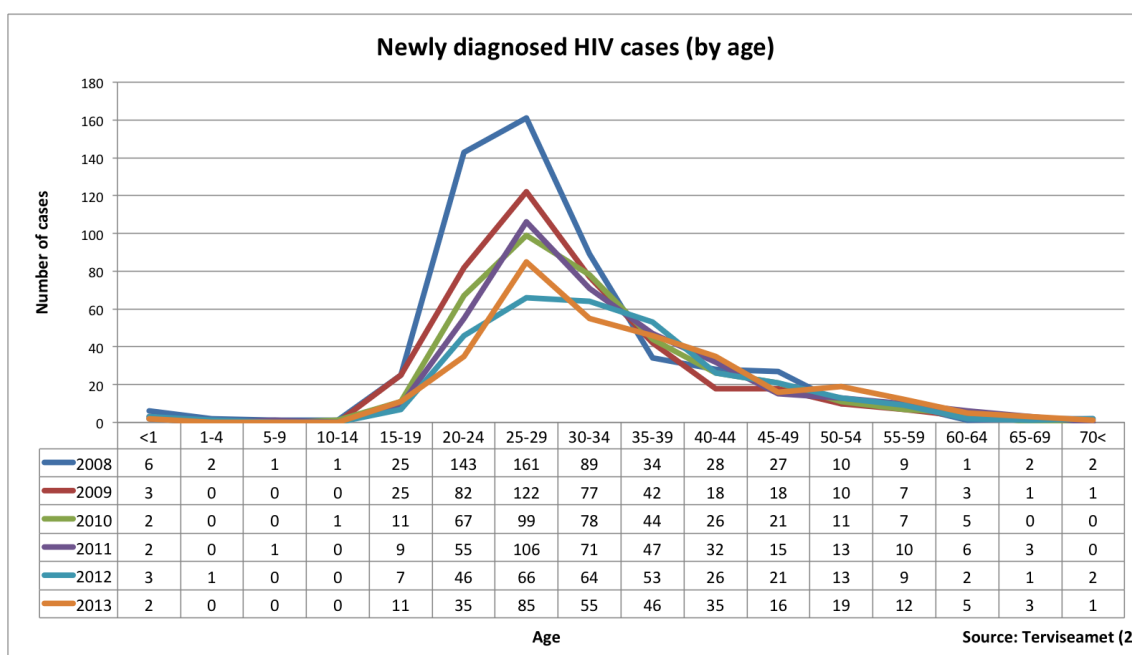
Figure 1: Newly diagnosed HIV cases 2008–2013 (per 100,000)



Geographically, the burden of the HIV epidemic has continuously been largest in Estonia's two biggest counties, Harju and Ida-Viru. Over 94% of new HIV cases were registered in those regions in 2013, of which about a half of them lived in the capital Tallinn. No clear trends are evident for the rest of the country.

Within the period 2008–2013, the number of newly diagnosed HIV cases has decreased over 40%. HIV continues to be diagnosed more among male population than female. When in 2000 about 20% of all new registered cases were among women, then throughout the period of 2008–2013, women accounted for over a third of newly diagnosed cases (38.5% in 2013).

Figure 2: Newly diagnosed HIV cases 2008–2012 by age



HIV is diagnosed among women at an earlier age than among men. During the period of 2008–2013, the age group with the highest rate of new HIV cases has been 20–29 years for women, and 25–34 years for men. The overall average age of newly diagnosed HIV cases has risen. When in 2008, over half of the newly registered HIV cases were aged 20–29, then since 2010, the majority of cases have been registered among 25–34-year old. A positive notion is that the number of HIV infected adolescents (aged 15–19) has dropped over a half comparing to the year 2008, and the number of HIV infected infants about a half. (Figure 2) Although the number of HIV infected infants has been relatively low, the percentage of HIV-infected pregnant women remains high (1% in 2012) (26).

The first case of AIDS was diagnosed in 1992, four years after the first case of HIV infection. The total number of people diagnosed with AIDS by the end of 2013 was 413. During 2008–2012, the number of AIDS-related deaths has somewhat increased from 42 in 2008 to 54 in 2012, and for example in 2011, there were 60 people lost to AIDS. (2)

There was no systematic data collection on HIV transmission routes among all newly diagnosed HIV cases until 2009 when new infectious diseases information system was launched by EHB. Since autumn 2009, HIV transmission data is mandatory to report, although there is still a great lack of data to have a comprehensive overview of the current situation



of HIV transmission. Nevertheless, some information that is available from the national HIV reference laboratory enables to make some estimations of previous HIV transmission routes. For example, in 1988–1999, HIV infection spread primarily through sexual transmission (both homo- and heterosexual), and since 2000, the main route of HIV transmission has been sharing of injecting equipment (18). In 2012, about 40.6% of the HIV infection was stated to have transmitted sexually, 22.5% parenterally and 35.6% of the transmission routes were unknown. In four cases (1.3%), the HIV infection was transmitted from a mother to a child. (2) Estimations based on expert opinions and data from AIDS Counselling Centres also suggest a possible increase in the proportion of sexual transmissions, especially among sexual partners of IDUs, and therewith a decrease in

the HIV transmission attributed to drug-injecting behaviour (20). In the majority of cases, HIV transmission routes have remained unclear, which also indicates the need to improve contact tracing among newly diagnosed TB cases.

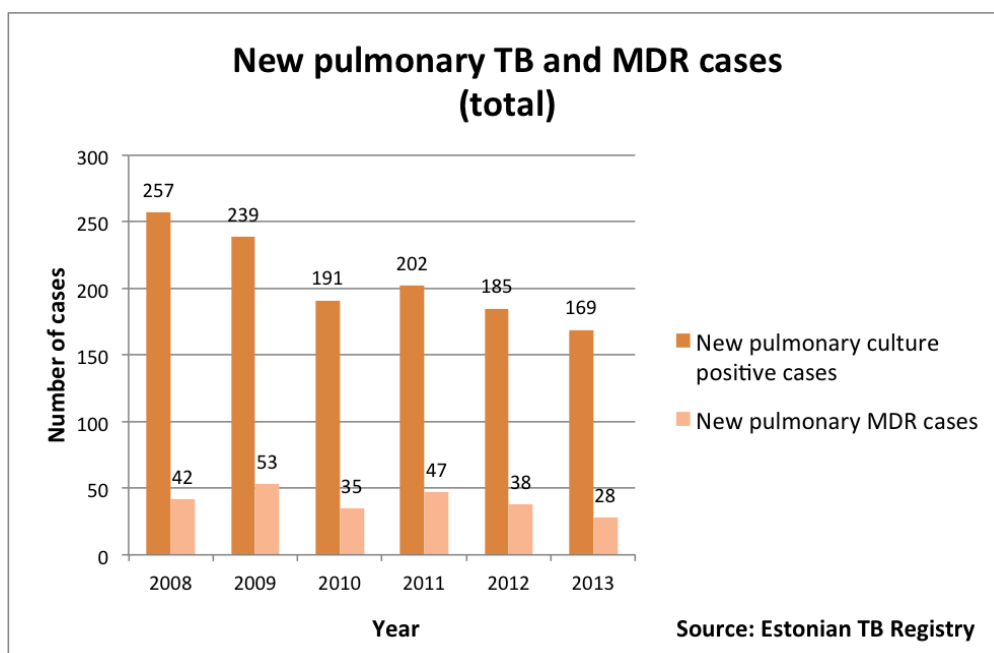
There is no systematic data collection on co-infections among newly diagnosed HIV cases apart from TB. It is also unknown how many HIV-infected people have died from causes other than AIDS. Throughout the period of 2008–2012, the overall number of HIV positive TB cases has remained generally stable, pending around 40 persons per year. Although there were less TB cases detected among people living with HIV (PLHIV) in 2012 than in 2008, there was a sudden rise in 2011, where 46 persons, 12 more than in 2010, were diagnosed with TB and HIV co-infection.

### 1.2.2. Tuberculosis

In the 1990's, Estonia witnessed a rapid increase in the incidence of TB, rising from 20.6 cases per 100,000 persons in 1990 to 49.6 in 1998. Ever since, the incidence of newly diagnosed TB cases has firmly decreased from 26.4 cases per 100,000 in 2008 to 17.9

in 2013, and the total number of TB relapse cases from 61 cases in 2008 to 38 cases in 2013. Despite these positive trends, TB prevalence in Estonia remains one of the highest in Europe. (15)

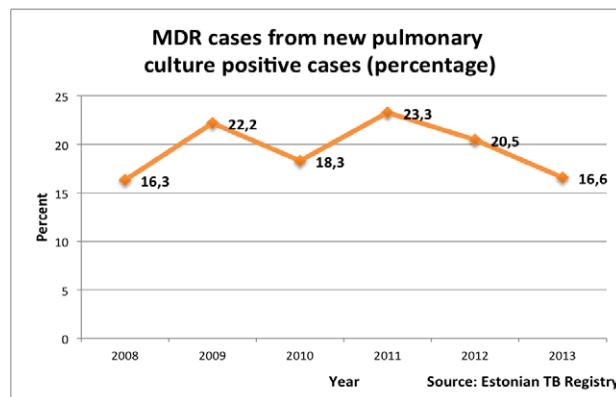
Figure 3: New pulmonary TB and MDR cases 2008–2013



There is a major concern over the increasing proportion of drug-resistant TB in Estonia. In 2012 over a quarter (34.6%) of all culture positive notified TB cases in Estonia were resistant to at least one anti-TB medication, of which, 74% were MDR cases. Although within the period of 2008–2013 the incidence of TB has in general decreased, the proportion of MDR-TB cases has remained high and is showing a growing trend. In 2008, MDR-TB formed 16.3% of all newly diagnosed pulmonary culture positive TB cases, whereas in 2012, the percentage had risen to 20.5% among new TB cases and to 21.5% among new and relapsed TB cases combined. The highest prevalence of MDR-TB among new TB cases was stated in 2011, when over 23.3% of newly diagnosed pulmonary culture positive TB cases were multi-resistant. (Figure 4) The occurrence of XDR-TB has decreased from seven cases in total in 2008 (both new and re-treatment cases combined) to five cases in 2013.

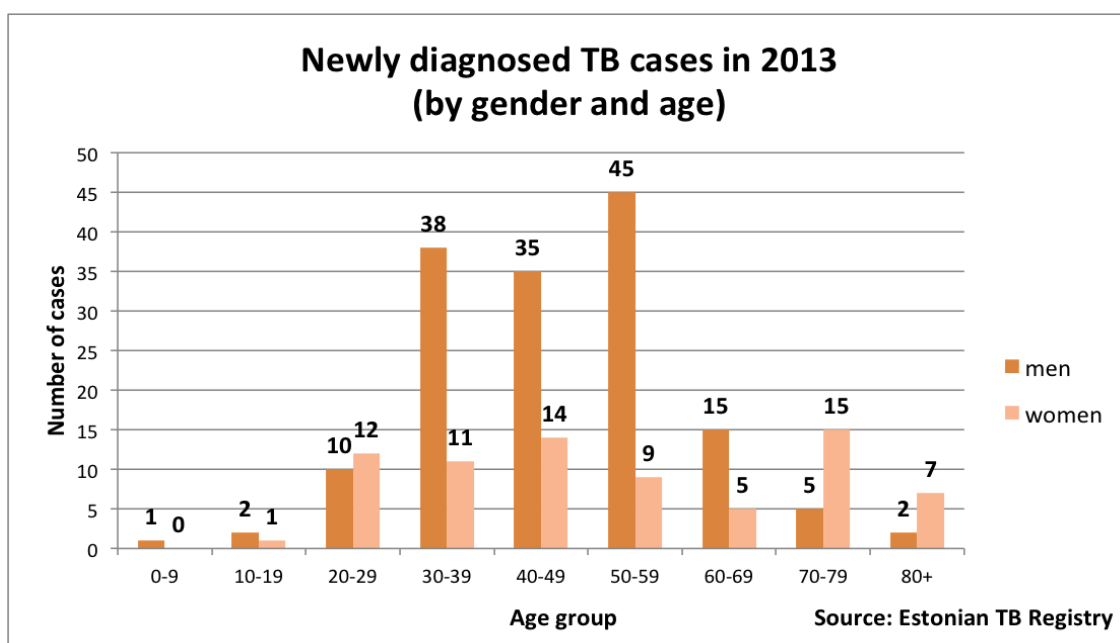
In recent years, the TB notification rates have decreased in most of Estonia’s counties, including in bigger cities. However, all counties except for the island Hiiumaa have had an incidence of at least seven new

Figure 4: MDR cases from new pulmonary culture positive cases 2008–2013 (percentage)



TB cases per 100,000 over the period of 2008–2012. Throughout those five years, the highest rate of TB has been stated in Ida-Viru county in northeast Estonia, where the incidence rate was 36.6 cases per 100,000 in 2012. In 2012, an increase of new TB cases in many other regions of Estonia was also noted. The highest prevalence of MDR-TB has been in Harju and Ida-Viru county, where 61.7% of all drug resistant TB cases were diagnosed in 2012. In 2012, 29.7% of all drug-resistant cases were situated in Tallinn alone. (2)

Figure 5: Newly diagnosed TB cases in 2013 (by gender and age)



TB rates have constantly been higher among male than female population (Figure 5). Over ⅔ of new TB cases and over 85% of relapses are diagnosed among men as well, whereas the proportion of women has decreased even more since 2008. Within 2009–2012, males comprised over 70% of the HIV-infected TB patients, of whom the majority was aged 25–34 years. Although the prevalence of MDR-TB and HIV co-infected women has remained low, the proportion of women among all HIV infected new TB cases has grown to almost a half within recent years. (2) There has been no continuous data collection on co-infections of TB patients other than HIV, as the majority of TB patients (over 90% of all new TB cases in 2012) are tested for HIV. The incidence rate of HIV infected TB patients has shown a slowly increasing trend. When in 2007–2010, about 9–10% of new and relapse

TB cases were diagnosed among PLHIV, then in 2011, this percentage was 12.9%, and in 2012 – 15.6%.

There is also a lack of population-wide data on the prevalence of latent TB infection (LTBI) in Estonia. Prophylactic treatment, such as isoniazid preventive therapy, is not universally provided as the rates of primary resistance to isoniazide and other first-line anti-TB drugs are high (18). Relatively little is known about the factors that cause the spread of TB and M/XDR-TB in Estonia. Nevertheless, the epidemical situation of TB and MDR-TB can be linked to the still-present HIV epidemic, as well as interlinked with such lifestyle factors as tobacco smoking and alcohol use that is highly prevalent among at-risk population (in addition to educational and social status, marginalization and poverty) (4).

### 1.2.3. Syphilis, gonorrhoea, chlamydia

Sexually transmitted infections (STI) are monitored by the EHB. Nationally notifiable infections include sexually transmitted chlamydia, syphilis, gonorrhoea and anogenital herpes. Incidence rates of the majority of the nationally registered STIs have decreased in recent years with an exception of gonorrhoea, which has increased from 10.9 cases per 100,000 in 2009 to 16.8 in 2012 (Figure 8). A similar increasing trend has been noted in all EU Member States (23).

During 2008–2012, syphilis has been diagnosed slightly more often among men, and gonorrhoea has been more dominant among women (Figure 8 and 9). A vast gender difference can be noticed in the incidence rate of chlamydia with more than 80% of the newly diagnosed cases in 2008–2012 being women (Figure 7).

Figure 6: New cases of chlamydia in 2012 by age and gender per 100,000

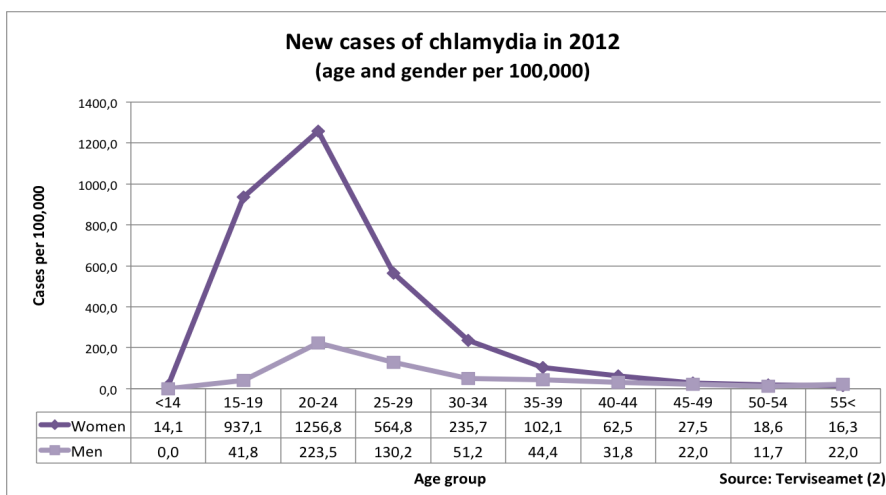


Figure 7: New cases of gonorrhoea in 2012 by age and gender per 100,000

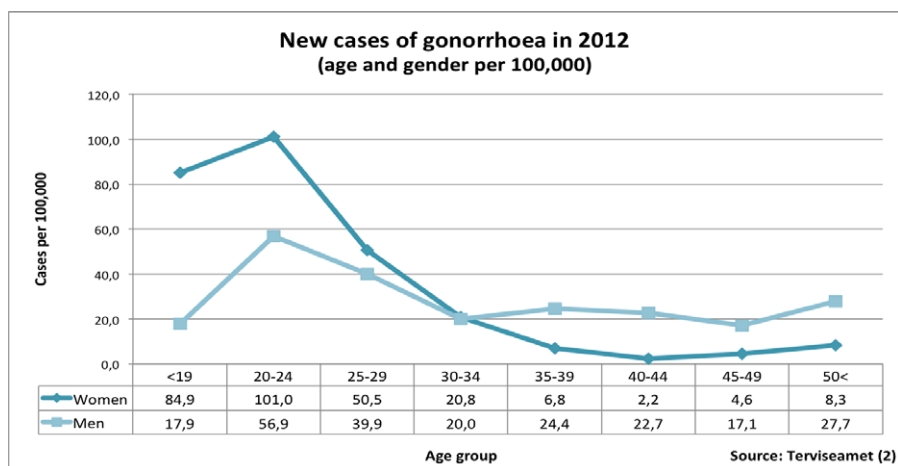
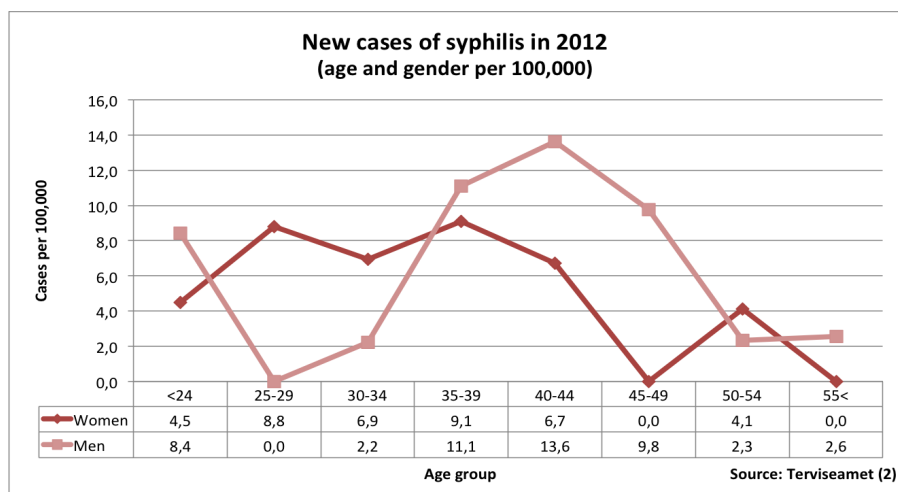


Figure 8: New cases of syphilis in 2012 by age and gender per 100,000



Highest rates of syphilis, gonorrhoea and chlamydia have been reported in the age group of 20–29-years, both among men and women. However, both gonorrhoea and chlamydia are diagnosed at an earlier age among women (15–19 years) than among men (20–29-years). Gonorrhoea is also diagnosed among men at older age than among women (about 20% of the cases between 2008–2012 were diagnosed between age 35–44, compared to 3% among women that age). (Figure 7, 8, 9)

Within STI services for people who inject drugs (PWID), diagnosis of gonorrhoea has not increased during the period of 2010–2012. However, in 2012, the number of chlamydia cases increased over 1/3 compared to 2010 and 2011. (10)

#### 1.2.4. HBV and HCV

Although in 1992–1998 there was a major increase in the incidence of acute HBV (six fold) and HCV (sixty fold), the rate of acute hepatitis cases has decreased since 2002 to 0.8 cases per 100,000 in HBV and 2.1 cases per 100,000 in HCV in 2013. That is especially apparent in Ida-Viru county, where within half a decade the occurrence of HBV has decreased from 4.7 cases per 100,000 to 0.7 in 2012. In other regions, the incidence of HBV or HCV shows no clear trends and no outbreaks have been registered. (2)

Many studies conducted among vulnerable populations have shown a high prevalence of HBV and HCV markers among PWID (for example 94% of PWID were positive for HCV antibodies in Tallinn in 2007 (8)). Research in community based harm reduction settings that provide services for PWID has shown an increase in the prevalence of HBV and HCV markers among PWID (although it is left unclear whether these results reflected the prevalence of active or chronic hepatitis) (6, 8, 10).

### 1.3. Most at-risk populations for HIV, TB and AIs

#### 1.3.1. Alcohol and drug abusers (including PWID)

PWID are considered one of the most at-risk populations for HIV, TB and AIs in Estonia. The estimated number of PWID in Estonia is close to 10,000 (19). Although there has not been any systematic data collection on the proportion of active PWID among TB, HIV patients or patients with associated infections (AI), various studies have reported high levels of social and behavioural risk factors in PWID that make them vulnerable to any of the mentioned communicable diseases. (8, 11–14)

Within recent years there has been a slight decrease in HIV transmission among PWID. When in 2001, PWID formed 90% of new HIV cases, 66% – 2003, 54% – 2007, and 48% – 2009, then by 2012, only a quarter of new HIV cases were diagnosed among PWID (10). Although in 2012 unprotected sexual intercourse was stated as the major transmission route of HIV (2), it remains unclear, whether those persons who have been infected with HIV sexually have been sexual partners of PWID (or other high-risk groups) or not. Thus, it is not possible to indicate a generalization of HIV epidemic as a great proportion of new infections continue to occur among PWID and their sexual partners, who may or may not be active drug users. (18)

High level of sexual and injection risk behaviour among PWID additionally explains the high prevalence of HBV and HCV markers among that population. A recent study conducted among 350 PWID in Narva revealed that around 27.4% of the participants had been diagnosed positive for HBV and 75.8% for HCV. Of all PWID included, 51.6% were tested positive for both HIV and HCV antibodies. (6) Nevertheless, the same study showed a decreasing trend of injecting risk behaviour among PWID, which can at least partly be contributed to the effectiveness of targeted and organised activities of syringe exchange programs in specific locations.

Heavy alcohol and drug abuse is also a concerning risk factor for TB. In 2010, doctors reported heavy alcohol and/or drug abuse in 44.3% of all registered TB cases and 78.3% in all TB relapse cases. In 2011, the percentage was only slightly lower, forming 43.8% of all registered and 75% of relapses. Over half of MDR-TB patients have been stated to have abused either alcohol or illegal drugs. The proportion of drug abusers among new HIV cases has also increased over the last three years. According to the data from EHB, of all new HIV cases 17% in 2010, 18% in 2011 and 28% in 2012 were diagnosed among drug users. (15)

### 1.3.2. PLHIV

PLHIV are considered to be at very high risk for TB and other infections. One of the biggest concerns within the past five-year period has been continuously high HIV prevalence among TB patients. When in 1997, there was only one HIV-infected TB patient registered in Estonia, the number had increased to 43 in 2012, constituting around 15% of all TB cases that year. There is also a higher prevalence of MDR-TB among PLHIV than among general population. In 2011, 32% (15 out of total 46 cases) and in 2012, 30% (11 out of total 37 cases) of all TB cases among HIV-infected patients were diagnosed with MDR-TB, whereas among

general population, the percentage of MDR-TB cases was 18% in 2011 and 16.7% in 2012. (15, 18)

Within 2009–2012, men comprised over 70% of the HIV-infected TB patients, although in recent years, an increasing trend can be noticed in the prevalence of women. The majority of HIV-infected persons with MDR-TB (nine out of 11 cases in 2012) have still been male.

No data are available on STI rates or testing among PLHIV.

### 1.3.3. Prisoners

Although prisoners are often considered to be a population at high risk for HIV, TB and HBV and HCV infection, the number of cases of these infections among prisoners in Estonia has remained low and has constantly decreased within past five years. As TB screening is mandatory for all prisoners and almost all prisoners also agree to HIV testing upon entry, then most of the cases are diagnosed already at entry to prison. The occurrence of TB cases in prisons has remained low (one to six cases per year). No HIV transmissions have been registered in recent years. (18) Data on AI rates and transmission within prisons are not available.

In a study conducted in 2008 among Estonian prisoners, 28% of all respondents (n=750) had used drugs at some time during imprisonment and more than a half of them had injected drugs (5). Another study conducted among PWID in 2007 stated that 49% of

drug users in Tallinn and 38% in Kohtla-Järve had been in prison, most of whom more than once. 38% of those imprisoned in Tallinn and 58% in Kohtla-Järve also said to have injected drugs during their most recent imprisonment (8).

Although opioid substitution treatment (OST) with methadone, directly observed TB treatment (DOT) and other health-related services are available in Estonian prisons, syringe exchange is not provided and the availability of condoms is relatively low (18). This in turn increases the risk of HIV or other blood-borne infections transmission due to unsafe injection practices and sexual activity. A high proportion of HIV positive prisoners (up to 20% according to the Ministry of Justice) highlights the probability of active TB disease and TB transmission among prisoners. Other risk behaviours such as tattooing may also cause transmission of blood-borne infections within prisons (1).

### 1.3.4. Sex workers

A research conducted among female sex workers in Tallinn in 2011 showed that the most commonly self-reported STI among the participants was chlamydia (24%, sample size n=202) (24). The prevalence of both HCV and HIV antibodies in 2011 was 6%, which was

a couple of percent lower than in a similar study conducted in 2006 (7). Although in general, the participants in 2011 study reported to have used condoms with a client over 94% of the times, sex workers still remain a high at-risk group for STI transmission (24).

### 1.3.5. Men who have sex with men (MSM)

The prevalence of HIV among MSM is estimated to be around 2–3% in Estonia, although there has been a concern that HIV-infected people may have been underrepresented in studies on what this estimation is based (18). Despite the relatively low estimated percentage of HIV-infected MSM, various studies show that nearly half of gay-men have stated to have never been tested for HIV and even fewer for STIs (21, 22). Additionally, around a half of MSM who participated in the European MSM Internet Survey 2010 (Estonian sample size n= 612) said not to have used condoms during anal sex during last 12 months. This has raised a concern around the possible future increase in transmission of STIs and HIV in that

subpopulation as well as in general population, as 56% of the participants also said to have had sex with women during last 12 months, of whom, only 21% stated to have always used a condom and 40% had never used a condom. (22)

Interventions that target MSM have not been a priority on national-level. Within the past few years, HIV rapid testing campaigns have been organised in gay clubs in Tallinn, but there is still a lack of MSM-friendly sexual health services available in Estonia. Thus, more emphasis is needed to put on promoting safe sex among MSM to decrease the risk of STI transmission among MSM.

## 1.4. Providing treatment care and support for PLHIV, TB and AI patients (including to-be-addressed issues)

### 1.4.1. TB

DOT has been applied in Estonia since 1998. Although HIV, TB and drug-treatment services are often provided in different locations by different institutions, ARV, OST and other psychosocial services are mutually available for patients receiving ambulatory or stationary TB treatment. Within recent years, significant improvements have been made to strengthen patients' adherence to their TB-treatment and to address their other needs besides TB-treatment, such as drug or alcohol addiction. In 2006, a TB department with 30 beds in Viljandi Psychiatric Hospital was opened that provides psychiatric treatment in addition to TB treatment, as many of the TB patients often have additional psychiatric diagnosis (including addiction). However, treatment outcomes do not improve as fast as desired and the proportion of defaulters and failures remains high, especially among M/XDR-TB patients. Therefore, it can be argued that the current outpatient care and support for TB treatment is in need of improvement both in its implementation as well as availability.

Since 2011, TB patients with alcohol problems are offered simultaneous psychiatric and medical treatment with Naltrexone, thereby aiming at decreasing social problems and limiting patients' alcohol consumption in the long term. Despite quite satisfactory outcomes of the program, better monitoring of adherence to the treatment with Naltrexone in ambulatory care is needed, as many of the patients tend to start using drugs/alcohol again after their release from the hospital, often resulting in a high proportion of relapse of TB cases. (15)

Efficient and sustainable collaboration between different service providers needs to be established to improve TB treatment outcome and strengthen adherence among patients who are homeless, mentally ill and/or active drug abusers. In addition, such comprehensive approach would hold the greatest promise for comprehensive TB screening among PWID as well as treating and curing PWID with TB and other communicable diseases.

#### 1.4.2. HIV

HIV related healthcare services are provided in specialized infectious disease departments in Tallinn, Narva, Kohtla-Järve, Pärnu, Tartu and also in all Estonian prisons. Patients on combined antiretroviral treatment (cART) usually visit hospital once a month to get their monthly supply of ARV drugs. HIV patient management and antiretroviral monitoring is based on guidelines developed by the Estonian Society for Infectious Diseases. EHIF covers the costs of HIV treatment for insured patients, the MoSA for uninsured patients, and the Ministry of Justice for prisoners.

No central data have been collected neither on adherence and discontinuation rates of cART nor on viral resistance among all PLHIV who receive the treatment, making it difficult to get a comprehensive overview of the efficiency and overall situation of HIV treatment. However, that kind of monitoring is highly recommended and needed, as the number of people receiving cART has been growing steadily.

Psychological support services are available for PLHIV and their close ones. Support and self-help

groups are also organized by PLHIV themselves and supported from the state budget. Such services are also provided in all prisons. In addition, harm reduction programmes, infectious diseases departments and other similar organisations offer their clients behaviour change counselling, but their outcome is difficult to estimate, as no data of such interventions or the sexual behaviour of PLHIV are available.

Thus, there is still a need for a more comprehensive approach that would include treatment of drug abuse (or other substance abuse), infectious diseases (e.g. HIV, TB, HBV and HCV) as well as psychosocial supportive measures and testing to tackle additional problems of PLHIV and to ensure their adherence to cART. Although HIV testing has been made easily available for the majority of population, access to (routine) HIV testing for vulnerable groups still has to be improved. In addition, there is a grave concern that many people testing positive do not reach the healthcare system afterwards. Therefore, post-test counselling as well as referral to healthcare and support services needs to be improved.

#### 1.4.3. AIs

Gynaecologist, dermatovenerologists and family physicians usually manage the diagnosis and treatment of STIs. Services related to STIs are free of charge for all those who are covered by health insurance or are up to age 24. The Estonian Sexual Health Association manages such youth counselling centres and their services in 18 cities around the country, providing HIV/STI testing and individual sexual and reproductive health counselling. In some centres, services related to STIs are provided free of charge (independent of health insurance) also for people older than 24 years. One such centre that works mainly with sex workers is situated in Tallinn and two centres in northeast of Estonia work with PWID and their sexual partners.

Services related to hepatitis are provided by infectious disease doctors and gastroenterologists, and are free of charge for all people with health insurance.

There is a strong need for improving STI surveillance among PLHIV and HIV risk groups, since the increasing transmission of STIs such as gonorrhoea shows the increase in the occurrence of sexual risk behaviour. Services that provide counselling, screening and treatment of STIs should be made better accessible for at-risk groups as well as PLHIV to prevent the transmission of STIs both among at-risk and general population.



## 2. Analysis of national HIV, TB and AIs responses

### 2.1. Description of governmental coordination, management and financial support for HIV, TB and AIs response

#### 2.1.1. TB

Estonia reached a countrywide coverage of DOT by the year 2000. The first TB prevention program was implemented in 1998–2003, the second in 2004–2007 and the third national TB prevention strategy covered the period 2008–2012. Since 2013, TB prevention program has been incorporated into the National Health Plan 2009–2020. Estonia has also taken the aim to fulfil the Stop TB targets for 2010–2050 to reduce TB prevalence and death rates by 50% compared to the levels in 2010 as well as to assess the barriers that hinder reaching the targets set in the strategy.

Since 2001, all TB-related services have been funded from Estonia's domestic sources. Financing TB treatment and other additional services has been divided between MoSA and the Ministry of Justice. The

situation of TB prevalence in Estonia's population has changed over the years, requiring new and better approaches that would address the present needs. Thus, in 2013, Estonian Government shifted their emphasis to controlling the TB epidemic by highlighting early detection both among at-risk groups (e.g. PLHIV) and their contacts, as well as to preventing the spread of M/XDR-TB within the population.

One substantial step forward to ensure provision of integrated care to TB patients with substance addictions was taken in 2013, when it was decided that in 2014, EHIF will take over the financing of substance addiction treatment of TB patients. Therewith it is ensured that necessary psychosocial rehabilitation services are provided to all patients who receive stationary TB treatment and ensuring their sustainability.

#### 2.1.2. HIV

In 2005, the national HIV and AIDS strategy for 2006–2015 was developed with a goal to achieve a constant decrease in the newly diagnosed HIV cases in Estonia. The strategy comprises activities both in health and other related sectors, as well as the coordination of activities between them. The overall priorities of the national HIV and AIDS strategy include developing HIV-related health and social support services for PLHIV, harm reduction for PWID and prevention work for young people, with an emphasis on those population groups that are at higher risk. Within the HIV and AIDS strategy, a high-level multisectoral HIV and AIDS committee was created as an advisory body for its central coordination of the

implementation. This committee includes representatives of all the relevant ministries (Social Affairs, Education and Research, Justice, Defence and Interior), municipalities and counties, Parliament (the Social Committee), the office of the Prime Minister, four thematic working groups (i.e harm reduction, prevention, treatment and care, monitoring and evaluation), PLHIV and the youth organizations' union. The four thematic working groups include specialists and both governmental and nongovernmental organisations who work in the field of HIV.

In the last decade, there has been a considerable strengthening of political will and an increase in the

state funding of HIV prevention, treatment and care. However, the financial crisis in 2008 caused a reduction of state budget allocations for the implementation of national public health strategies, including for HIV and drug prevention. Until 2007, resources for the implementation of activities were collected from the state budget, gambling tax, EHIF, as well as from local and foreign funds, such as Open Estonian

Foundation, foreign embassies, Family Health International, the European Commission, GFATM, the WHO Regional Office for Europe and many more. When the Global Fund support to Estonia's HIV response ended in 2007, the government took over the financing of its implementation and at the present time, around 99% of the funding comes from the state budget.

### 2.1.3. AIs

Apart from some nation-wide public campaigns that raise awareness about hepatitis A, B and C, TB, human papilloma virus as well as encourage the use of condoms (although condom use is often mentioned in the context of HIV prevention), there have not been any outstanding strategies by the government to manage AI response. Treating previously mentioned AIs is covered by the EHIF only for those who are insured or under 24-years of age. Moreover, medicines for treating AIs are covered by the EHIF only partially, depending on the patient and treatment costs (e.g. for students, elderly or whose medicine costs extend 374€ a year.)

Both TB and HBV vaccination are in the recommended immunization list (all children are vaccinated in the first 6 months of life with a three-dose series against HBV and in the first five days of life against TB). For children born in 1994–2003, HBV vaccination is provided free of charge at age 12–13. For adults, vaccination for HBV and TB is recommended to those whose working conditions or travel destinations increase the risk of infection. In most cases, HBV and TB vaccination is financed by the person him/herself, or by the employer, as the EHIF does not cover the vaccines. However, HBV testing is recommended to all prisoners and vaccination is offered free of charge to all those who test negative.

## 2.2. Legal environment

In 2003, the Riigikogu (Parliament) passed the Communicable Diseases Prevention and Control Act into law, allowing the enforcement of involuntary isolation and treatment of patients with communicable diseases by court order up to 182 days. Involuntary isolation and treatment is enforced on patients who repeatedly default on TB treatment and endanger both themselves as well as others with their disease. Ever since, involuntary treatment of TB has been applied in the TB Department of Viljandi Psychiatric Hospital over 140 times, of which for more than ten patients, it was implemented several times (15).

Since 1st of January 2012, the administrative penalties imposed on people who use drugs include more

use of referral to rehabilitation services. This amendment enables to put more emphasis on dealing with the core of the problem that had evoked the illegal act and caused the arrest, such as addiction to drugs. In addition, this enables to detect both infectious and other diseases among at-risk groups at an early stage as well as prevent new assaults related to drug abuse from taking place.

Intentional or reckless infection of another person with an infectious disease such as HIV is considered to be a crime in Estonia. The person who has been charged with a criminal offence can be whether fined or imprisoned for up to three years. Upon now, no cases of criminal HIV transmission are known.

Estonia has also relatively strict data protection laws that prohibit sharing any personal medical information without the patient's permission. However, depending on the threat that the infected person may

pose to those in contact with him/her, then the safety of the population prevails the data-protection law of the individual.

### 2.3. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

In 2011, a mid-term evaluation of the Estonian national HIV/AIDS strategy 2006–2015 and National Strategy for Prevention of Drug Addiction 2005–2012 was conducted by UNODOC and WHO, recognizing Estonia's strong political commitment to respond both to HIV and TB effectively (9). During those years, many improvements had indeed been achieved. Although there was an expression of doubt by experts that the goal set by National Strategy to have less than 20 new HIV cases per 100,000 a year by 2015 would be reached within that timeframe, the decrease of new HIV cases since 2006 has been significant, reaching quite close to the National Strategy goal in 2013 (24.6 cases per 100,000).

Nevertheless, the large number of PLHIV, late diagnosis of HIV, late start with and a relatively low coverage of ARV treatment still continues to hinder the fight against HIV epidemic in Estonia. It would be recommendable to improve active case finding by expanding HIV testing to wider audiences, make pre- and post-test counselling as well as supportive services during treatment better accessible and improve collaboration between different services who work with general populations as well as risk groups. (16) In a larger scale, a need for stable sources of finance and a better comprehensive monitoring and data collection has also been expressed to achieve the aims that have been set in previously mentioned strategies (26).

There have been two major prevention programs for TB implemented in Estonia: the Tuberculosis prevention program 2004–2008 and National tuberculosis prevention strategy 2008–2012. One of the national

prevention strategy goals to reduce the number of new TB cases to 20 per 100,000 was achieved already in 2010 and 2011, when the number of new cases per 100,000 was 18.7 and 19.8 respectively. Estonia's political engagement and results of the professional's work in the prevention and management of TB has also been recognized by WHO, noting that universal coverage and access to TB services have been ensured to the entire resident population, regardless of their insurance or legal status (17).

In August 2010, a joint mission by WHO/GLC and ECDC experts was conducted to Estonia. The mission concluded that Estonia was firmly moving towards becoming a low TB-incidence country, despite some economic difficulties. However, the high rate of M/XDR-TB, TB/HIV co-infected patients and concentration of TB in vulnerable populations remains a concern and in need of effective approach.

One of the main current development document of the health field in Estonia is the National Health Plan 2009–2020 (NHP) which aims at setting a national policy framework for addressing current and future challenges to the population's good health. NHP assembles a large number of strategic documents and development plans of different domains that previously existed independently. From 2013, National Drug Prevention Strategy until 2012 and National Tuberculosis Prevention Strategy for 2008–2012 also form a part of the NHP. The current Action Plan of NHP for 2013–2016 was approved at the end of 2012 and includes activities such as implementing the guidelines for HIV testing and referring HIV-positive

individuals for treatment as well as improving young people's awareness of HIV infection, its transmission modes and safe sex. For example, a campaign

„Condom is Sex“ was launched in 2013 to raise awareness of HIV and promote safe sex among general population.

### 3. Challenges (issues to be addressed)

There is lack of knowledge about current and previous trends because of deficient surveillance data. Thus, improvement of surveillance and collection of data on communicable diseases is needed; especially regarding co-infections, risk behaviour and transmission routes. A high quality and comprehensive data would enable to better identify and foresee the core issues and causes of the changes in trends of TB, HIV and AIs in Estonia.

More emphasis should be put on the improvement of early detection of new HIV, TB and AI cases among at-risk populations as well as general population. A high proportion of infected people are estimated to be unaware of their status, thereby unknowingly infecting their contacts with communicable diseases. That can especially be the case with general population, among whom the transmission of HIV and STIs, such as chlamydia, gonorrhoea and syphilis, has increased during recent years. In addition, as the EHB data on transmission routes revealed, sexual transmission of HIV was dominant in 2012, suggesting that potential for the increase of sexual transmission among the general population is still a concern.

On the one hand, stigmatisation of HIV, TB and drug abuse continues to hinder harm reduction among at-risk populations by keeping them from seeking help if any symptoms of complications occur. On the other hand, the same stigmatization may accelerate the spread of infectious diseases among the general population who may consider themselves at low risk and not engage in safe behaviours and testing. Although terms “at-risk” and “general” are often used separately, it should be borne in mind that in reality, they are closely linked.

Regarding TB, the main challenge remains tackling M/XDR-TB among at-risk as well as general population. Although there have been many improvements in providing TB treatment combined with psychosocial support and activities among substance users (whether alcohol or drug users), weak adherence and high relapse rates remain challenges that need to be addressed even more sharply, especially in the context of the increasing prevalence of MDR-TB and HIV in Estonia. High rate of co-morbidities is also a challenge that needs to be addressed quickly, as it makes effective treatment of TB as well as other diseases more complicated. Thus, integrated approach is needed for people with multiple diseases to improve their treatment outcome. In addition, prophylactic treatment should be made better available for those at high risk of developing TB disease (e.g. isoniazid preventive therapy for PLHIV).

As the TB and MDR-TB epidemic is often linked to the high prevalence of HIV, alcohol abuse, tobacco smoking and poor socio-economical status, it is recommended that TB-related services take those aspects of challenges more into account when working with vulnerable population. This way, TB and M/XDR-TB management and treatment outcome can be improved and the further transmission of those diseases prevented. (4)

Better engagement of and more interactive collaboration between health care and community based settings has to be emphasised to improve and strengthen existing means to detect and treat TB, HIV, STIs or other AIs among vulnerable populations. Updated training programs must be provided systematically

to personnel who work (or who may come across) with at-risk populations. Establishing active referral systems between health care and harm reduction settings would also be of great help to improve collaboration. This in turn would enable to detect more new cases of previously mentioned diseases and start treatment at an earlier stage, thereby facilitating the treatment and anticipating better outcome (or, in case of hepatitis and HIV, better quality of life). Effective and fast collaboration between different service providers would also function as an alternative to “one-stop shop” which establishment would

perhaps require more material and timely resources than mere strengthening and redirecting the use of already existing resources.

Carrying out campaigns to raise awareness of TB and AIs among at-risk as well as general population is also recommended, as during recent years, more attention has been put on informing about HIV than about TB or AIs. Emphasis should also be continuously put on campaigns and activities that aim to raise awareness of safe sex (and not just in the context of HIV prevention), thereby motivating the use of condoms.

## 4. Conclusions and recommendations

Within two decades, Estonia has witnessed great changes in the field of infectious disease, both for the better and worse. In past few years, the overall trend has been rather positive, as in most cases, the incidence of STI, HBV, HCV, TB and HIV has reduced slowly but firmly, both in rates as well as in absolute numbers.

Harm reduction services for PWID have become more numerous and better accessible among the target group over the past decade. In 2012, 37 syringe exchange programs altogether were offered in nine organisations in Estonia. Most of the services are provided in Tallinn (including its surrounding areas), Ida- and Lääne-Viru counties. Many of needle and syringe exchange programmes in Estonia also provide additional harm reduction services such as HIV testing and psychosocial counselling. Needle and syringe exchange programs are often important links between at-risk populations and social or healthcare services, including drug addiction treatment and rehabilitation. However, harm reduction services are provided only in Harju, Ida- and Lääne Viru and Järva county. Injecting drug use, however, has also been reported in other regions in Estonia, such as Tartu. Thus, re-estimation of current

situation and needs for intervention in other regions should be conducted.

In addition to needle and syringe exchange, OST is also provided for PWID in nine different locations in Estonia. The main substitute used in OST in Estonia is methadone. In 2012, 1157 people in total received OST (26). The number of patients in Tallinn has increased over the years, yet in northeast of Estonia, a decreasing trend can be noted. Methadone is also provided alongside with ARV as well as anti-TB drugs for TB patients who receive both inpatient as well as outpatient treatment.

The proportion of sexual transmission of HIV is at increase (e.g. compared to parenteral transmission) and estimated to continue among PWID and their sexual partners. Despite the generalization of the HIV epidemic not being predicted, it still remains a great threat that Estonia has to take into account when planning its future preventive activities and strategies in this field. Testing for blood borne and sexually transmitted infections as well as for TB should be scaled up in all settings. Post-test counselling, more active partner-counselling and better contact-tracing services need to be improved and made better

accessible for those at risk as well as for those who are distant from bigger urban settings.

An increasing trend in the prevalence of HIV among non-injecting population can be linked to a higher proportion of HIV transmission from PWID to their non-injecting sexual partners. Relatively high percentage of pregnant HIV infected women also indicates the need for better promotion of safe sex among vulnerable groups. Better accessibility to sexual health counselling would help to detect early and thereby reduce the transmission of STIs as well as prevent unplanned or unwanted pregnancies. Such activities could be integrated with already existing services in harm reduction centres that are targeted at at-risk population.

Harm reduction among at-risk population is crucial to contain the HIV, TB and AI epidemical situation. One mean to prevent a vast transmission of such communicable diseases is to prevent it at the source, which in Estonia's case would be among at-risk population groups such as PWID and PLHIV. Prevention, early detection and good accessibility to high quality treatment of HIV, TB (especially its resistant forms) and other co-infections should remain among the highest priorities in Estonia's health policy. Although there have been some positive trends in that area in recent years, especially in the field of TB, the continuous and relatively fast spread of MDR-TB (especially among PLHIV) is a big concern and should be approached before the situation gets out of control and Estonia faces yet another epidemic to tame.

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# APPENDIX 4 | FINLAND

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## 1. HIV, TB & Associated Infections (AI) Situation in Finland

### 1.1. Country's Background

Finland had a total population of about 5.4 million at the end of 2012. The proportion of foreigners was 3.6 percent of the population.

General planning, direction and supervision of health promotion are the responsibilities of the Ministry of Social Affairs and Health. The National Institute for Health and Welfare (THL) is a research and development institute under the Ministry of Social Affairs and Health. For the organization of specialized medical care (e.g. HIV treatment), Finland is divided into 20 hospital districts.

THL maintains National Infectious Diseases Register (NIDR). All Finnish microbiology laboratories notify to the NIDR; reporting is mandatory. Physician notifications complement laboratory notifications. Reporting is done by using unique person identifier number. HIV, TB, hepatitis B and C, syphilis and gonorrhoea are notified both by laboratories and treating physicians. Chlamydia cases are reported only by laboratories.

## 1.2. Epidemiological Trends with Respect to HIV, TB and AIs

### HIV

By the end of 2012, the total number of new HIV infections ever reported in Finland was 3061 (1980–2012).

Data in the NIDR indicates that at the end of 2012 there were around 2400 people living with HIV 2400 (44/ 100 000) who were aware of their HIV status in Finland.

#### 2008–2012

No significant changes have occurred in the annual number of new HIV cases, means of transmission or gender distribution over the past five years.

- » The annual number of cases varied between 147 and 184
- » 66% of the cases were reported in the Hospital District of Helsinki and Uusimaa.
- » Men accounted for 68% of the cases.
- » Foreigners accounted for 45% of cases.
- » The majority of the cases were in the age groups 24 to 29 (17%) and 30 to 34 (18%).
- » Mode of transmission: 49% heterosexual contact, 27% MSM, 5% IDU, 1% MTC, 1% blood products both 17% unknown.

#### 2012

- » 159 new cases of HIV were reported (2.9/100,000)
- » 58% the cases were reported in the Hospital District of Helsinki and Uusimaa
- » The highest incidence on Åland (10.7/100,000) in the Hospital District of Helsinki and Uusimaa (5.9/100,000)
- » Men accounted for 71% of the cases.
- » Foreigners accounted for 44% of cases.
- » Average age at the time of diagnosis 38.2 years.
- » Mode of transmission: 46% heterosexual contact, 30% MSM, 5% IDU, 1% MTC, 1% blood products both 17% unknown.
- » Country of transmission: 18% Finland, 65% abroad, 17% unknown

## Tuberculosis

The incidence of tuberculosis was still very high less than 40 years ago (about 160/100.000) in Finland. Numbers have since rapidly decreased, and at present the numbers remind much those of the other Nordic countries.

An expected moderate increase has occurred in the annual number of new TB cases during 2008–2012, mainly due to the increasing number of migrants. MDR-TB and double infection TB-HIV have been at a continuing low level.

### 2008–2012

- » The annual total number of new TB cases during 2008–2012 was 346 in 2008; 411 in 2009; and 275 in 2012.
- » The incidence per 100.000 was 6,5 in 2008; 7,7 in 2009; 6,0 in 2010; and 5,1 in 2012.
- » Foreign born accounted for 15,3% of the cases in 2008 and 28% of the cases in 2012.
- » Half of the cases (60%) occurred in elderly Finnish people. As this group is decreasing in numbers, the age profile of new cases is getting younger, along with increasing migration
- » treatment outcomes: 89% cured in 2008, 94% cured in 2010.
- » 1 case of MDR TB was reported in 2008, thereafter the number has been 4–6 cases yearly
- » 81 cases of double infection TB-HIV have been reported during the period 1996–2011.
- » the changed TB vaccination policy in 2006 (only risk groups), does not seem to have increased TB cases among children less than 5 years old

### 2012

The number of detected cases decreased during 2012. The age profile got younger and the amount of foreign born contracting tuberculosis increased. The first XDR TB case was detected. The general drug resistance situation remained very satisfactory.

- » 275 new cases of tuberculosis were reported (incidence 5,1/100.000)
- » 2 cases of MDR TB were reported
- » 1 case of XDR TB was reported
- » foreign born or migrants accounted for 28% of the cases
- » average age of foreign born at the time of diagnosis was 15–44 years

## Gonorrhoea

By the end of 2012, the total number of new gonorrhoea infections ever reported in Finland was 4802 (1995–2012).

### 2008–2012

The annual number of cases of gonorrhoea was growing during last five years.

Increasing number of MSM cases was reported

- » The annual number of cases varied between 198 and 314
- » 62% of the cases were reported in the Hospital District of Helsinki and Uusimaa.
- » Men accounted for 74% of the cases.
- » Finns accounted for 83% of cases.
- » The majority of the cases were in the age group 24 to 29 (23%)

### 2012

- » 314 new cases of gonorrhoea were reported (5.8/100,000)
- » 59% per cent of the cases were reported in the hospital district of Helsinki and Uusimaa
- » The highest incidence in the hospital district of Helsinki and Uusimaa (12.1/100,000) and in the hospital district of North Karelia (8.2/100,000)
- » Men accounted for 71% of the cases
- » Finns accounted for 83% of cases.
- » Average age at the time of diagnosis 33.2 years.
- » Sexual infections among men: 32% MSM, 42% heterosexual contact, 27% unknown
- » Country of transmission: 53% Finland, 33% abroad, 13% unknown

## Syphilis

By the end of 2012, the total number of new HIV infections ever reported in Finland was 3343 (1995–2012).

### 2008–2012

No significant changes have occurred in the annual number of new syphilis cases

- » The annual number of cases varied between 199 and 213
- » 49% of the cases were reported in the hospital district of Helsinki and Uusimaa.
- » Men accounted for 65% of the cases.
- » Foreigners accounted for 43% of cases.
- » The majority of the cases were in the age groups 35 to 29 (15%) and 40 to 44 (14%)

### 2012

- » 206 new cases of syphilis were reported (3.8/100,000)
- » 42% per cent of the cases were reported in the hospital district of Helsinki and Uusimaa
- » The highest incidence was on the Åland Islands (14.2/100,000) and in the hospital district of South Karelia (8.3/100,000)
- » Men accounted for 62% of the cases.
- » Foreigners accounted for 41% of cases.
- » Average age at the time of diagnosis 47 years.
- » Sexual infections among men: 22% MSM, 23% heterosexual contact, 2% both and men and women, 53% unknown
- » Country of transmission: 30% Finland, 38% abroad, 32% unknown

## Chlamydia

By the end of 2012, the total number of new chlamydia infections ever reported in Finland was 235593 (1995–2012). No notifications are made by physicians.

### 2008–2012

No significant changes have occurred in the annual number of new syphilis cases.

- » The annual number of cases varied between 12839 and 13871
- » 32% of the cases were reported in the hospital district of Helsinki and Uusimaa.
- » Women accounted for 59% of the cases.
- » Finns accounted for 95% of cases.
- » The majority of the cases were in the age groups 20 to 24 (40%)

### 2012

- » 13249 new cases of chlamydia were reported (249/100,000)
- » 33% per cent of the cases were reported in the hospital district of Helsinki and Uusimaa
- » The highest incidences were reported on Åland (396/100,000) and in the hospital districts of Lapland (302/100,000)
- » Women accounted for 59% of the cases.
- » Finns accounted for 94% of cases.

## Hepatitis B

By the end of 2012, the total number of new HBV infections ever reported in Finland was 8083 (1995–2012). The number of acute hepatitis B infections reported annually these days is very low compared to the late 1990s. The low number of new infections is mainly due to enhanced vaccination coverage. Targeted vaccination of risk groups was begun in Finland in 1993 and extended in 1998. Travellers also commonly take the vaccination.

### 2008–2012

No significant changes have occurred in the annual number of acute HBV cases.

- » The annual number of HBV cases varied between 244 and 355
- » Most cases (91%) were classified as chronic hepatitis B.
- » The majority of patients with chronic hepatitis B were foreigners.
- » The annual number of acute cases was low varying between 35 and 18

#### • Acute HBV

- » 59% of the acute cases were reported in the hospital district of Helsinki and Uusimaa.
- » Men accounted for 74% of the acute cases.
- » Finns accounted for 71% of acute cases.
- » The majority of the cases were in the age groups 25 to 29 (19%)

### 2012

Total of 248 cases (4,6/100 000)

#### • Acute

- » Only 18 acute cases of HBV were reported (0.3/100 000)
- » Men accounted for 71% of the acute cases.
- » Finns accounted 72% of the acute cases.
- » Mode of transmission: 44% heterosexual contact, 17% other and 39% unknown.

#### • Chronic

- » The number of chronic hepatitis B infections reported was 230 (4.2/100,000)
- » Foreigners accounted 85% of the acute cases.

## Hepatitis C

By the end of 2012, the total number of new HCV infections ever reported in Finland was 26 705 (1995–2012). The National Infectious Diseases Register does not distinguish between acute and chronic HCV infection. A very high percentage, around 80%, of intravenous drug users have been found to have HCV antibodies.

### 2008–2012

No significant changes have occurred in the annual number of HCV cases. The annual number of HCV infections peaked at just over 1900 in 1997. Thereafter, the figure decreased until 2009 and has remained stable ever since.

- » The annual number of HCV cases varied between 1042 and 1165
- » 34% of the cases were reported in the hospital district of Helsinki and Uusimaa
- » Men accounted for 65% of the cases.
- » Finns accounted for 88% of cases.
- » The majority of the cases were in the age groups 20 to 24 (24%) and 25 to 29 (23%)
- » 52% of infections were acquired through intravenous drug use, in 36% of the cases the mode of transmission was not known.

### 2012

- » 1165 new cases of HCV were reported (249/100,000)
- » 31% per cent of the cases were reported in the hospital district of Helsinki and Uusimaa
- » The highest incidences were reported in the hospital districts of Länsi-Pohja (30/100,000) and South Karelia (33/100,000)
- » Men accounted for 67% of the cases.
- » Finns accounted for 87% of cases.
- » Average age at the time of diagnosis 31 years.
- » 55% of infections were acquired through intravenous drug use, in 35% of the cases the mode of transmission was not known.



### 1.3. Most-at-risk populations for HIV, TB and AIs

Populations most-at-risk for HIV in Finland include men who have sex with men, injection drug user and foreigners from high prevalence countries. No significant changes have occurred in the annual number of new HIV cases in these populations. The other vulnerable groups identified are: travelers, sex workers, prisoners.

The number of annual HIV cases reported 2008–2011 associated with MSM varied from 36 to 50. In MSM population, the incidence and prevalence of HIV are significantly higher than in the general population in Finland (No recent prevalence or behavioural data is available; the latest study in 2010. The proportion of late diagnosis is rather high; HIV new testing and preventions approaches are needed.

The number of annual HIV cases reported 2008–2011 associated with IDU varied from 7 to 13. Among IDUs prevalence of HIV is higher than in the general population. However, effective preventive measures including needle exchange and have kept infections at

a low level following the HIV epidemic at the turn of the millennium. No recent prevalence or behavioural data is available; the latest study in 2009.

Foreigners accounted 45% of the annual cases in 2008–2012. The majority of infections were acquired through heterosexual contact abroad; probably most of them before arrival in Finland.

The tuberculosis in Finland is at present mainly concentrated to risk groups. Treatment of older people suffering from several diseases, persons with immigrant background, substance abusers and those suffering from drug-resistant tuberculosis are the challenges. In the neighbouring countries of Finland, Russia and the Baltic States, drug resistant tuberculosis is an increasing problem, as it is in the countries from which the majority of immigrants to Finland arrive. Increasing travelling and immigration from these areas may influence the tuberculosis situation in Finland. A few “mini-epidemics” have occurred during the last years in different parts of Finland.

### 1.4. HIV, TB and AIs situation among General Population

UNAIDS estimates that HIV prevalence in general population is around 0,1%. HIV and AIs are mainly associated with specific

populations, except chlamydia which is common among young adults, and the prevalence in the general population is low.

### 1.5. Providing treatment care and support for PLW H, TB and AIs patients (including to- be-addressed issues)

All necessary and clinically indicated treatment and care is guaranteed free-of-charge to those who have been infected with HIV or AIs and who are eligible for Finnish social security benefits, i.e. have a legal residence status in Finland. Since the health services are restricted to those having a residence permit in

the country, temporary visitors are entitled only to strictly necessary emergency treatment, unless they have a private health insurance covering the costs of other treatment.

## 2. Analysis of National HIV, TB and AIs Response

### 2.1. Description of government coordination, management and financial support for HIV, TB and AIs response

Ministry of Social Affairs and Health has a general responsibility for guiding and overseeing health promotion in Finland. National Institute for Health and Welfare under the Ministry of Social Affairs and Health is responsible for surveillance of infectious diseases, characterizing risk factors for infections, proposals of evidence-based control measures, guidelines to health care professionals and the general public. The municipalities have the responsibility to implement infectious disease control measures.

Prevention of HIV-infection is integrated into the public health, social welfare and educational system of Finland, through the publicly funded municipal basic services and national or local level information dissemination and targeted campaigns. Cooperation between public actors (government, regional and

local authorities) and civil society (NGOs) is active especially in prevention activities. NGOs play central role in preventing HIV in Finland. The NGOs receive a large part of their funding from government or other public national sources.

A National Tuberculosis Program has been initiated by the Finnish Ministry for Health and Social Affairs 2006 (revised 2013). The main goals are efficient treatment, efficient prevention, reduced risk of contracting the disease and improved knowledge and skill of the health care staff, with special reference to the primary health care and the occupational health care. A national TB expert group has been formed, to be consulted at any time. The National TB program has been well received.

### 2.2. Description of normative framework and legal environment

The Act on Communicable Diseases from 2004 obligates municipalities to provide health counselling for PWID in their area, including exchange of injecting equipment. In 2011, Finland had around 30 health counselling centres in 23 towns.

The criminal law applies to those who transmit HIV and to those who expose others to the risk of HIV infection.

### 2.3. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

National HIV strategy 2013–2016 and Reproductive and sexual health program – published in spring 2014.

### 2.4. Treatment, care and support for PLWH, TB and AIs Patients

Testing and treatment of STIs, hepatitis and TB are free for all persons permanently living in Finland.

### 3. Challenges (issues to be addressed)

Finland does not have sufficient data on the HIV and AIs knowledge, sexual behaviour, risk perception and risk taking among the general population and still lack relevant information on knowledge and behaviour of some important key populations at higher risk for HIV exposure.

Men who have sex with men continue to be among the key populations at higher risk for HIV-infection in Finland. Prevention activities need to be enhanced and secured.

Needle and syringe exchange is not available in any Finnish prisons.

The possibility to receive free-of-charge STI treatment (and other social benefits) is depending on the residence permit status and the length of work period of the migrant and thus access to treatment is not equally available to all mobile population.

NGOs play central role in preventing HIV in Finland. They receive majority of their funding from external funders according to project proposals. More long-lasting funding is needed.

Travelers need more information about risk of HIV and other STIs.

Generic criminal legislation (the Criminal Code) has been used to prosecute and convict a number of individuals for both exposure and transmission of HIV without disclosure of own positive status.

The National Tuberculosis Program identifies the following challenges to achieve the goals of the Program:

- a. increasing knowledge of the population and the health care staff of symptoms and risk factors of TB
- b. provision of treatments in accordance with care recommendations, in problematic cases consulting the national expert group
- c. directly observed therapy for all patients
- d. measures aimed at risk groups should be intensified and infection control at hospitals improved
- e. investigation and examination of those exposed to infection should be started immediately, and mini epidemics shall be controlled as soon as possible
- f. the treatment of latent tuberculosis infection will prevent development of the disease in those with a high risk contracting it, and with a good adherence to treatment
- g. BCG vaccination of risk groups will prevent in particular serious types of tuberculosis in children
- h. the tuberculosis monitoring system shall be improved
- i. research on tuberculosis will be increased
- j. international cooperation on tuberculosis will be continued

## 4. Conclusions

Disease	Challenges
HIV infection	<ul style="list-style-type: none"> <li>» improve condom use</li> <li>» increase testing among risk groups</li> <li>» needle and syringe exchange in prisons</li> <li>» more information to risk groups and the general population</li> <li>» implementing the coming reproductive and sexual health program</li> </ul>
Tuberculosis	<ul style="list-style-type: none"> <li>» improvement of the population and health care staff on symptoms and risk factors of tuberculosis</li> <li>» efficient treatment including DOTS</li> <li>» efficient prevention including the increased treatment of LTBI</li> <li>» reducing the risk of contracting the disease</li> <li>» attention on the role of primary health care and occupational health care</li> <li>» increasing the capacity to meet challenges posed by patients with immigrant background</li> <li>» the implementation of the revised National Tuberculosis Program</li> </ul>
Gonorrhoea	<ul style="list-style-type: none"> <li>» improve condom use</li> <li>» increasing gonorrhoea resistance</li> <li>» implementing the coming reproductive and sexual health program</li> </ul>
Syphilis	<ul style="list-style-type: none"> <li>» improve condom use</li> <li>» implementing the coming reproductive and sexual health program</li> </ul>
Chlamydia	<ul style="list-style-type: none"> <li>» improve condom use</li> <li>» increase tests for Chlamydia</li> <li>» implementing the coming reproductive and sexual health program</li> </ul>
Hepatitis B and C	<ul style="list-style-type: none"> <li>» improved surveillance</li> <li>» extended screening of hepatitis</li> <li>» hepatitis B vaccination to all</li> <li>» a national anti-hepatitis program to be considered</li> </ul>

# APPENDIX 4 | GERMANY

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## 1. HIV, TB & AIs Situation in Germany

### 1.1. Country's Background

Germany is a federal republic consisting of 16 federal states after the reunification of the Federal Republic of Germany (BRD) and the German Democratic Republic (DDR) in 1990. With approximately 80 Million inhabitants it is the most populous and economically strongest member state of the European Union. Slightly more than 50% of the total population is currently employed or self-employed.

Due to immigration, the size of the German population is currently stable, despite the fact that approximately 200,000 more inhabitants are dying per year than are newly born. Slightly more than 8% of the population living in Germany are non-German citizens, about 20% have some migration background (either migrated themselves to Germany or at least one of the parents migrated to Germany). The majority of migrants in Germany originated from Central and Eastern Europe (WHO definition), particularly from Turkey, Poland, Russia, Kasachstan, countries of the former Yugoslav Republic, and Romania.

With regard to Hepatitis B and Hepatitis C and to Tuberculosis (TB) most or all of these countries have higher prevalence and incidence in the general

population than Germany. With regard to HIV the prevalence in Germany is higher, except for Russia.

In the relatively small group of migrants from Sub-Saharan Africa and from South-East Asia, particularly from Thailand, HIV is substantially more prevalent than in the German general population.

The health care system in Germany is largely privatized. Health insurance is mandatory, with approximately 10% of the population having a private health insurance and 85% having a statutory health insurance. Primary health care is provided largely by private general practitioners. Hospital care is partly privatized, partly publicly co-funded. Budgeting and decision making in health care is largely done by self-governing bodies consisting of representatives of health insurances, private physicians, and hospitals, with limited competences for federal and state governments.

Homosexuality has been stepwise decriminalized since 1969. Since 2001 an officially recognized partnership is possible. Legal differences between marriage and this officially recognized partnership have been stepwise eliminated, mostly by constitutional

court decisions. An antidiscrimination law which specifically prohibits discrimination based on sexual preferences has been in place since 2006. A large and publicly visible gay community exists.

Social discrimination of homosexuals has diminished in recent decades: politicians, artists can be openly gay without risking adverse reactions. However, in some areas discrimination still persists: E.g., no active premier league football player has outed himself as gay so far (the first ex-premier league footballer outed himself recently in Jan 2014).

Intravenous drug use and drug addiction are regarded as chronic disease, not as criminal offence. Harm reduction measures for intravenous drug users ranging from low threshold drop-in facilities to free needle and syringe exchange, oral opioid substitution therapy, supervised drug consumption rooms up to heroin prescription schemes (for long-time addicts) are in place.

However, needle exchange in prisons has not been implemented (with one exception) despite favourable results of model projects, due to resistance from politics and prison staff, and availability of oral opioid substitution therapy in prisons may be limited.

Sex work is legal in Germany. The composition of sex workers has changed rapidly in recent years: a large proportion of female and male sex workers presently originate from new EU member states in central and Southeast Europe. Many of them don't have health insurance, and also German language skills are often lacking. Increased prevalence of bacterial STI has been found in sex workers who work on the street and not in established settings, who only recently started to work, who have bad language skills, no health insurance coverage, and no established contacts to local public health offices, which offer free STI testing and counselling.

## 1.2. Epidemiological Trends with Respect to HIV, TB and AIs

HIV, TB and AIs prevalence in the country including geographic breakdown prevalence and incidence breakdown by age, gender and transmission routes

### *HIV prevalence and incidence*

As of end of 2012, the number of people living with HIV in Germany has been estimated at around 78,000, which is slightly less than 0.1% of the population. Almost 81% (n=63,000) were male, slightly less than 20% were female. Prevalence in males peaked at 325 men living with HIV per 100,000 males in the age group 45–49 years, among females the most affected age group with 90 women living with HIV per 100,000 females was 35–39 years.

Most prevalent infections have been acquired sexually, approximately 51,000 by sex between men; 17,000 by sex between men and women, among which around 44% have likely been acquired abroad; 8,400

by sharing of equipment among intravenous drug users, and less than 500 each by mother-to-child transmission and blood transfusion or treatment with blood products.

Incidence of new HIV infections in Germany (excluding infections acquired abroad) has been estimated at around 3,400 in 2012. Approximately 3,000 infections (88%) occurred in males, 400 in females (12%). More than 93% of all new infections were acquired sexually, around 2,500 (74%) by sex between men, and around 600 (18%) by sex between men and women. Transmission by shared drug injection equipment was responsible for approximately 200 new infections. While heterosexually acquired new HIV infections

were distributed almost equally across age groups 20–59 years, homosexually acquired new HIV infections peaked at around 20 per 100,000 males in the age group 20–24 and declined steadily in higher age groups. Assuming 3% of adult males being men having sex with men this would translate into an incidence of 7 new infections per 1,000 MSM per year in the age group 20–24.

Prevalent and incident HIV infections are geographically disproportionately distributed in larger cities, and prevalence is still substantially higher in the western part of Germany compared to the eastern part. This reflects for one the concentration of populations at increased risk (MSM, IDU, Migrants from high prevalence regions) in larger cities, on the other hand the earlier start of the HIV epidemic in the western part of Germany compared with the eastern part. However, among young MSM incidence of new HIV infections is meanwhile similar in western and eastern parts of Germany, and generally the disparities between the largest cities and the rest of the country are declining.

### *TB incidence*

In Germany, a total of 4,317 tuberculosis (TB) cases were notified in 2011. The TB incidence rate was 5.3 cases per 100,000 population, a further decrease from the rate of 5.4 cases per 100,000 (4,388 cases) reported for 2010. The observed reduction in TB cases in the last two years was smaller than in previous years.

Tuberculosis incidence in males was 6.3 cases per 100,000 population while it was only 4.2 in females (men to women ratio of 1.5). This gender-specific difference was particularly pronounced in adults of 40 years of age or older. The age-specific incidence was the highest in persons 70 years of age or older (7.9 cases per 100,000 population; 11.0 in men and 5.7 in women). Another peak was found in young adults (age group 25–29 years; incidence 6.6 cases per 100,000 population), which was mainly attributed to a population of non-German origin.

Tuberculosis incidence in foreign nationals residing in Germany was 22.1 cases per 100,000 population, being 6.5 times higher than the incidence in German citizens (3.4 cases per 100,000 population). The largest difference was observed in children and young adults. Overall 60.5% were German and 39.5% had foreign nationality. Patients of foreign nationality had a younger median age than German nationals (median age: 37 vs. 58 years).

Approximately half (50.9%) of all patients were born in Germany, while 49.1% of cases were reported among immigrant populations coming predominantly from Turkey and the Newly Independent States of the former Soviet Union (NIS).

Site of disease: 3,346 cases (79.6%) had pulmonary tuberculosis. Potentially infectious (sputum- smear or culture positive) pulmonary tuberculosis was markedly more frequent (2,586 cases, incidence 3.2 cases per 100,000 population) than non-infectious pulmonary tuberculosis (760 cases, incidence 0.9 cases per 100,000 population). Around one third of the pulmonary cases (1,133/3,346; 33.9%) were smear positive and thus highly infectious. Extra-pulmonary tuberculosis alone was diagnosed in 856 cases (20.4%). The most common site of extra-pulmonary involvement was lymph nodes (431/856; 50.4%).

### *Hepatitis B prevalence and incidence*

Based on health survey data from a representative population sample, prevalence of acute or chronic Hepatitis B virus infection in the general population in Germany is around 0.3%, increasing with age. Routine childhood immunization against HBV has been recommended in Germany since almost two decades. Lower vaccination coverage and higher prevalence of HBV in the countries of origin are thus the likely reasons for an increased HBV prevalence among children and adolescents with a migration background.

Incident new infections with HBV may often not be recognized and reported due to no or non-specific symptoms prompting diagnosis. Thus, only a part of all new infections will be diagnosed and reported. The case definition for epidemiological surveillance of HBV in Germany currently requires laboratory markers for acute HBV infection and clinical symptoms. Consequently, many new infections will be missed, be it that they are not diagnosed or do not meet the current case definition. In 2012, just 679 cases meeting the case definition of acute symptomatic HBV infection have been reported in Germany, resulting in an incidence of 0.8 infections per 100,000 population. Incidence was higher in males compared to females (1.2 per 100,000 vs. 0.5 per 100,000). Reported incidence in males peaked in the age group 30–39 years with 2 acute symptomatic infections per 100,000 males, in females peaks at 0.9 per 100,000 were observed among 30–39 old females as well as among 20–24 old females. Information on modes of transmission is scarce: the dominant mode of transmission (~50%) seems to be sexual, followed by close household contacts with a virus carrier, and sharing of drug injection equipment. A disproportional large share of sexual transmission is observed among MSM.

The majority of chronic HBV infections in Germany are diagnosed among migrants.

### *Hepatitis C prevalence and incidence*

Based on health survey data from a representative population sample (2008–2011), prevalence of Hepatitis C virus antibodies in the general population in Germany is around 0.3%, increasing with age, and with no significant differences between genders. Approximately two-thirds of antibody positive persons are virus carriers. However, since a very important population at risk for HCV, intravenous drug users, are not well represented in this kind of surveys, the real population prevalence may be slightly higher.

Since laboratory tests are unable to discriminate between longstanding and recently acquired Hepatitis C virus infection, newly diagnosed HCV infections do not necessarily represent actual HCV incidence. Nevertheless, almost 5,000 cases of newly diagnosed HCV infection have been reported in Germany in 2012, representing an incidence of 6.1 new diagnoses per 100,000 in the general population. The highest incidence of HCV diagnosis among males was 19.2 per 100,000 in the age group 30–39, while among females the highest incidence was less than half as high and was observed in age groups 25–39.

Because the time when infection occurred remains often unknown, information on modes of transmission is limited. Among modes reported, sharing of drug injection equipment among intravenous drug users is the most frequent. Higher numbers of new HCV infections among males compared to females are compatible with a higher proportion of males among intravenous drug users. In addition, in the last decade a newly emerging HCV epidemic in the subgroup of MSM infected with HIV has been observed.

### *Syphilis incidence*

In 2012 the number of newly diagnosed and reported cases of syphilis in Germany increased to 4,410 cases, resulting in an incidence of 5.4 new cases per 100,000 population. Cases were unequally distributed between genders, with 93% among males and only 7% among females. Among males incidence was 10.2 per 100,000 while among females it was just 0.7 per 100,000. Most affected age groups among males are 25–49 year old men; among women age groups 20–40 years are most affected. Almost 4 in 5 cases have been transmitted during sex between men. Most heterosexually acquired infections appear to be sporadic, but some clusters of heterosexually acquired infections seem to be associated with sex work.



### *Incidence of Gonorrhoea*

Since introduction of the Infection Protection Act (IfSG) in 2001 Gonorrhoea was not reportable on the federal level in Germany. Sentinel and group specific prevalence studies suggest that most cases occur among MSM, but also travelers and mobile populations, young heterosexuals, sex workers and their clients are affected. Studies among sexually active MSM revealed a high prevalence of pharyngeal (5.5%) and rectal (4.5%) infections, which are often asymptomatic. Due to a lack of systematic screening offered to MSM most of these infections will remain undiagnosed in Germany.

### *Prevalence and incidence of Chlamydia trachomatis (CT)*

Although CT infections are not reportable in Germany, it must be assumed that infections with CT are the most common sexually transmitted bacterial infection in Germany, mainly affecting adolescents and adults younger than 30 years. Based on data from representative health surveys the prevalence of urogenital CT infection was up to 4–5% in sexually active adolescents and young adults. Since most infections remain asymptomatic, an opportunistic screening programme is in place since 2008, but only for sexually active female adolescents and young women below the age of 25. Screening uptake is very low, and most infections remain undiagnosed. Among MSM, studies demonstrated a high prevalence of rectal infections (8%), which also usually remain undiagnosed. In local studies, symptomatic rectal CT infections among HIV positive MSM have been shown to be often caused by L-variants of CT in German MSM. However, subtyping of CT is rarely done in Germany. It must be assumed that most LGV infections in Germany are concentrated among MSM, especially MSM infected with HIV, and that most of these infections are not properly diagnosed.

### *Co-infection trends (last 5 years) of HIV, TB and AIs*

Data on co-infections with HIV and Hepatitis viruses B and C, Syphilis, Gonorrhoea or Chlamydia trachomatis are not readily available from the surveillance system, since some of the infections are reported by name while others are not, and matching case registries is thus not possible. Special surveillance studies indicate different levels of co-infections depending on transmission risk groups.

Among *intravenous drug users*, HCV infection is almost universal in HIV-positive IDU (~95%), chronic HBV infection is as frequent as 10%. Predominantly sexually transmitted infections like Syphilis, Gonorrhoea and Chlamydia are however rare in this population subgroup. If detected, these infections then are often associated with sex for drugs. The TB incidence density rate among intravenous drug users infected with HIV was 0.42 cases per 100 person-years during 2002–2011.

Among MSM *infected and diagnosed with HIV* the proportion experiencing co-infection with HBV, HCV, Syphilis, Gonorrhoea and CT has been high in recent years and shows no trend to decline. In a cohort of HIV seroconverters, prevalence of Syphilis antibodies among MSM was 37%, prevalence of anti HBc (cleared HBV) was 26%, of active chronic HBV was 2%, and of anti HCV antibodies was 8%. In a systematic screening study, prevalence of Neisseria gonorrhoea and Chlamydia trachomatis was approximately 10% each if results from pharyngeal, rectal and urethral screening are combined. The TB incidence density rate among MSM infected with HIV was 0.22 per 100 person-years between 2002 and 2011.

Among MSM not known to be HIV positive, the number of infections with syphilis has increased in the last 5 years. It is likely that this has also been the case for Gonorrhoea and Chlamydia infections, but firm evidence is lacking due to a lack of appropriate surveillance data.

In around 10% of new AIDS diagnoses in Germany TB is diagnosed. Among all TB patients, approximately 4.5% are co-infected with HIV. HIV-TB co-infections are most frequent among HIV positive migrants from sub-Saharan Africa (TB incidence

density rate 1.17 per 100 person-years between 2002 and 2011). An increased incidence density rate of co-infections is also observed among migrants from Eastern Europe.

### 1.3. Most-at-risk populations for HIV, TB and AIs

#### *Trends (last 5 years)*

**MSM:** From 2008 to 2013 the estimated incidence of HIV among MSM has been relatively stable at around 2,400 to 2,500 new infections per year. Mathematic modelling data suggest increasing incidence among younger age groups (<30 years) and stable or declining incidence in older age groups. The number of new syphilis diagnoses has increased considerably by about 30% between 2008 and 2013, with age groups 20–59 years almost equally affected. Trends for NG and CT are difficult to establish due to a lack of continuous surveillance data and changes in testing practices and test uptake over time. Due to incomplete transmission risk information for newly diagnosed cases of HBV and HCV trends among MSM are also difficult to establish: most probably new cases of HBV declined, while new cases of HCV increased in the recent five years. There is no evidence for any significant change regarding TB incidence and prevalence among MSM.

**IDU:** Incidence of HIV among IDU remains low in recent years, at an estimated 200 new infections per year. The number of new HCV infections is substantially higher, but the trend might be slowly declining. The same applies for new HBV infections. There is no indication for any significant changes regarding prevalence or incidence of bacterial sexually transmitted infection like syphilis, NG or CT in the IDU population.

**Migrants:** The number of migrants from HIV high prevalence regions arriving in Germany has been fluctuating in recent years, mainly due to changes

in EU immigration policies. In recent 5 years the numbers arriving in Germany may have increased from a nadir around 2005/2006. An increasing number of migrants from lower HIV prevalence regions – particularly from Southeast Europe – are coming to Germany. They may have a higher prevalence of HBV, HCV and syphilis antibodies than the general population of Germany. HIV prevalence is lower, but subgroups like MSM are at increased risk of acquiring HIV in Germany, partly through sex work.

#### *Factors promoting HIV, TB and AIs transmission among most-at-risk groups*

HIV transmission among MSM is promoted mainly by unprotected anal intercourse (UAI), either within primary partnerships, where one partner is infected, or in casual partnerships. Most HIV transmission during UAI between HIV-discordant partners is likely to occur in casual partnerships established by internet-contact, which often involves HIV serostatus communication (which may be misleading). Transmissions also occur in gay venues, mostly without explicit HIV serostatus communication, but partly based on erroneous assumptions about the partner's HIV serostatus. While most men diagnosed with HIV receive antiretroviral treatment, and the large majority has an undetectable viral load and thus is likely to be only minimally infectious, there are an almost constant number of undiagnosed infections. Undiagnosed infections are partly among men who practice UAI only sporadically and do not test frequently, partly among men who practice UAI more regularly and test relatively frequent, but may have a

high risk of acquiring HIV due to a high risk of STI co-infections and a high risk to meet partners with undiagnosed HIV infection.

Syphilis transmission among MSM can occur by unprotected anal and oral intercourse. HIV positive MSM have a higher risk of acquiring syphilis due to widespread HIV-positive HIV serosorting (sexual intercourse with other men infected with HIV without condoms), and due to higher concentration of treponema in lesions of HIV positive immunocompromised hosts. As for other bacterial STI, the number of sexual partners is an important risk factor also for syphilis.

Unprotected anal and oral intercourse and the number of sexual partners are also the most important risk factors for gonococcal and chlamydial infections in MSM. Due to mostly unrecognized pharyngeal and rectal infections the prevalence of men infected with one or both of these agents is high among MSM.

HCV has been increasingly transmitted between HIV positive MSM by sexual contacts in recent years. Following risk factors may explain sexual transmission: group sex, partly involving the use of sex toys and/or fisting (enabling “rectal-rectal vector transmission” of small amounts of blood), early resumption of anal intercourse after rectal surgery (often HPV-related), sharing during nasal or intravenous use of recreational party drugs.

HCV is the most prevalent infection among intravenous drug users. Transmission is facilitated by continued frequent sharing of filters, spoons, water for injection and sporadic sharing of needles and syringes, e.g. in settings without access to clean needles and syringes like prisons. Opportunities for HBV vaccination in this group at high risk for HBV acquisition are often lost, due to a lack of systematic efforts to reach out to unvaccinated IDU in substitution therapy and prison settings.

Continuing transmission of HIV in migrant communities is promoted by a high proportion of undiagnosed infections and infrequent HIV testing. Low testing rates are partly explained by a lack of knowledge about testing sites, HIV-related stigma in migrant communities and fear of testing positive, and competing priorities.

### *Expected trends in prevalence of these infectious diseases among most-at-risk groups*

HIV prevalence among all groups at increased risk for HIV infection is likely to increase further due to reduced mortality and ongoing new infections.

The incidence of bacterial STI among MSM is likely to either increase further or to level off, depending on the further evolution of partner numbers and partner change, at least as long as no fundamental changes in STI care and diagnosis occur. More comprehensive testing for bacterial STI among MSM and other groups at increased risk will result in higher number of diagnosed cases among asymptomatic people.

No significant changes are expected among intravenous drug users and migrants from high HIV prevalence countries. The situation among (migrant) sex workers may depend on the extent to which sexual health services for this population are expanded.

HBV and HCV incidence in general are likely to decline. HBV should decline due to effects of childhood immunization, HCV due to preventive effects of successful treatment. Among MSM, HCV incidence may further increase or level off.

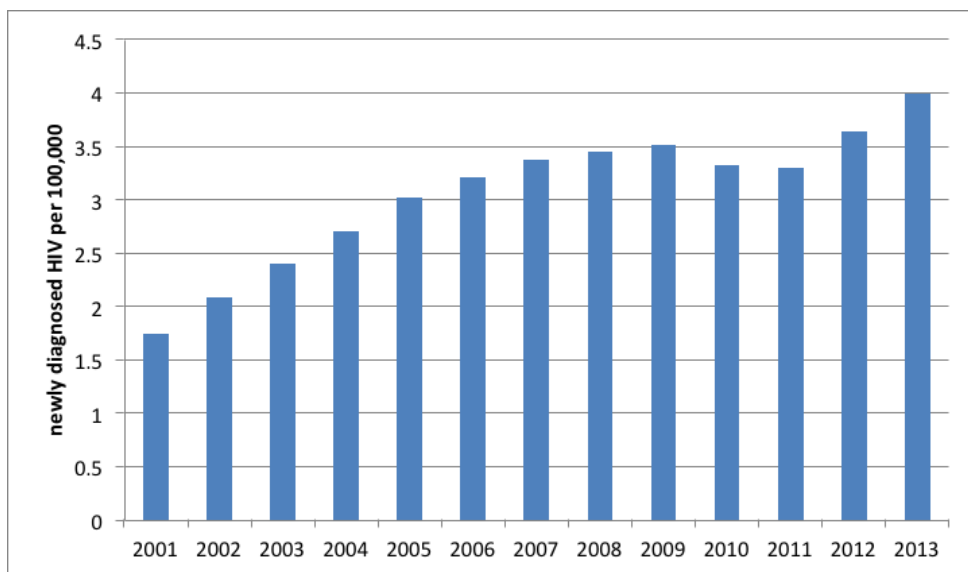
Tuberculosis incidence seems to level off and not further decline, mainly due to increasing migration from higher prevalence regions for TB to Germany.

## 1.4. HIV, TB and AIs situation among General Population

In this chapter German surveillance data on newly diagnosed and reported cases of HIV, HBV, HCV, TB, and Syphilis from 2001 to 2012 are presented.

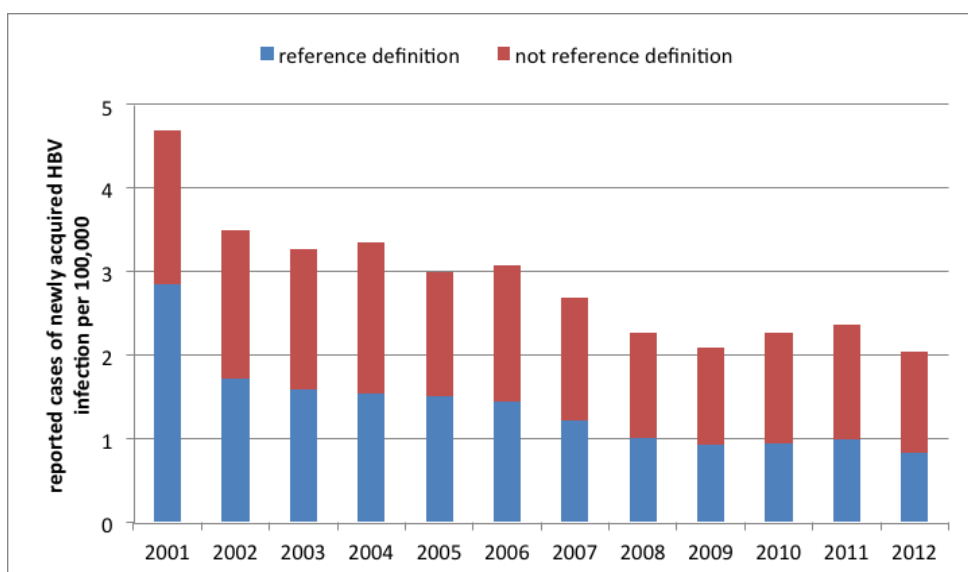
### HIV

Fig.1: Number of newly diagnosed HIV infections per 100,000 population in Germany, 2001–2012



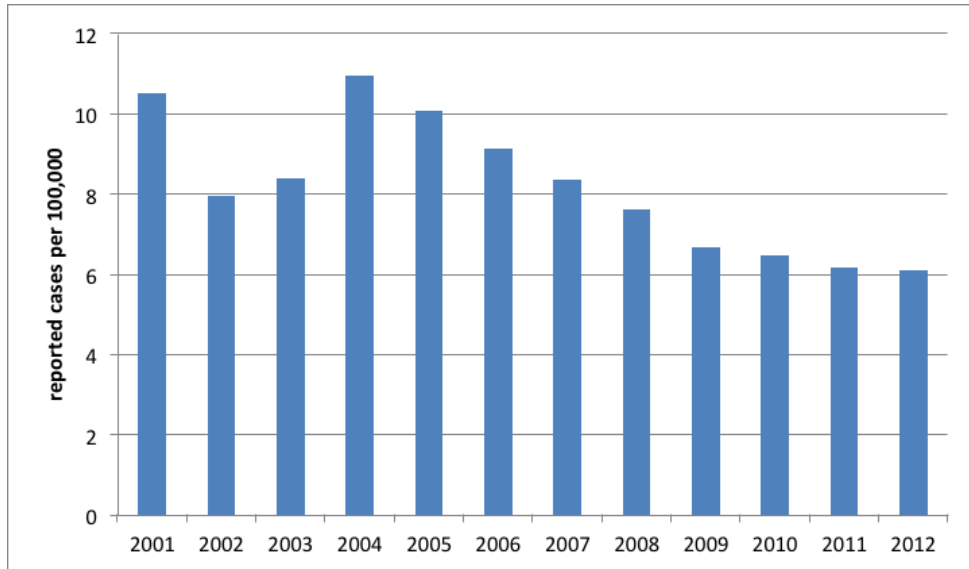
### HBV

Fig.2: Reported cases of newly diagnosed HBV infection per 100,000 population in Germany, 2001–2012



### HCV

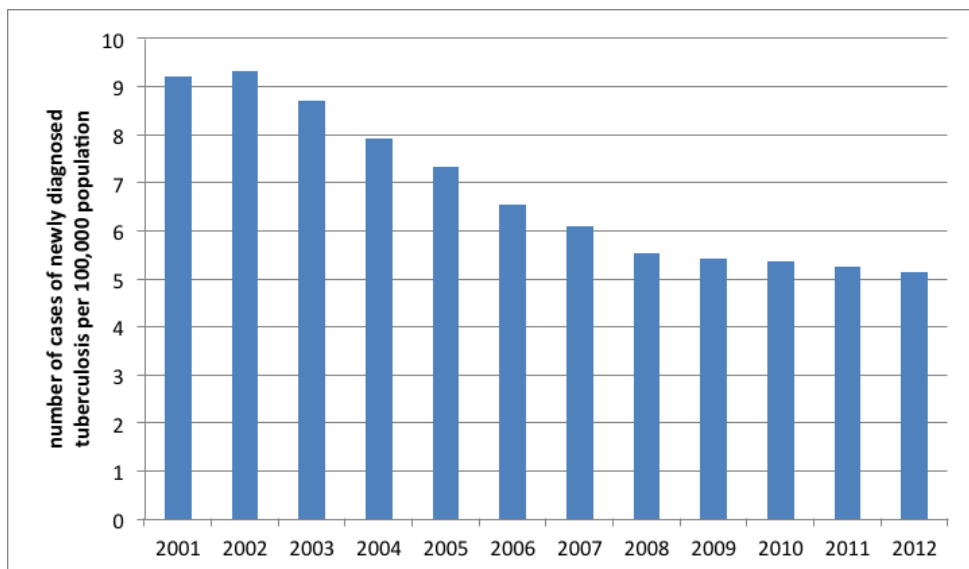
Fig.3: Reported cases of newly diagnosed HCV infection per 100,000 population in Germany, 2001–2012\*



\*Changes in the number of reported infections particularly in the first years may be partly due to changing interpretation of reportable cases.

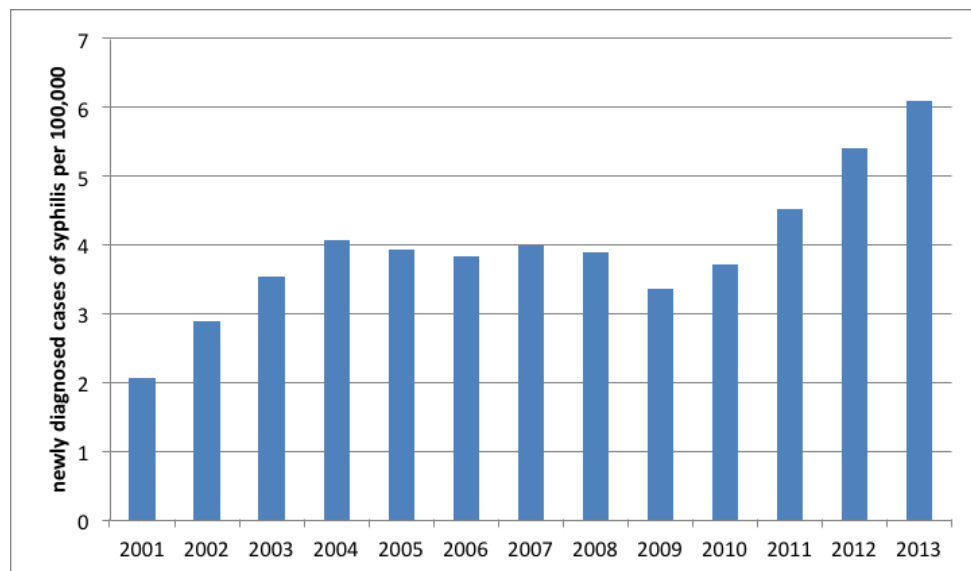
### TB

Fig.4: Newly diagnosed cases of tuberculosis per 100,000 population in Germany, 2001–2012



## Syphilis

Fig.5: Newly diagnosed cases of Syphilis per 100,000 population in Germany, 2001–2012

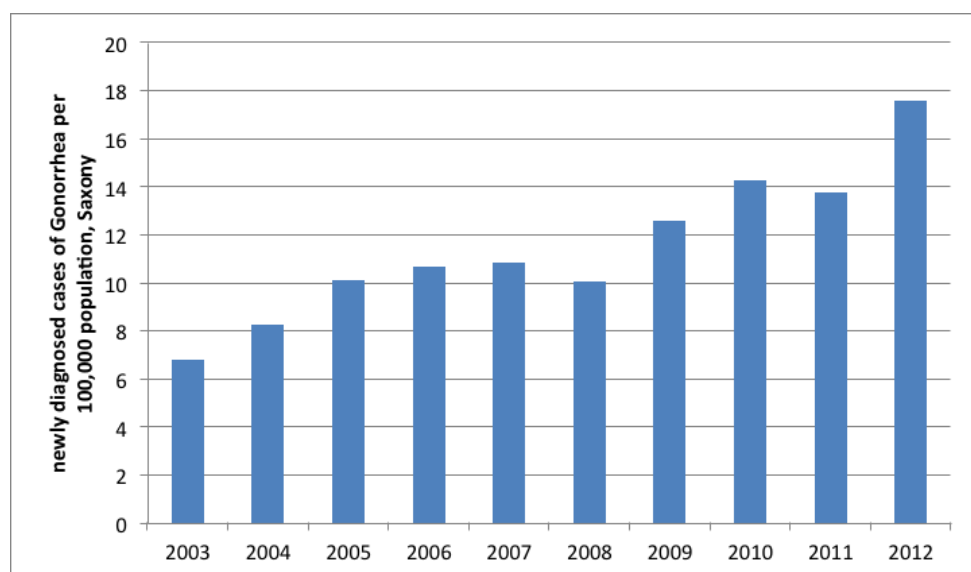


For *Neisseria gonorrhoea* and *Chlamydia trachomatis* no continuous surveillance data on national level exist so far. Due to the lack of national data we present

as surrogate surveillance data from the Federal State of Saxony. Saxony collects data on laboratory diagnoses of NG and CT since 2003.

## *Neisseria gonorrhoea*

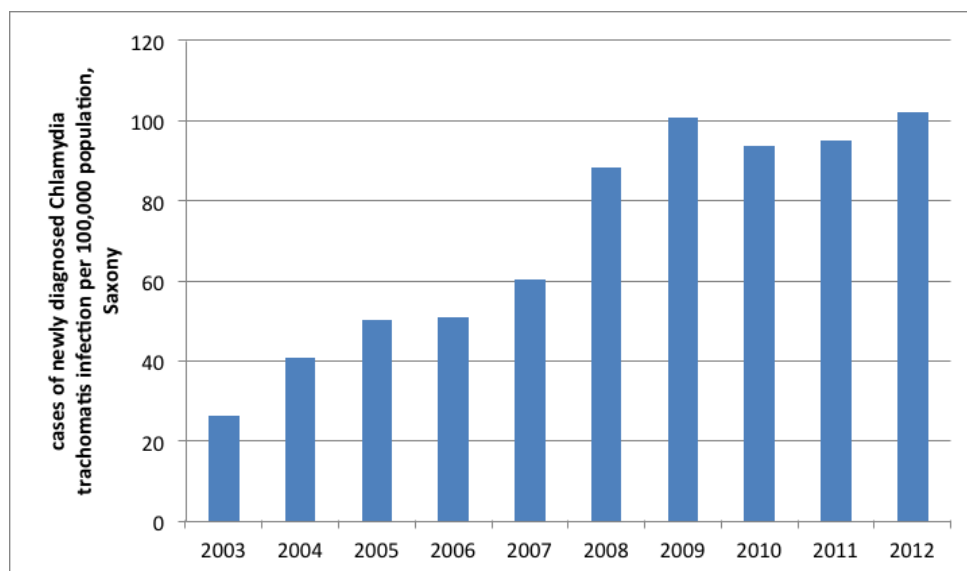
Fig.6: Cases of newly diagnosed Gonorrhoea per 100,000 population in the federal state of Saxony, 2003–2012\*



\*increases of reported infections may be partly due to expanded and more comprehensive testing

## CT

Fig. 7: Cases of newly diagnosed Chlamydia trachomatis infection per 100,000 population, Saxony, 2003–2012\*



\*increases of reported infections may be partly due to expanded testing (introduction of opportunistic screening for women below 25 in 2008) and use of more sensitive tests

## 1.5. Providing treatment care and support for PLWH, TB and AIs patients (including to- be-addressed issues)

### HIV treatment

According to the German-Austrian HIV treatment guidelines, last updated in April 2012, antiretroviral treatment is clearly indicated for all people living with HIV and a CD4 cell count below 350 cells/ $\mu$ l. For persons with a higher CD4 cell count treatment is recommended if they suffer from co-infections with HBV or HCV, if they have a higher progression risk (age >50 years; viral load above 100,000 copies/ml; high cardiovascular risk) or if they wish to reduce infectiousness. According to the last estimate, by end of 2012 around 50,000 (80%) of an estimated 63,000 diagnosed people living with HIV were receiving antiretroviral treatment.

HIV treatment in Germany is provided mostly by HIV-specialized private practices or HIV outpatient

clinics. Patients living in rural areas may have to travel to the nearest larger city to get access to specialized treatment.

### TB treatment

Of all TB cases 3,346 cases (79.6%) had pulmonary tuberculosis. Potentially infectious (sputum- smear or culture positive) pulmonary tuberculosis was markedly more frequent (2,586 cases, incidence 3.2 cases per 100,000 population) than non-infectious pulmonary tuberculosis (760 cases, incidence 0.9 cases per 100,000 population). Around one third of the pulmonary cases (1,133/3,346; 33.9%) were smear positive and thus highly infectious. Extra-pulmonary tuberculosis alone was diagnosed in 856 cases

(20.4%). The most common site of extra-pulmonary involvement was lymph nodes (431/856; 50.4%).

Drug-resistant tuberculosis: the proportion of multidrug-resistant tuberculosis (MDR-TB) slightly increased from 1.7% (52 cases) in 2010 to 2.1% (56 cases) in 2011. All in all, the proportion of MDR-TB remains stable at around 2%. The proportion of strains resistant to at least one of the first-line drugs (isoniazid, ethambutol, pyrazinamide, streptomycin, and rifampicin), decreased from 12.8% in 2010 to 11.9% in 2011. The proportion of drug resistant tuberculosis cases was higher among foreign-born than in German-born patients (32.7% vs. 7.2%). Treatment outcomes can only be assessed after at least 12 months of follow-up and therefore is reported for cases notified in 2010. The completeness of treatment outcome reporting was 91.6% (4,021 of 4,388 reported cases). Among patients with available information, 81.2% (3,262 cases) were successfully treated (defined as treatment completed or cured), 16.1% (648 cases) failed treatment for different reasons, 2.6% (105 cases) were still on treatment and 6 cases were reported as transfer out. Some important age-specific differences in treatment outcomes can be identified. Patients younger than 40 years of age had higher treatment success rates (> 90%), than the older age group. With increasing age (70 or older years of age), the treatment success rate declined to 63.3%. Lower treatment success rates in elderly can be explained by increased case fatality of tuberculosis and due to other causes. Treatment success was less frequently achieved among MDR-TB patients compared to patients with drug susceptible tuberculosis (52.5% vs. 82.5%).

### *HCV treatment*

Chronic HCV infection is an indication for antiviral treatment. For many years combination therapy with Interferon alpha and ribavirin was the only treatment option. Treatment effectiveness depended among others on viral subtype; and treatment was

often complicated by side effects. In recent years, several new drugs have been introduced for HCV treatment, broadening and improving treatment options. Treatment is usually provided by specialized practices or outpatient clinics. A large proportion of current and former intravenous drug users infected with HCV has never been offered or has not accepted treatment, mostly due to the fear of side effects. A considerable, but unknown proportion of chronic HCV carriers has not been diagnosed and is unaware of being infected.

### *HBV treatment*

For all patients with chronic HBV infection antiviral treatment is indicated. Besides Interferon alpha, nucleoside and nucleotide analogues are available for treatment. If cure by Interferon therapy was not possible, viral suppression therapy with nucleoside/nucleotide analogues is recommended. Treatment is usually provided by specialized practices or outpatient clinics. A considerable, but unknown proportion of chronic HBV carriers has not been diagnosed and is unaware of being infected.

### *Syphilis treatment*

Long-lasting Penicillin is still the mainstay for Syphilis treatment. Depending on the stage of syphilis, one time intramuscular injection or three weekly injections are recommended. Treatment can be provided by care providers from different disciplines, ranging from general practitioners to dermato-venerologists and infectious disease specialists.

### *Gonorrhoea treatment*

Due to a worrying increase of antibiotics resistance in gonococcal infections combination treatment with Ceftriaxone (intravenous or intramuscular) plus Azithromycine (oral), one dose each, is recommended as standard treatment in the recently updated Gonorrhoea treatment guidelines of the German STI



society (DSTIG). Treatment can be provided by care providers from different disciplines, ranging from general practitioners to dermato-venerologists and infectious disease specialists.

### *CT treatment*

Standard treatment recommended for CT infection consists of either one dose of Azithromycin or a one week course of Doxycyclin. For LGV infection treatment should be prolonged to three weeks. Insufficient treatment of LGV due to the lack of a proper diagnosis may be an issue among MSM. Treatment can be

provided by care providers from different disciplines, ranging from gynecologists and general practitioners to dermato-venerologists and infectious disease specialists.

As part of prenatal care, testing for HBV, HIV, Syphilis and Chlamydia trachomatis is routinely offered to pregnant women (approximately 640,000 to 740,000 tests per year).

Blood donors (approximately 500,000 first donors and 2,600,000 repeat donors per year) are routinely tested for HIV, HBV, HCV and Syphilis.

## **2. Analysis of National HIV, TB and AIs Response**

### **2.1. Description of government coordination, management and financial support for HIV, TB and AIs response**

#### *Germany's HIV Strategy and Action Plan*

The policy framework for the national response to the AIDS epidemic consists of the German strategy to combat HIV/AIDS of 2005 and the Action Plan of the Federal Government of 2007, which complements the strategy and specifies measures to implement it.

The strategy focuses on national resources and knowledge while emphasising the significance of co-operation with the member states of the European Union and the neighbouring Eastern European countries. Its key elements are:

1. Prejudice-free education and prevention;
2. Universal access to HIV testing, adequate treatment for the infected and those suffering from AIDS while strengthening social care;
3. Creating a climate of solidarity within the society and preventing the discrimination of those affected;
4. Co-ordination and co-operation of national and international activities;
5. Epidemiological surveillance;

6. Strengthening biomedical, clinical, social research, especially in the context of international co-operation;
7. Continuous evaluation and quality assurance.

Germany's commitment to control HIV/AIDS is reflected by a consistent allocation of public funds in this area. In 2011, these included approx. 29 Mio. Euro for prevention, and 9.4 Mio. Euro for research activities.

In 2011, a new National AIDS Council was appointed as an independent advisory board to the Government.

#### *Prevention*

In more than 25 years of HIV/AIDS strategy in Germany, clear prevention messages as part of a combined framework of general and targeted approaches have always been the centre piece. In addition, about 90% of students are reached by HIV/AIDS awareness

campaigns in schools. Contrastingly, knowledge on STI is limited in the general population.

Periodic national evaluations demonstrate that knowledge on the most important ways of HIV transmission and protection is almost universal.

The main focus remains on increasing the reach of persons at risk by strengthening and expanding targeted approaches in men who have sex with men, migrants and persons with sexual risk behaviour. In addition, STI (sexually transmitted infections) are being systematically integrated in the measures for the prevention and control of HIV.

### Testing

Voluntary counselling and testing of HIV (VCT) is a central aspect in the German HIV prevention strategy. Every person living in Germany has the right to get VCT. HIV testing can be provided by all primary care providers and private practitioners, by local health authorities and some AIDS-related non-governmental organisations. Costs for testing vary; if taken on medical grounds, it is provided free of charge.

### Treatment, care and support

Easy access to HIV counselling and testing, as well as to treatment and care constitute the second pillar of the HIV/AIDS strategy. In Germany, coverage by statutory or private health insurance schemes is close to universal. Comprehensive health care for the population is thus guaranteed including

- » Early disease detection
- » Prevention and treatment of diseases
- » Medical rehabilitation
- » Antenatal and obstetric care
- » Maternal and sickness benefits
- » Health promotion

As a rule, the entire cost for medical treatment is covered by the insurance schemes (except a very low

contribution by the patient). Since cost coverage comprises all diseases, this also fully applies to HIV-related conditions. In particular, HIV-infected persons are entitled to highly active antiretroviral therapy according to the current medical recommendations via their health insurance. They also have access to specialised counselling, treatment and care centres with specifically qualified physicians. Coverage with antiretroviral treatment is therefore generally high. For MSM for example, it is estimated to be between 85 and 90% of all MSM diagnosed with HIV.

Unregistered men and women who often have an undocumented legal status are excluded from the national insurance schemes. They are, however, entitled to limited coverage, i.e. in the case of acute sickness and pain. This also applies to acute HIV-related conditions in persons living with HIV.

Several publicly funded NGOs and self-help groups offer psycho-social support and care for people living with HIV/AIDS. They also run or support centres for drug consumers and substitution programmes.

### Solidarity, anti-discrimination and anti-stigmatisation

The respect of human rights and non-discrimination are basic principles of the German Constitution (s. Article 3 that guarantees non-discrimination).

Likewise, Germany also takes a rights-based approach in its prevention strategy with a view to reduce fear of discrimination and stigmatisation, thus enabling HIV-infected persons to disclose their status and protect others from infection. From the very outset, Germany has supported the AIDS-related self-help organisations, which has significantly increased the acceptance of persons living with HIV/AIDS in society.

Today, the general attitude towards persons with HIV and AIDS is characterised both by a low level of

stigmatising and isolating attitudes, and a great willingness to provide social support and assistance. The climate of willingness to help and support was greatly shaped by the AIDS prevention campaigns. Favourable attitudes towards people with HIV and AIDS have remained stable at a high level. In 2010, 96% of the general population rejected the isolation of AIDS patients.

A particular characteristic of the German HIV/AIDS-response is the high level of commitment and advocacy by politicians, athletes and artists, which also has significantly contributed to creating a favourable social climate in the area of HIV and AIDS.

### *Coordination and cooperation*

In Germany, there is an established line of close coordination and cooperation with civil society organisations, the leading ones being the German AIDS-Relief Association and the German AIDS Foundation.

The national HIV/AIDS strategy encompasses a wide range of intertwined measures, which in conjunction have proven to be quite effective. The general effectiveness holds despite the fact that political support for some specific areas (i.e. harm reduction services in prisons, ART provision for undocumented migrants) remains amendable.

In particular, next to awareness creation for the general population, HIV prevention in Germany focuses on targeted interventions for vulnerable subpopulations and their destigmatisation. Prioritization of funding for these groups is in place.

The evaluation of the national campaign “Don’t give AIDS a chance” (Gib Aids keine Chance) is carried out with an annual representative survey “Public Awareness of AIDS in the Federal Republic of Germany” – Knowledge, attitudes and behaviour relating to protection against AIDS, n= 7.000, (general population 16 years plus), by the Federal Centre for Health Education, Cologne, Germany.

Behaviour data show stable and partially increasing condom use in young people, in people who have different sex partners, and at the beginning of new sexual relations.

Besides the national Government, the federal states and the communal level fund interventions in HIV prevention. Since these levels do not report to the national Government, this type of data is not available in Germany.

## **2.2. Description of normative framework**

Any disease preventive activities within the health care system, such as systematic screening approaches to detect undiagnosed infections, are difficult to implement in Germany due to the variety of actors in the system and a lack of central coordination. Any screening programme would need to be discussed and decided by the “Gemeinsame Bundesausschuss” (GBA), a committee consisting of representatives of health insurance companies, private physicians, hospitals, and patient representatives. Due to restricted resources, any decisions which require new

resources will meet resistance from the system, because they require shifting of resources. The implementation of effective programmes usually requires financial incentives. E.g., the suboptimal implementation of the Chlamydia Screening programme for young women is to a great extent due to the lack of incentives for physicians, particularly gynecologists, to offer screening to their young female clients.

A different approach to health promotion is the engagement of self-help groups, non-governmental

organisations, and social networks of specific social groups who are particularly affected by specific diseases/ infections. Examples are HIV/AIDS self-help groups who engage in health promotion for gay men and other MSM, intravenous drug users, and

migrants from high prevalence regions. The success of this approach has been acknowledged particularly for health promotion for drug users and gay men, and public funding has been provided to NGOs for this kind of work.

## 2.3. Legal environment

Epidemiological surveillance of infectious diseases in Germany has been regulated by the Infection Protection Act (Infektionsschutzgesetz – IfSG), which was enacted in 2001. In this act, reportable infections, requirements for reporting, and modes of reporting are regulated. HBV, HCV and TB have to be reported by name to the respective local public health office by the diagnosing physician and/or laboratory. Local public health offices report pseudonymized single case data to the state level and from there to the federal level. HIV is reported by the diagnosing laboratory anonymously with a unique alpha-numeric name based identifier directly to the Robert Koch-Institute, the federal infectious disease surveillance institute. Syphilis cases are reported similarly, however without a unique identifier. Gonorrhoea and Chlamydia infections have not been reportable on the federal level so far.

There is no Public Health policy of partner notification in Germany, except for TB. For hepatitis viruses and sexually transmitted infections people newly diagnosed with these infections will be advised to inform and refer their sexual partners, but no systematic assistance from health care providers or public health offices is provided for partner notification.

There are no HIV-specific laws in Germany, e.g. regarding transmission. HIV transmission cases that have been taken to court were ruled based on “body harm (mayhem)”. Also HIV exposure cases not resulting in transmission have been taken to court. Unprotected exposure by people aware of their HIV infection has been interpreted as attempted intentional assault. In recent court decisions, effective antiretroviral therapy has been interpreted as arguing against intentional transmission.

## 2.4. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

### *HIV prevention*

Prevention of sexual transmission of HIV in Germany is based on the following pillars:

» **Condom promotion:** Consistent condom use when having anal or vaginal sex with a partner of unknown HIV or STI status is a core component of HIV and STI prevention. Condom distribution interventions aim to ensure that people at

increased risk for sexually transmitted infections such as young people, people without a regular partner, clients of sex workers, and particularly MSM have access to appropriate condoms when needed. Community-based experience suggests that providing free condoms in settings where MSM gather, ranging from venues such as saunas to health service centers for MSM is preferable compared to making condoms available in stores.

Since the beginning of the HIV epidemic, civil society and other gay men's organisations in Europe have played a vital role by actively recommending and promoting condom use. Promotion includes internet-based promotion, free distribution in many sex-venues for MSM, and sex-venue based outreach interventions to promote use of condoms and lubricants.

- » **Delivery of MSM-friendly health services:** MSM-friendly points of care offering a comprehensive sexual health program including health promotion, counseling, peer support, prevention, testing and treatment will increase service uptake. MSM-friendly HIV testing sites have been established in many German cities. Partly testing is offered by local public health offices, partly NGOs have opened special MSM-friendly community-based testing and counselling sites with financial support from the respective cities. The design and implementation of these services has occurred with target group involvement. At any health facility that targets sexual health, training for providers to offer comprehensive care for MSM is recommended.
- » **Health promotion:** Provide accurate and accessible information that enables people at increased risk of acquiring HIV/ STI to understand and judge sexual health-related risks and prevention efficacy, and that promotes awareness of one's own HIV status. Health promotion takes place mainly in outreach interventions for MSM, by public or targeted campaigns promoting sexual health among MSM, in individual and group counseling sessions, and in peer support groups.
- » **Targeted care for people living with HIV:** A network of often gay, or at least gay-friendly health care providers has specialized in HIV treatment and care in Germany (DAGNÄ). Specialized practices offer antiretroviral treatment for HIV based on current guidelines, comprehensive and specific

treatment against STI including hepatitis B and C, as needed. Provision of regular STI screening, including hepatitis B and C, is less restricted for people living with HIV compared to people not diagnosed with HIV.

- » **Testing:** Voluntary and confidential HIV counseling and testing is provided via a variety of modalities: by primary care providers in private practice, by public health offices, by designated community based HIV/ STI testing and counseling sites for MSM and IDU in larger cities. Outreach and community-based testing programmes are well accepted. Expansions exploring new modes for delivering tests and post-test counseling (home collection schemes) should be piloted. Efforts have been made and are continuing to make comprehensive STI screening for people with multiple partners more widely available. Currently, health care providers in private practices are financially discouraged to screen anybody for (asymptomatic) STI (syphilis, Gonorrhoea, Chlamydia), regardless of prevalence. Support for partner notification should be offered routinely when a person is diagnosed with HIV or STI. Routine testing for HIV is mandatory for blood donors. HIV screening is recommended for all pregnant women.
- » **Treatment:** Provision of antiviral treatment of HIV and hepatitis B and C according to national clinical guidelines. Early treatment, using treatment as prevention of transmission, is covered by current treatment guidelines. Information about acceptability of treatment as prevention and barriers for treatment initiation among people living with HIV and among health care providers is still lacking. Provision of targeted antibiotic treatment against STI.
- » **Vaccination:** Promote and deliver vaccination to protect against: Hepatitis A and B. Consider vaccination of men against HPV.

### *Syphilis prevention*

More frequent and more systematic screening for syphilis among men with multiple sex partners will be required to make an impact on current incidence rates.

### *Gonorrhoea and Chlamydia trachomatis prevention*

Frequently asymptomatic rectal and pharyngeal infections with *Neisseria gonorrhoea* and *Chlamydia trachomatis* contribute to the high prevalence of these infections among MSM. As long as systematic screening for these infections in these locations cannot be offered in the German health care system, the problem will be difficult to tackle. The uptake of chlamydia screening for young women needs to be promoted.

### *Hepatitis C prevention*

Preventing Hepatitis C virus infections among intravenous drug users and (HIV-positive) MSM has proven difficult, not at last due to a lack of understanding and adequately communicating transmission risks of specific sharing practices.

### *Hepatitis B prevention*

Hepatitis B vaccination is recommended for all infants, children and adolescents up to 18 years. Beyond that, vaccination is recommended for groups at increased risk such as MSM, intravenous drug users, sex workers and people with close contacts to virus carriers. Improving vaccination coverage for groups at increased risk is hampered by administrative problems in providing vaccination in low threshold facilities attended by members of these groups. While health insurances are obliged to cover vaccination costs for people at increased risk vaccinated in private practices or hospitals, pool funding for anonymous vaccination schemes e.g. in low threshold facilities for intravenous drug users has been difficult to implement. Also, little attention has been paid to hepatitis vaccination in oral opioid drug substitution treatment for intravenous drug users and in prison health facilities.

## 2.5. Treatment, care and support for PLWH, TB and AIs Patients

Medical treatment, including necessary drugs and health care are available for all patients diagnosed with HIV, HBV, HCV, TB, Syphilis, Gonorrhoea and Chlamydia infections who have health insurance coverage. Health insurance covers most treatment-related costs including costs for drugs, with minimal co-payments for patients. Access problems to adequate health care exist for uninsured persons, particularly for undocumented migrants and migrant sex workers. For TB and for easily curable infections such as Syphilis, Gonorrhoea and Chlamydia infections, free treatment – also anonymously – may be available for patients in need at the local public health offices.

Psychological, social and additional financial support for patients with HIV, chronic hepatitis, and TB may be provided by local public health offices, non-government organisations like HIV/AIDS/Hepatitis support groups, and by charities like German AIDS Foundation (Deutsche AIDS-Stiftung).

### 3. Challenges (issues to be addressed)

The largest group at risk for HIV in Germany – MSM – is being increasingly connected among each other and beyond national borders in the EU through internet and mobile internet access. This facilitates partner seeking, also and in particular for MSM who have not been socially and geographically connected to the gay subcultures in the larger cities. Partner selection occurs increasingly across traditional sexual networks, which enhances the circulation of sexually transmitted infections and also of HIV. Since partner seeking on the internet involves some level of communication before it comes to a real contact between persons, perceived familiarity, knowledge and trust in the partner are higher than in partners met directly in gay venues. HIV serostatus communication and negotiated condomless sex are more common. Access to community based HIV testing has on the other side not improved to the same extent, and barriers to access testing sites have not been lowered. Thus, testing often remains infrequent and too often perceived HIV serostatus doesn't match the real HIV serostatus. Prevention messages for MSM and other groups at increased risk for HIV like migrants from high prevalence regions will thus have to stress that reported serostatus of potential partners are not reliable enough to skip condom use. This will contrast with the dominant desire to find a partner for a close relationship based on mutual trust.

While messages to avoid needle and syringe sharing among intravenous drug users have been quite successful, other aspects of sharing, e.g. sharing of filters, spoons and water for injection, front- and backloading have received less attention. Due to the high infectiousness and high viral loads of HCV carriers high HCV transmission risks still remain associated with intravenous drug consumption in social contexts of open drug scenes. In addition, continuing social marginalization and criminalisation of intravenous drug users result in frequent incarceration, and harm

reduction measures remain largely out of reach for drug users in prisons.

#### *Other priorities for migrants, particularly undocumented migrants*

**Migrants:** Migrants are a highly heterogeneous group of people. Particularly vulnerable for HIV/AI are undocumented migrants who have no regular access to health care services in Germany or sex workers from EU countries that have no access to health care insurance in Germany.

However, also documented migrants, including migrants from other EU countries, may experience barriers to access adequate health care: lack of knowledge about structural issues of health care delivery, language problems, and lack of cultural sensitivity. Many migrants are highly mobile (e.g. circular migration).

In many migrant communities, also in communities from HIV high prevalence regions, HIV is still highly stigmatized. Difficult access to health services, problematic legal status, HIV stigma, and other priorities are reasons for a large proportion of late HIV diagnoses and late uptake of antiretroviral treatment among migrants.

#### *Health care provision for sexually transmitted infections*

There are several deficits regarding STI care and prevention. Health care for sexually transmitted infections is fragmented between various disciplines – general health care, gynecology, urology, dermatovenerology, public health offices. Many practitioners are not up-to-date with STI treatment and guidelines because they are rarely confronted with STI, and most have difficulties addressing sexual issues when communicating with their patients. Care providers

who don't talk with their patients about sexual practices and preferences will rarely think about e.g. rectal STIs and will not offer e.g. vaccines recommended for MSM. Counselling, e.g. in the context of chlamydia screening for young women, is not reimbursed by health insurances, thus creating a dis-incentive for active promotion of screening. Taken together, there is no low-threshold access to STI diagnosis and care, leading to lost opportunities for early diagnosis, also for HIV diagnosis.

There is room for improvement regarding partner treatment and partner notification after HIV and STI diagnosis. Currently, sexual partners are not routinely offered treatment, and there is no support system for partner notification, which remains in the responsibility of the newly diagnosed STI/ HIV patient.

In the general (male) population, clients of sex workers are not adequately addressed, reached and motivated to act responsibly.

## 4. Conclusions

(expected trends in HIV, TB, AIs prevalence, highlighting response measures where international support is likely to prove most effective – in relation to the activities listed in the application for “seed money”)

### *HIV*

HIV prevalence in Germany will further increase, since the number of new infections and imported infections is by far larger than the number of deaths among people living with HIV. HIV incidence increased from the late 1990ies to the mid 2000s, likely due to an increase of the epidemiologically connected MSM population by the creation of extended and larger sexual networks facilitated by online partner finding. Incidence is most likely to stabilize around the present level. To achieve a substantial decline in HIV incidence, primarily the number of new infections among MSM would need to decline. This would require either one or a combination of the following:

- » A substantial increase of the proportion of people diagnosed with HIV who receive effective antiretroviral treatment
- » A substantial decrease of the proportion of undiagnosed HIV infections, either by improved targeting of testing to those at increased risk or by increasing proportions with recent tests
- » A substantial reduction of the number of episodes of unprotected anal intercourse between HIV serodifferent partners

### *Syphilis*

Syphilis incidence increased substantially in Germany from the all-time low during the 1990ies. This increase is largely restricted to MSM. The increase is due to

1. A re-establishment of a highly affected core group, consisting of mostly HIV-positive MSM with high partner numbers and limited use of condoms, which have been replaced by HIV serosorting.
2. The creation of extended and larger sexual networks by the additional option to seek and find partners online.

Whether the observed increase will level off or continue is currently unclear. Further improvements in partner finding options (e.g. smart phone GPS-based Apps like Grinder) may further accelerate the spread of syphilis. Modelling suggests that more frequent syphilis screening particularly among men with multiple partners would be required to substantially reduce incidence by earlier diagnosis and treatment.

### *Gonorrhoea and Chlamydia*

Incidence is likely to further increase in the next years, unless there are no major health care system changes



regarding diagnosis and treatment. Due to a lack of systematic and adequate screening most asymptomatic infections remain undiagnosed and represent sources for further dissemination. This is particularly the case for MSM. The Chlamydia screening programme for young sexually active women remains woefully inadequate.

## TB

Tuberculosis incidence in the last years has markedly less decreased than in previous years. Hence, one can assume that Germany is approaching a steady state – similarly to other Western European regions. The increase in tuberculosis incidence rates in young children observed since 2009 further continues also in 2011. This might be a sign of a changing trend, as paediatric tuberculosis (which is usually primary tuberculosis) indicates recent infection. High rates of drug resistant tuberculosis in foreign-born patients reflect epidemiology of tuberculosis in their countries of origin. TB-surveillance is essential for timely identification of epidemiological trends and their interpretation in the context of factors potentially influencing the epidemiological situation. The decreasing success in the reduction of case-numbers indicates that tuberculosis still remains a relevant public health problem in Germany. The key for continuing an optimized tuberculosis control tailored to the specific needs of Germany is the effective addressing and involvement of migrant populations.

## HCV

HCV incidence and prevalence are expected to slowly decline in the next years, if trends towards non-injecting drug use continue. The number of prevalent infectious cases may decline due to successful treatment.

Injecting drug users constitute a large part of newly diagnosed Hepatitis C infections. Thus, HCV prevention among IDU and prisoners should have a high

priority. Implementation of screening recommendations for groups at increased risk is insufficient. New treatment options with less toxic and easier to adhere treatment regimens and higher cure rates will allow expansion of treatment for groups which have been difficult to reach with previous treatment options.

## HBV

HBV incidence and prevalence are expected to slowly decline in the coming years as a consequence of increasing immunity in the population (introduction of childhood immunization in the mid 1990ies). However, vaccination coverage is still suboptimal, and in combination with high mobility, migration and high exposure risks groups like IDU and MSM may still experience high incidence of new infections. Efforts to further improve vaccine coverage in these two groups will be necessary. Opportunities to vaccinate IDU, e.g. during oral substitution therapy or in prisons, are often lost.

Screening for active HBV infection only exists for pregnant women in Germany. Also health care workers are frequently tested. It is currently unclear, how screening recommendations could be successfully extended to reach a population at increased risk for being infected.

## 5. Recommendations

### *General*

Reduce health inequities between general population and groups at increased risk for HIV, hepatitis viruses and associated infections. Allow individual choice with regard to starting ART. Create modalities for confidential partner notification.

### *MSM*

Expansion of low threshold HIV- and STI-testing sites, consider home collection schemes.

Integrate HIV and STI prevention. Promotion of regular sexual health checks

Guidance on negotiating safety and settings where condoms will remain indispensable

Increased use of and collaboration with social networks for preventive interventions and condom promotion

Continued outreach work and condom promotion in gay venues.

### *IDU*

Continued harm reduction services – low threshold needle and syringe exchange, oral substitution therapy, supervised drug injection rooms. Provide HIV and HCV testing in low threshold drug addiction facilities. Increase attention for HBV vaccination and improved HCV therapy options in low threshold facilities and OST.

It remains important to detect changing drug and drug use patterns early (e.g. more frequent injecting of stimulants).

Explore possibilities to provide expanded harm reduction services in prisons.

### *Migrants*

Improve access to low threshold free and anonymous HIV, STI and Hepatitis testing and counselling. Remove barriers for presentation for care. Provide modalities for access to care for undocumented migrants and other migrants without health insurance coverage. Use of social networks to increase awareness and promote testing and access to care.

### *Sex workers*

Provide free and anonymous sexual health checks. Use outreach to reach difficult to reach sex workers.

Provide language mediation to reach sex workers with limited German language skills.

Collaborate with and use social networks to reach out to sex workers. Recognize sex work as a legitimate way of earning one's livings. Empower and protect sex workers who are victims of trafficking.

Remove and refrain from building new legal barriers for sex work.

# APPENDIX 6 | LATVIA

## Inga Upmace

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## 1. HIV, tuberculosis and associated infections – situation in the country

### 1.1. Country’s background

Republic of Latvia is one of the three Baltic States placed in Northern Europe. Latvia is bordered by Estonia, Lithuania, Russia, Belarus and the Baltic Sea. The capital city of Latvia is Riga. Latvia has 2,023,825 inhabitants (2013) and the territory is 64,589 km<sup>2</sup>. The official language of the country is Latvian and since the January 2014 the national currency is Euro. There are five planning regions in Latvia Kurzeme, Latgale, Riga, Vidzeme and Zemgale. Latvia is founded in 1918; in 1940 the country was incorporated into the Soviet Union; after the dissolution of the Soviet Union Latvia declared the restoration of its independence on 1991. Now Latvia is a member of NATO, European Union and United Nations (1).

In 2011 59.9% of inhabitants were ethnic Latvians, 27.4% – Russians and the rest – of other ethnicities. In 2012 the birth rate was 9.8 per 1,000 population, death rate – 14.4 per 1,000 population (the natural increase is negative – 4.5 per 1,000 pop.). Life expectancy at birth in 2012 was 74.2 years (69.1 for males and 78.9 for females). The average salary (gross wage) per month in 2012 was 685 EUR (2).

The Latvian healthcare system is based on the residence principle. The state pays for all services except those that are excluded from the scope (negative list of benefits). Health care benefits are available at the state, municipality and private inpatient and outpatient health care institutions. A patient should pay a contribution in order to receive health care (3).

## 1.2. Epidemiological trends with respect to HIV, tuberculosis and associated infections

According to information collected by CDPC in the Epidemiological Monitoring Network laboratories, 107,694 blood samples were tested for HIV in 2012. It can be concluded (see Figure 1.2.1.) that within last 5 years the number of tests performed in the country is decreasing. And this decrease cannot be explained by any recent changes in testing guidelines or legislation (4).

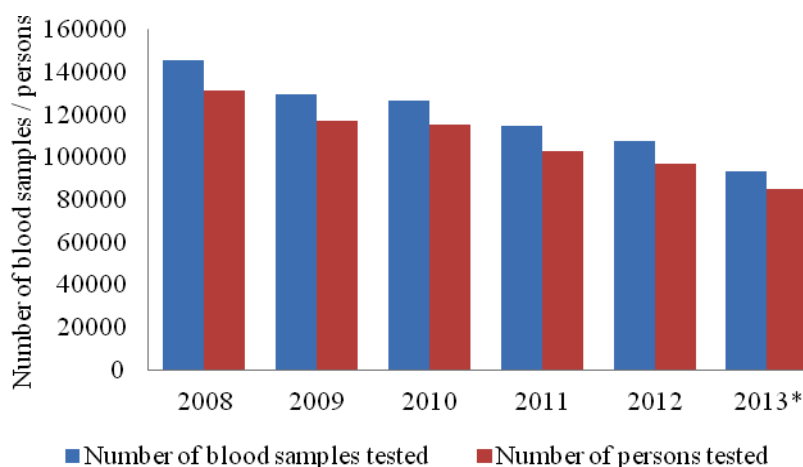
The first case of HIV in Latvia was registered in 1987 and by the end of 2013 the total amount of HIV cases has reached 5,867 (including 1,347 persons diagnosed with AIDS); 1,074 of these PLWH have died (4). Thus, the HIV prevalence in the country at the end of 2013 was 236.8 per 100,000 population and the self-evident tendency of increasing prevalence can be observed within the last 15 years (see Figure 1.2.2.).

In 2013 there were 340 new HIV cases registered in Latvia (16.7 per 100,000 population, see Figure 1.2.2.) (4). At the beginning of HIV epidemics (1987), there only couple of cases were registered annually in the

country. The rapid increase of newly registered cases started in 1995 and the peak of the incidence was reached in 2001 when 807 cases were registered. This increase during late 90ies is related to the outbreak of HIV among PWID. After 2001 the number of new cases decreased (the decrease could be related to the saturation effect of the epidemics among PWID as well as with introduction of harm reduction measures in 1997) and finally fell down to around 300–350 cases per year (5). But looking at the data of the most recent years it can be concluded that the incidence rate (if annually registered cases are assumed to be incident cases) is increasing since 2009. Taking into consideration the fact that the number of HIV tests performed in the country is declining year by year it can be speculated that the real incidence rate is higher in the country.

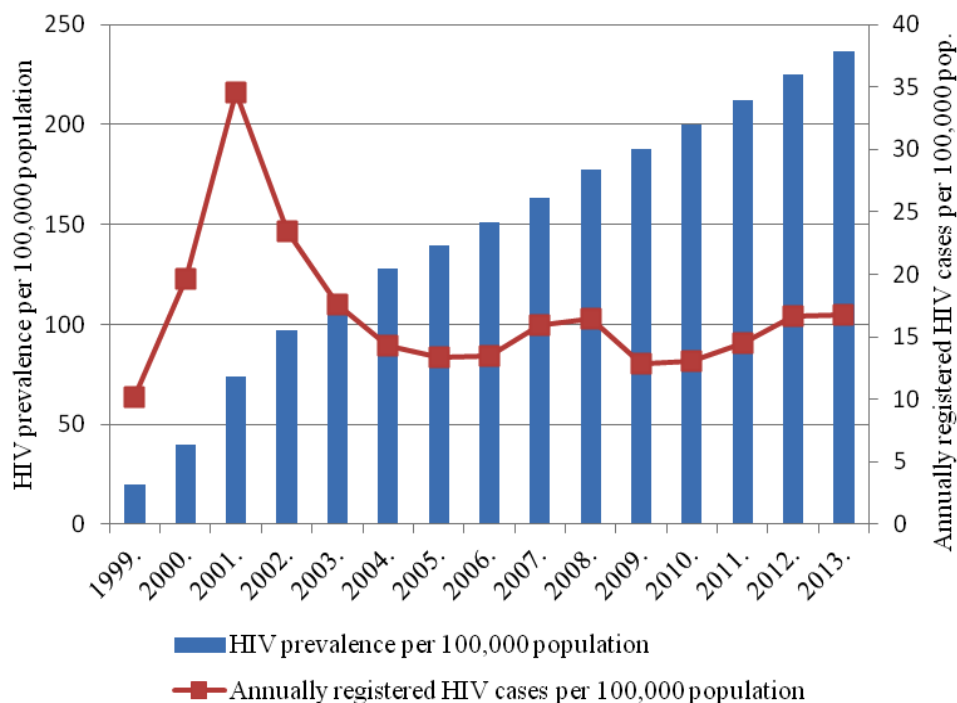
Compared to the EU average number of HIV cases per 100,000 population, Latvia is taking the second leading position in 2012 – the rate in EU on average was 5.8 per 100,000 population (6).

Figure 1.2.1. Number of blood samples and persons tested for HIV in Latvia, last 6 years (2008–2013)



Data source: CDPC, 2014  
\* as of December 1<sup>st</sup>

Figure 1.2.2. HIV prevalence (per 100,000 pop.) and annually registered HIV cases (per 100,000 pop.) in Latvia, last 15 years (1999–2013)



Data source: CDPC, 2014

There subnational differences can be observed in Latvia regarding the HIV incidence and prevalence (4). The region with the highest HIV prevalence by the end of 2013 is the capital Riga. The western part of the country is more affected and in the eastern part the rates are the smallest ones (see Figure 1.2.3.). One of the explanations for these differences can be the socioeconomic inequalities between the regions – capital city and the western part of the country are the ones with lower unemployment rates, higher GDP per capita etc. (2). Thus also the purchasing power (including purchasing of illegal psychoactive substances) is higher in these regions. National data also approves that the prevalence of drug use among general population is higher in Riga than in the rest of the country. As well it is calculated that half of the national PDU population is living in the capital city Riga (7, 8).

HIV incidence is higher among male population comparing to female population – in 2013 the incidence rate was 21.9/100,000 population for males

and 12.5/100,000 for females. The proportion of females among annually registered cases is increasing year by year due to the increase of heterosexually transmitted cases describes further in this report. E.g. in 2008, 35.5% (n=127) of all newly registered cases were females while the proportion in 2013 was 40.3% (n=137) (4).

Figure 1.2.3. Subnational differences in HIV prevalence by the end of 2013 (per 10,000 population)



Data source: CDPC, 2014

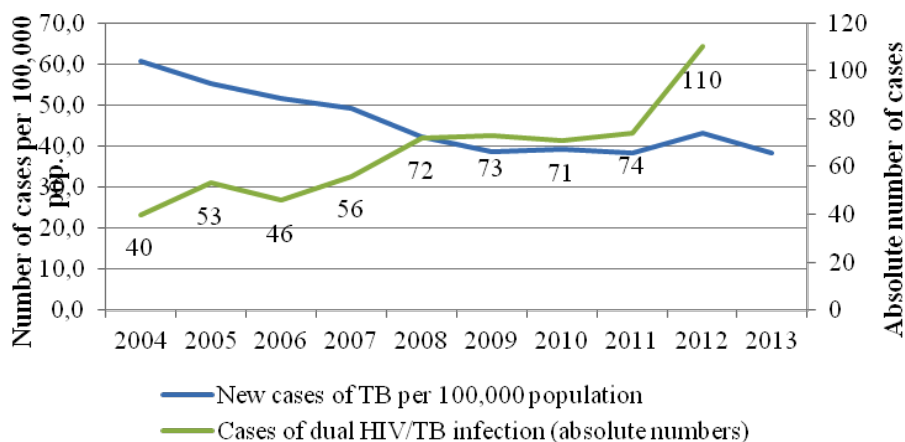
The age group with the highest HIV incidence rates is from 30–39 years. In 2013 the incidence for males at this age was 52.9/100,000 population and for females – 38.9/100,000 population. For males the second most affected age group was 40–49 years (41.5/100,000 pop.), for females – a younger one – 18–29 years (23.7/100,000 pop.) (4).

Latvia still takes the first leading position as regards to AIDS incidence – in 2012 the rate in the country was 6.8 per 100,000 population (EU – 0.9/100,000 pop.) (6). Also a statistically significant increase of mortality is still observed among PLWH in Latvia within last years (2001–2010) whereas in the western Europe due to the high quality treatment and care the life expectancy of HIV infected persons is increasing year by year. These facts – high AIDS incidence and

increasing mortality – indicate the disadvantages in HIV diagnostics, treatment and care in the country. It is calculated that the proportion of late diagnoses among the annually cases is increasing (3.1% in 2001 and 21.3% in 2010) (9). And the ART is provided only for a small part of PLWH (15.0% (n=683) by the end of 2012) (10).

Information collected and provided by the CDPC shows that within 2013 there 779 cases of first-time TB were registered in Latvia (38.5/100,000 population). Looking at the Figure 1.2.4. it can be seen that comparing to 2012 when the incidence rate was 43.0 / 100,000 population the rate in 2013 has slightly decreased (4). Regarding the identified cases of dual HIV/TB infection an increase can be observed (see Figure 1.2.4.) (11).

Figure 1.2.4. Number of annually registered first-time TB cases per 100,000 population and number of cases of dual HIV/TB infection in Latvia, last 10 years (2004–2013)



Data source: CDPC, 2014

Total number of TB cases by the end of 2013 per 100,000 inhabitants (the prevalence) is shown in Figure 1.2.5. (4). It can be seen that the central region – Riga / Pieriga holds the highest rates. But comparing to the HIV prevalence the spread of the TB infection is more even around the country.

Similarly as in the case of HIV infection, also TB incidence rates are higher among males. In 2013

the rate in male population was 54.0 / 100,000 population and in female – 25.4 / 100,000 population. The highest rates for males were registered in the age group 40–49 years (88.2 / 100,000 pop.), the second most affected age group was 30–39 years (84.2 / 100,000 pop.). Among females the TB infection has affected younger age group – 18–29 years (38.8 / 100,000 pop.) and then 40–49 years (36.7 / 100,000 pop.) (4).

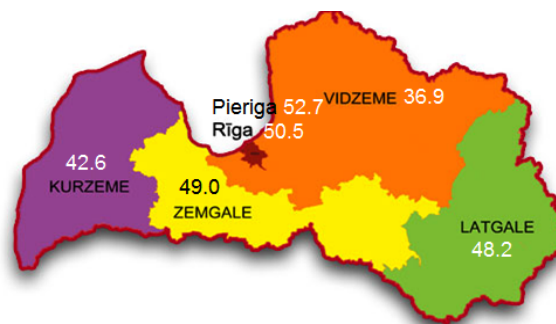
Regarding the cases of STI registered in Latvia a stable increase in number of cases of chlamydia can be seen. In 2013 there were 100.3 cases of chlamydia per 100,000 population recorded (n=2029) (comparing to the rate in 2012 – 85.1 / 100,000 pop.) (4) (see Figure 1.2.6.).

The number of cases of syphilis, gonorrhoea and anogenital herpes infection has remained relatively stable within last years. In 2013 there were 6.4 cases of syphilis registered per 100,000 population (n=129) (in 2012 – 7.2 / 100,000 pop.). Regarding gonorrhoea – in 2013 the rate was 27.7 / 100,000 pop. (n=560) comparing to 2012 when the rate was 29.4 / 100,000 pop.. The incidence rate of anogenital herpes was the lowest – 1.5 / 100,000 pop. (n=13) in 2013 comparing to 0.6 / 100,000 pop. in 2012 (4) (see Figure 1.2.6.).

Experts mainly associate the increases with improved reporting system rather than changes in the STI epidemics in the country (10).

Similarly as with other infections described above also STI are more widely spread in the central regions of Latvia (Riga, Pieriga) (see Table No 1.2.1.) (4).

Figure 1.2.5. Subnational differences in TB prevalence by the end of 2013 (per 100,000 population)



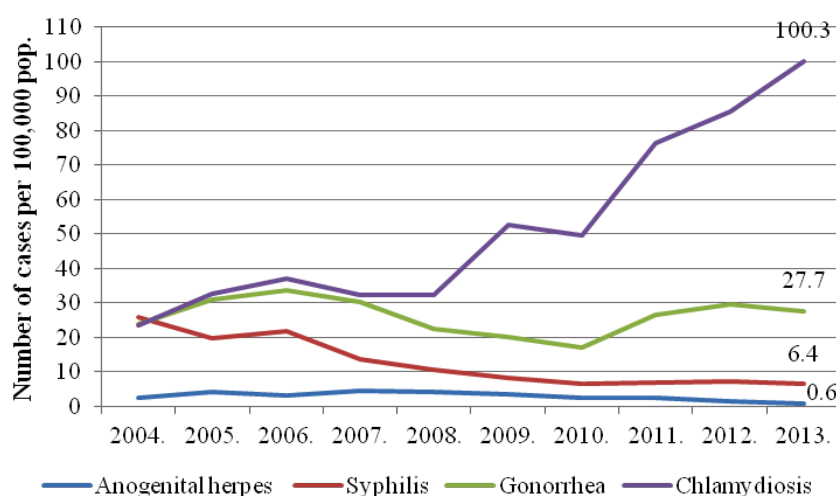
Data source: CDPC, 2014

Table 1.2.1. Newly registered cases of syphilis, gonorrhoea and chlamydia in 2013 (per 100,000 population)

Infection	Riga	Pieriga	Kurzeme	Zemgale	Latgale	Vidzeme
Syphilis	12.1	4.9	4.6	4.0	2.4	1.9
Gonorrhoea	48.0	29.7	17.9	16.9	12.6	7.3
Chlamydia	176.2	92.4	55.9	61.1	40.7	65.6
Acute HBV	3.9	4.9	8.8	4.8	1.7	1.9
Chronic HBV	4.7	3.8	2.3	4.0	4.1	2.4
Acute HCV	2.6	1.9	3.0	2.8	2.7	3.9
Chronic HCV	89.8	50.5	48.3	51.4	53.6	26.7

Data source: CDPC, 2014

Figure 1.2.6. Number of annually registered cases of anogenital herpes, syphilis, gonorrhoea and chlamydia infection in Latvia per 100,000 population, last 10 years (2004–2013)



Data source: CDPC, 2014

Syphilis and gonorrhoea are more spread among males than females. In 2013 there were 9.4 cases of syphilis registered per 100,000 male population and 3.8 per 100,000 female population. And 41.8 cases of gonorrhoea were registered per 100,000 male population and 15.8 per 100,000 female population. Whereas chlamydiosis cases were registered more among females (124.6/100,000 pop.) than males (71.4/100,000 pop.) (4).

There are no chlamydiosis screening among young people or youth friendly reproductive health services available in Latvia.

Acute HBV infection was diagnosed in 87 persons in 2013 (4.3/100,000 pop.) and chronic HBV – in 77 persons (3.8/100,000 pop.). Comparing to the situation in previous years a slight increase can be observed (see Figure 1.2.7.) (4).

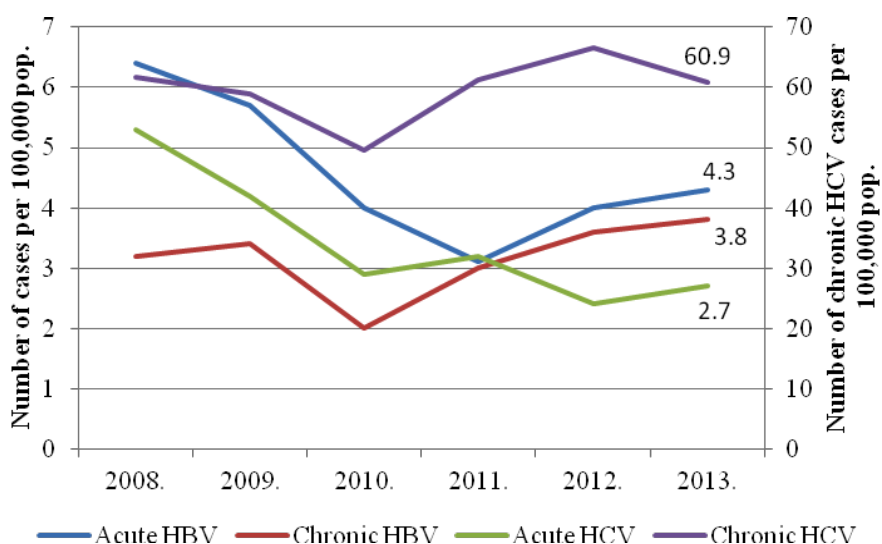
Speaking about HCV it is observed that in 2013 there 55 cases of acute infection have been registered (2.7/

100,000 pop.) as well as 1232 cases of chronic infection (60.9/100,000 pop.) (4). Comparing with the situation in previous years it can be said that since 2008 the incidence of acute HCV has decreased whereas rates of chronic HCV have increased since 2010 (see Figure 1.2.7.).

Similarly to the situation with HIV also the chronic HCV is spread mainly in the central part of the country (see table 1.2.1.) and can be related with the size of drug using population in this region described above.

The incidence of chronic HCV infection is higher again among males (75.9/100,000 pop.) than among females (48.2/100,000 pop.) in 2013. And the most affected age groups are 30–29 years (192.9/100,000 pop. for males and 79.4/100,000 for females) and 40–49 years (115.6/100,000 pop. for males and 82.4/100,000 for females) (4).

Figure 1.2.7. Number of annually registered cases of viral hepatitis B and C in Latvia per 100,000 population, last 6 years (2008–2013)



Data source: CDPC, 2014



### 1.3. Most-at-risk populations for HIV, tuberculosis and associated infections

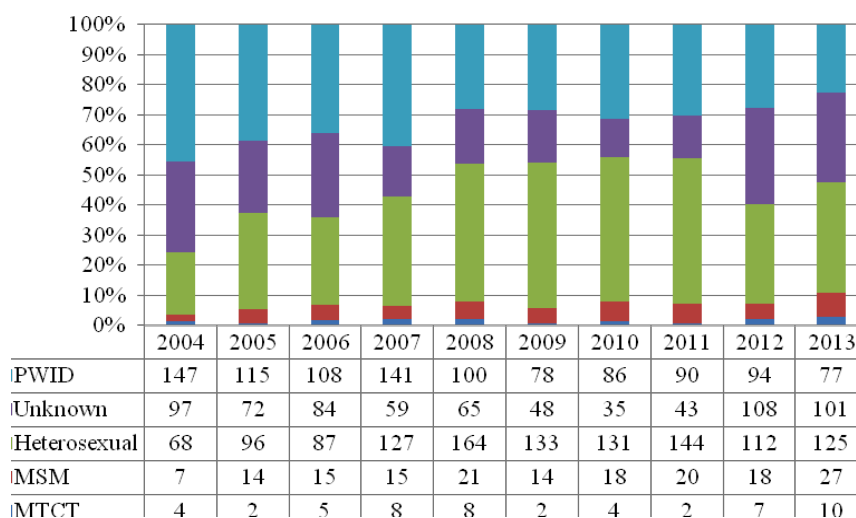
Looking at the mode of HIV transmission in the country (see Figure 1.3.1.), in 2013 the main mode was heterosexual contacts (36.8%, n=125) followed by cases acquired via drug injection (22.6%, n=77). The numbers should be interpreted with caution as the proportion of HIV cases with unknown mode of transmission among annually registered ones is high (29.7%) (4). This fact is indicating the necessity of some improvements in the national register-based HIV surveillance system within the nearest future.

Looking historically – the very first cases of HIV in Latvia were registered among MSM and in late 90ies the infection started the rapid spread among PWID. In now days the second phase of the epidemic can be observed, i.e. the epidemic slowly generalizes via heterosexual contacts from PWID to the general population. This opinion is proofed also by an article published in 2012 in the peer-reviewed journal “AIDS Research and Human Retroviruses”. The paper is discussing the topic of changes in the modes of HIV transmission in Latvia and authors conclude that the “recent increase of heterosexually infected persons did not form a separate

*subepidemic, but had multiple interactions with injecting drug users epidemic”* in late 90ies (12). Thus so far the epidemic cannot be evaluated as generalized as the heterosexually infected individuals basically are sex partners of PWID. But another article published in the journal “Epidemics” in 2012 approves (by using mathematical modeling) that in Latvia there is a potential for fast growing number of heterosexual cases in general population if not sufficient coverage of prevention interventions will be carried out (13).

Another risk group in the country regarding HIV is prison inmates. Annually around one fifth of all newly registered HIV cases are diagnosed in prisons. E.g. in 2012 of 339 HIV cases registered in the country 59 were among inmates (17.4%) (10). HIV test for prison inmates are carried out basically at the incarceration. During the serving of sentence the test is provided only upon specific request. So it is not possible to say how many cases of HIV are got within the prison. It is calculated that in the prison population in Latvia the HIV prevalence is around 6–7%, so the rate is more than 30 times higher than in general population (14).

Figure 1.3.1. Distribution of annually registered HIV cases (in absolute numbers and percent) by mode of transmission, last 10 years (2004–2013)



Data source: CDPC, 2014

The analysis of the mode of transmission for notified HBV and HCV cases is limited as for a half of the cases the transmission route is unknown (10).

National TB case registry contains information about different health risks of each patient. So in 2013 among all newly registered TB cases 41 (5.3%) were drug users, 5.8% (n=45) were imprisoned and 23.7% (n=185) were alcoholics. 291 patients (37.4%) were unemployed (4).

As it can be seen in Figure 1.3.1. the number of annually registered cases of MTCT transmitted infection is increasing. Some research data show that among HIV infected females having pregnancy during 2008–2011 (n=199) the HIV infection was diagnosed before pregnancy only in 60.5% of cases. In 32.5% of cases the infection was diagnosed during the pregnancy and in 7.1% of cases – just before the delivery. ART for prevention of vertical transmission was taken up by 82.3% of women (15).

Looking at the alternative sources of information it can be concluded that epidemiological cross-sectional studies among PWID in Latvia show an increasing HIV prevalence in this population – from 3.1% in 1997 (16) to 31.7% in 2012 (17). The results of these studies should be compared with caution as they were using different sampling methods and different study designs as well as covered different geographical areas of the country. Nevertheless these data give some insight on what is happening with the HIV epidemic in the drug using population.

Also HCV infection is widely spread among PWID. There are two RDS studies carried out in Riga and surrounding areas among the mentioned population. Results of the study held in 2007 (sample size – 407) showed that the HCV prevalence among drug injectors is 74.2% (18), whereas study held in 2012 (sample size – 300) showed the prevalence as high as 82.0% (17).

The above mentioned high prevalence rates of HIV and HCV infections agrees with the quite high rates

of risk behaviour and low coverage of harm reduction measures described later in this report. The latest RDS study shows that 76% of PWID have shared syringes ever in lifetime and 23% have used unsterile equipment during the last injection (17).

The most recent RDS study shows that 27.0% of PWID has typical TB symptoms at the moment of the study (blood in sputum and / or cough more than 2 weeks) (17). This shows the importance of preventive and active case finding activities among PWID which are not highly developed in Latvia.

Within last couple of years studies among other risk groups are also carried out in Latvia. In 2010 Latvia took part in the largest internet based study among MSM in Europe called EMIS. 708 men took part in the study and the rate of self-reported HIV prevalence showed that the spread of the mentioned infection has reached the level of a concentrated epidemic – 7.8% (19). This rate is remarkably higher than the one discovered in cross-sectional study carried out among MSM in 2008 in Riga gay clubs and using HIV rapid test systems. The mentioned study found the HIV prevalence of 4% (16).

The research also shows low rates of HIV testing (half of all MSM have never undergone the testing) and high rates of risk behaviour – 65% of respondents had sex with a non-steady partner during the last year and only 42% of them used condoms consistently during those intercourses. The research shows also that only small part of MSM has received adequate investigations for detection of STI while visiting a doctor – below 20% received anal or penile investigation within last year; usually only blood is taken for the analysis thus leaving a large part of STI undiagnosed (19).

As well the research shows that MSM in Latvia still are highly stigmatized – data show that they are experiencing violence and are not open about their sexual attraction to same-sex people. I.e. only 29% of respondents are open about their same-sex attraction to

other people they know and 58% have been attacked by other persons verbally and 17% have experienced physical violence (19).

In 2011 there also a bio-behavioral study has been carried out among street FSW in Riga and surrounding areas (sample size – 117 persons). The research found that the HIV and HCV prevalence in the mentioned

risk group is high – 22.2% and 58.1% respectively. This might be due to the fact that the street sex work scene is overlapping with the scene of drug using in the country. Data shows that 82.9% of FSW have used drugs during their lifetime and 83.5% of them have used drugs also by injection. And 62.0% of those with the experience of drug injection have ever used syringe or needle already used before by somebody else (20).

## 2. Analysis of national HIV, TB & AIs responses

### 2.1. Description of Governmental coordination, management and financial support for HIV, tuberculosis and associated infections

The first HIV co-ordination body (co-ordination committee) in Latvia was established 10 years ago (Order of MoH Nr.128, 26th July, 2004). During ten years period several amendments and revisions were adopted. Regulations made by MoH in June 11, 2012 determine that the aim of the **National HIV, Tuberculosis and STIs Prevention Coordination Committee** is to provide professional support for HIV, tuberculosis and STI health policy. This

commission meets quarterly and is led by the MoH. Membership includes governmental institutions (MoH, Ministry of Justice, Ministry of Defense, Ministry of Education and Science), several NGOs and WHO Country Office in Latvia, total 25 members. In recent ten years NCC membership has been afforded by representatives from more NGOs and representatives from private sector.

Table 2.1.1. State Budget for HIV patients care

	2010.	2011.	2012.	2013. (11 months)
Number of persons treated with ARV drugs (persons)	645	747	862	N/A
ARV treatment cost covered by the State budget (EUR)	2 885 165	3 500 781	4 105 039	N/A
Budget for HIV patients outpatient health care costs (EUR)	4 727*	8 393*	300 501	463 189
Total expenditures for ARV & PLHIV health care	2 889 892	3 509 174	4 405 540	N/A

Source: National Health Service, 2014

\* N/A data from Infectology Centre due to another financial model till the health system reforms in 2012, April 1<sup>st</sup>

Table 2.1.2. Budget\* for HIV prevention 2009–2013

	2009.	2010.	2011.	2012.	2013.
State budget for HIV prevention measures – expenditures for harm reduction network (EUR), incl. brochures (EUR)	14 883	31 369	34 721	38 900	45 854
Total budget (EUR)	N/A	N/A	N/A	N/A	N/A

Source: CDPC, 2014

\*Total budget for prevention is N/A, because the budget data from local governments and NGOs aren't available

Table 2.1.3. State budget for tuberculosis patients care 2009–2013 (11 m)

	2009.	2010.	2011.	2012.	2013. (11 months)
For tuberculosis outpatient health care costs (EUR)*	928 838	596 633	543 936	731 425	927 728
For tuberculosis drugs (EUR)**	N/A	N/A	N/A	N/A	1 088 705
Total budget (EUR)	N/A	N/A	N/A	N/A	2 016 433

\* Source: National Health Service

\*\* Source: Riga Eastern Clinical University Hospital

State Budget has been approved every year by Cabinet within the frame of State Budget Law. The Ministry of Health plans and allocates the necessary funding for the health / public health sectors according set out priorities and requests.

Budget for STI and hepatitis B and C treatment and prevention cannot be calculated, because these data were not collected centralized.

## 2.2. HIV, tuberculosis and associated infections normative basis

The more specific law that concerns infectious diseases is **Epidemiological Safety Law** (*Epidemioloģiskās drošības likums*). Article 2 of the Epidemiological Safety Law states:

*‘The purpose of this Law is to regulate epidemiological safety and specify the rights and duties of State authorities, local governments, and natural persons and legal persons in the field of epidemiological safety, as well as to determine liability for the violation of this Law.’*

Article 1, section 8 of this Law establishes: *‘Epidemiological safety is the system of prophylactic, counter-epidemic, medical treatment and organisational conditions and measures, the objective of which is to reduce the threat to public health caused by infectious*

Table 2.1.4. Tuberculosis prevention budget 2009–2013

Year	Expenditures (EUR)*
2009.	596 852
2010.	479 612
2011.	504 441
2012.	433 599
2013. (11 months)	413 804

Source: National Health Service, 2014

\*Expenditures include outpatient prophylaxis measures – vaccines, vaccination, R. Mantoux, case management

Table 2.1.5. Number of patients treated by DOTS 2009–2013

	2009.	2010.	2011.	2012.
Number of persons receiving DOTS treatment	988	936	889	986

Source: Riga Eastern Clinical University Hospital, 2014

*diseases and the harmful effects of environmental factors affecting health’.*

Article 3 states:

*‘Epidemiological safety includes:*

1. *the measures ensuring healthy environment;*
2. *the epidemiological surveillance of infectious diseases, including;*
  - a. *the registration, enumeration and analysis of the morbidity rates for infectious diseases;*
  - b. *the laboratory examination of human, animal and environmental materials for the observation of circulation of infectious disease-causing agents; and*
  - c. *the study of the immunity of the population;*

3. *the vaccination of the population;*
4. *the detection, enumeration, treatment and, if necessary, the isolation of patients and infected persons;*
5. *the laboratory examination, medical and epidemiological observation of exposed persons;*
6. *the restriction and prohibition of the occupational activities of patients and infected persons;*
7. *the recovery measures of the infectious disease sources, as well as measures for the discontinuance of the circulation of infectious disease-causing agents in the external environment;*
8. *public health protection measures;*
9. *informing the inhabitants regarding the epidemiological situation and education on issues regarding the prophylaxis of infectious diseases; and*
10. *the application of compulsory measures prescribed by law for failure to implement epidemiological safety measures’.*

The liable person who has to treat the infectious disease, is a patient. The specialist and the State liability is to manage the information about diseases such as HIV, TB and AIs. The patient has to participate in the treatment, as well as the specialist has to treat the patient. According to the article 14, paragraph 1 of the Epidemiological Safety Law:

*‘If health care practitioners have established that a patient has an infectious disease, or if there is cause for suspicion that a patient has become infected, health care practitioners shall have an obligation to:*

1. *organise without delay the medical examination and medical treatment of the patient;*
2. *organise the necessary laboratory examination to clarify the diagnosis;*
3. *request information from the patient, which is necessary for the organisation of counter-epidemic measures, and also information regarding exposed persons and possible sources of the infectious disease;*
4. *register the case of the infectious disease pursuant to the procedures prescribed by the Cabinet; and*
5. *perform counter-epidemic measures prescribed by the Cabinet.’*

The list of infectious diseases (that must be registered) are given in the Annex 2 of January 5<sup>th</sup> 1999 adopted **Cabinen Regulation No. 7 ‘Procedures for Registration of Infectious Diseases’** (*Infekcijas slimību reģistrācijas kārtība*). The list of infectious diseases contains Human immunodeficiency virus (HIV) disease and AIDS; sexually transmitted diseases, caused by chlamydia, syphilis, including congenital syphilis syndrome; tuberculosis; viral hepatitis, including the carrying of hepatitis viruses.

The diseases named above, excluding HIV, TB and hepatitis C and B, have to be reported to the regional department epidemiologist of the national CDPC in writing within three days by sending an urgent notice, submitting a completed form by fax, via mail, by courier or by electronic means;

Regarding hepatitis C, report to the regional department epidemiologist of the CDPC within 24 hours by telephone and writing, if the first-time report or within 3 days if the report is about change or cancellation, or an affirmative diagnosis of infectious diseases, laboratory confirmation and outcome of the disease.

Regarding HIV and TB, within three working days the disease has to be reported by writing or by electronically communicating the CDPC, completing a medical record in accordance with the laws and regulations on medical institutions and medical record-keeping procedures.

Some of the infectious diseases are subject of an additional regulation by laws and Cabinet regulation. Regarding infectious diseases – Gonorrhoea and Chlamydia, the regulation is covered in the **Sexual and Reproductive Health Law** (*Seksuālās un reproduktīvās veselības likums*). The article 1 of the Sexual and Reproductive Health Law states: *‘The purpose of this law is to define legal relations within the field of sexual and reproductive health with the aim to protect unborn life and the sexual and reproductive health of every person.’*

Article 6, paragraph 3 of the Sexual and Reproductive Health Law states: *'A person infected with a sexually transmitted disease must inform his/her sex partner of the risk of infection'*.

Chapter III (article 10.,11.) of this Law specifically sets the regulation for Sexually Transmitted Diseases.

Article 10 regulates the Prevention, Diagnosis, Treatment and Monitoring of Sexually Transmitted Diseases:

*'Procedures for the prevention, diagnosis, treatment and monitoring of patients with sexually transmitted diseases [with the exclusion of syphilis, infection with human immunodeficiency syndrome (HIV) and acute immunodeficiency syndrome (AIDS)] shall be carried out by a dermatovenerologist, urologist or gynaecologist (childbirth specialist).Diagnosis of sexually transmitted diseases has to be confirmed by laboratory investigations'*.

Article 11 regulates the Diagnosis of Syphilis, HIV and AIDS; the Treatment and Monitoring of Patients: *'Measures for the prevention of syphilis, diagnosis of the disease, the treatment and monitoring of a patient shall be carried out by a dermatovenerologist. The examination, treatment and monitoring of HIV-infected persons and AIDS patients shall be carried out by an infectologist at a medical treatment institution.'* Comment: mostly of HIV/AIDS patients are treated by infectologists working in the Infectology Centre of Latvia (department of Riga Eastern Clinical University

Hospital) located in the capital city Riga, and only a few – by infectologists on countryside.

The Sexual and Reproductive Health Law in Article 5, paragraph 2 also defines the competence of the Cabinet to *'determine the organisational procedure for pregnancy termination, medical insemination, restriction of the spreading of human immunodeficiency virus (HIV) and AIDS, and the treatment of HIV-infected persons and AIDS patients'*.

In accordance to the Article 5th, the Cabinet in 2003, November 4<sup>th</sup> has adopted the **Cabinet Regulation No. 628 'Organisational Procedures for Restriction of the Spread of Human Immunodeficiency Virus Infection (HIV) and AIDS and the Treatment of HIV-Infected Persons and AIDS Patients'** (*Cilvēka imūndeficīta vīrusa infekcijas (HIV) un AIDS izplatības ierobežošanas un ar HIV inficētu personu un AIDS slimnieku ārstēšanas organizatoriskā kārtība*). Section 1 of the regulation states: *'These Regulations prescribe the procedures by which measures for the restriction of the spread of human immunodeficiency virus (hereinafter – HIV) and acquired immune deficiency syndrome (hereinafter – AIDS) shall be organised: epidemiological surveillance, the treatment of infected persons and AIDS patients, medical and social rehabilitation, the information and education of inhabitants in the field of HIV infection and AIDS prevention'*. Due to several structural reorganizations provided by Ministry of Health since March 1<sup>st</sup>, 2007, this Regulation has several amendments.

### 2.3. Policy planning

The policy planning document **'Public Health Guidelines 2011–2017'** (*Sabiedrības veselības pamatnostādnes 2011.–2017.gadam*) has been approved by the **Cabinet Order No.504** (5<sup>th</sup> October 2011). According to this Document, under-section 3.3.1 'Sexual and reproductive health', youths are mentioned to be one of the risk groups for HIV and

STI, the focus is on unprotected sexual intercourse that may cause such diseases. One of the main problems for sexually transmitted diseases and the treatment is named to be the lack of information and knowledge. In the section 3.5. 'Infectious diseases' states that infectious diseases (including TB, HIV and STI) are encouraged by migration, drug use,

lifestyle (prostitution), hygiene and lack of access to preventive resources, socio-economic factors, climate change, etc. Regarding infectious diseases, the aim has been set to reduce the number of people suffering of infectious diseases by continuing to implement the policy for prophylaxis of infectious diseases and limiting the spread of the diseases by maintaining and improving infectious disease prevention and control system, educating the public about effective measures to prevent infectious diseases, promoting early detection of TB cases and reducing the spread of multidrug-resistant TB.

Chapter II of Epidemiological Safety Law establishes the competence of State and Local Government Institutions in the Field of Epidemiological Safety. At the highest level, the competence has been transferred to the Ministry of Health as the State policy planner for the prophylaxis and combating of infectious diseases, and ensuring the co-ordination and uniformity of work in the specific field. Comment: for HIV and AIs prevention, there isn't clearly defined mechanism how State can entrusted to execute and purchase services from non-governmental organizations. Clearer provisions are defined by local governments.

The Ministry of Health in accordance to the 'Public Health Guidelines 2011–2017' has developed '**Plan to limit the spread of tuberculosis 2013–2015**' (*Tuberkulozes izplatības ierobežošanas plāns 2013.–2015. gadam*). The plan has set the limits to stop the spread of tuberculosis and the main action directions and results to be achieved, taking into account the current situation, the World Health Organization (WHO) and the European Centre for Disease Prevention and Control (ECDC) guidelines to limit a spread of TB, as well as the WHO and the ECDC Expert recommendations. The plan takes into account suggested actions by the WHO's policy document 'The Stop TB Strategy'.

With the Cabinet Order No.437 (30th June 2009) there has also been approved the '**Programme for limiting the Human immunodeficiency virus (HIV)**

**infection 2009 to 2013**' (*Cilvēka imūndeficīta vīrusa (HIV) infekcijas izplatības ierobežošanas programma 2009.–2013.gadam*). The program defines the main directions of the State policy for the next planning period (2009 to 2013) for reducing the prevalence of HIV infection in the country. According to the European Union's position, international organizations recommendations, transnational projects and the guidance of independent experts, the program is intended to continue to address issues related to harm reduction measures and long-term pharmacotherapy assurance for injecting drug users, HIV infection and related disease prophylaxis and diagnosis, especially in prisons, health service improvement, as well as evidence-based planning. The program, as said in the program, unlike its predecessor, has integrated HIV and TB interconnected issues. Comment: although Program's activities were expanded Program did not provide additional funds. On the contrary, during the economic crisis resources were reduced.

Currently in the process is the development of the new **HIV infection, STI and hepatitis B & C restriction plan for the period of 2014–2016** (*HIV infekcijas, seksuālās transmisijas infekciju, B un C hepatīta izplatības ierobežošanas rīcības plāns 2014.–2016. gadam*) what should be approved by the Cabinet Order soon in 2014.

No country specific guidelines for HIV testing exist, however, you can find a translation in national language of the 'Guidance on provider-initiated HIV testing and Counselling in Health Facilities' (*Vadlīnijas HIV testa veikšanai un pacientu konsultēšanai veselības aprūpes iestādēs pēc ārstniecības personas nozīmējuma*) elaborated by WHO (2007) on the webpage of the Disease Prevention and Control Centre ([www.spkc.gov.lv](http://www.spkc.gov.lv)).

**The Guidelines for Virus Hepatitis B diagnostic and treatment** (*Virushepatīta B diagnostikas un etiotropās ārstēšanas vadlīnijas*) are approved and registered by the professional Association of Infectologists

(May 16<sup>th</sup>, 2011.). The Guidelines include recommendations about rational therapy of hepatitis B and hepatitis complications. They are targeted for infectologists, general practitioners and other medical doctors.

Specific policy planning document for diseases like Hepatitis C or sexually transmitted diseases do not exist yet.

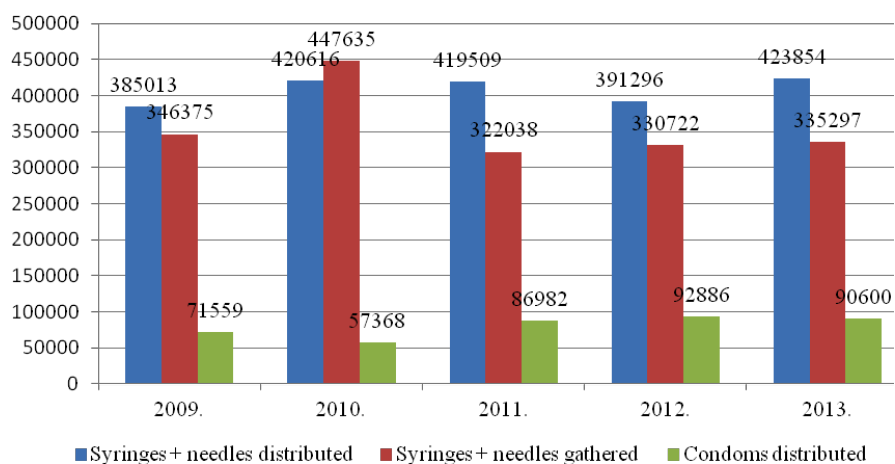
## 2.4. Implementing HIV, TB and AIs prevention and treatment strategies

The first HPP was introduced in Latvia in 1997 and till 2012 the network has developed by reaching 18 HPP operating all around Latvia (4 of HPP were providing the services in the capital city Riga). In 3 prevention points the services of mobile units were carried out parallel to other activities and 7 HPP carried out the outreach work. In 2013 the number of HPP has remained the same – 18 (4). The spectrum of services provided by the HPP network is broad – syringe and needle exchange, condom distribution, rapid testing (HIV, HBV, HCV, syphilis), informative materials (brochures, posters etc.), information and counseling (health, social and psychological issues), support groups, food packages, help with secondhand clothes etc. The services are provided to the representatives of different risk groups (basically to PWID, but also to limited amount of FSW, MSM etc.) (21). There are no specific low-threshold services for FSW and MSM developed in Latvia by the end of 2013.

According to CDPC data, 341,374 syringes and 82,480 needles were distributed by HPP in 2013 which is more than in 2012 (310,234 syringes and 81,062 needles). The number of used syringes and needles collected has also slightly grown from 330,722 in 2012 to 335,297 in 2013. In 2013 there also 90,600 condoms have been distributed to the representatives of risk groups (see Figure 2.4.1.) (4).

The conclusion regarding the coverage of syringe exchange services is that it is far too low for prevention or elimination of HIV epidemics. If the number of syringes distributed in 2013 is divided by the estimated number of PDUs in the country (according to the most recent estimates there are 13,141 PDUs in the country (8), according to the expert opinion largest part of PDUs in Latvia are drug injectors) we get the number of only 26 syringes per one PDU per year.

Figure 2.4.1. Number of syringes, needles and condoms distributed and syringes, needles gathered at HIV prevention points in Latvia, last 5 years (2009–2013)



Data source: CDPC, 2014



According to the information provided by CDPC in 2012 there 2,261 clients (PWID) have visited HPP network giving the number of 34,546 client-contacts. If these numbers are divided by the number of HPP in the country it gives an estimated average number of 130 clients per one HPP and 1,920 client-contacts per one HPP per year (160 contacts per month) (10).

Methadone treatment was officially introduced in Latvia in 1996 (22). In 2012 the number of drug users involved in long-term pharmacotherapy continued to increase (in 2010 the number was 237, in 2011 – 277 and in 2012 – 355). Still the coverage of this service remains dissatisfactory – around 2–3% (if divided by the previously mentioned estimated number of PDUs in the country) (10).

The HIV treatment and care in Latvia is highly centralized. Till 2010 it could be received only in one institution placed in Riga. Despite the decentralization in 2010, by the end of 2012 only 13 PLWH were visiting the infectologists outside Riga. This can be explained

by the lack of information among PLWH about the recent organizational changes or by the unwillingness of patients to change their help seeking behaviour (10).

ART is fully covered by state in Latvia (see chapter 2.5.). Nevertheless the treatment is highly expensive and thus, as already mentioned above, provided only for 15% of PLWH. As well it should be mentioned that Latvia still do not follow the international guidelines for introducing the ART for asymptomatic HIV patients – by the end of 2012 the CD4 cells threshold for initiation of the therapy was 200 cells / mm<sup>3</sup> (10).

Treatment of HCV is not fully covered by state in Latvia (see chapter 2.5.). Thus the co-payment for a patient may total more than 250 EUR per month, which is a far too high sum taking into consideration the average salary of the employed in Latvia (see chapter 1.1.) and knowing that many of HCV patients (including PWID) are unemployed or live on disability pension (10).

## 2.5. General principles in medical treatment

Main principle of health protection is set in the **Constitution of the Republic of Latvia** (*Latvijas Republikas Satversme*). Article 111 of the Constitution determines: *‘The State shall protect human health and guarantee a basic level of medical assistance for everyone’*.

The general law that regulates public relationships in medical care and treatment in order to ensure qualified prophylaxis and diagnosis of diseases or injury, as well as qualified medical treatment and rehabilitation of patients, is **Medical Treatment Law** (*Ārstniecības likums*). Article 3, paragraph 2 of the Medical Treatment law establishes: *‘Health care is a set of measures implemented by health care service providers for the provision, maintenance and restoring of the health of patients’*.

Article 5, paragraph 1 of the **Law on the Rights of Patients** (*Pacientu tiesību likums*) states: *‘In accordance with the procedures specified in the Medical Treatment Law, each person has the right to receive medical treatment corresponding to the state of health.’*

The procedures for the organisation and financing of health care, procedures for the establishment of queues of applicants for receipt of systematic health care services, the types and amounts of medical treatment services thereof, which are paid for from the State basic budget and from the resources of recipients of services, as well as the procedures for such payments are determined by the Cabinet – **Cabinet Regulation No. 1529 ‘Organisational Procedures for Health Care and Financing’** (*Veselības aprūpes organizēšanas un finansēšanas kārtība*).

Comment: medicines for HIV and tuberculosis (DOTS strategy) treatment are fully (100%) reimbursable by State budget whereas Hepatitis C – only 75%. STI treatment is at own expense except where it is provided for some reason in the hospital. with the main principles and in accordance with the organization and financing procedures.

HIV, TB un AIs are regulated by several national laws and documents for policy planning, in accordance

### 3. Conclusions and recommendations

#### 3.1. For policy:

- a. absence of any planning documents for hepatitis C and STI what are wide-spread and with growing tendency: have to be elaborated;
- b. absence of new HIV restriction policy document, the previous program ended in 2013 and it does not have the performance evaluation: the documents have to be drawn up in the previous period without interruptions; every program and plan needs it's evaluation;
- c. absence of national testing guidelines for HIV and STIs: are strongly recommended for general population as well as for target groups;
- d. lack of prioritization of infectious diseases: follow up WHO, ECDC recommendations.

#### 3.2. For treatment:

- a. any treatment for STI and hepatitis C and B have to get 100% reimbursement from the State budget;
- b. HIV treatment for asymptomatic patients should be organized according to international guidelines and started earlier;

#### 3.3. For governmental coordination:

- a. to strengthen collaboration with local governments and NGO;
- b. to develop easy procedures for the selection and purchase of NVO services;
- c. to follow up and coordinate financial flows for HIV, TB and AIs prevention, treatment and care;
- d. to evaluate the effectiveness of previous health-care reforms;

### 3.4. For prevention:

- a. to plan an appropriate budget for prevention measures for all target groups;
- b. to strengthen capacity of public health institutions (prevention, surveillance units);
- c. special attention should be paid to FSW, MSM as the low threshold services for these groups are not existent in Latvia;
- d. the information and education of medical staff in Latvia regarding adequate health investigation methods for STI diagnostics among MSM is recommended;
- e. special attention should be paid to sex partners of the high risk groups (bridging groups) as well as to prevention of unsafe sexual practices in the general population to avoid the prospective generalization of HIV epidemic;
- f. active TB case finding and prevention activities should be promoted in Latvia among PWID and other HIV risk groups;
- g. introduction of youth friendly reproductive health services (including chlamydia screening) is preferable in Latvia;
- h. the coverage of syringe exchange and methadone therapy should be broadened taking into consideration the growing HIV and HCV prevalence rates among PWID;
- i. the secondary prevention (HIV testing) should be promoted as of the high proportion of late diagnoses in the country as well as taking into consideration the high rates of untested individuals among risk groups and the decreasing tendency of performed state covered HIV tests;
- j. increase of the number of HIV infected females mean more vertically transmitted children in the future; the attention to adherence to vertical transmission prevention should be paid as well as to the care of young children born to HIV infected mothers.

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# APPENDIX 7 | LITHUANIA

Dr. Irma Caplinskiene

Lithuanian AIDS Centre

## 1. HIV, TB & AIs Situation in the Country

### 1.1. Country's Background<sup>1</sup>

<i>Capital:</i>	Vilnius
<i>Official language:</i>	Lithuanian
<i>Area:</i>	65.300 km <sup>2</sup>
<i>Population:</i>	2.979.000
<i>National currency:</i>	Litas (LTL) 3.4528 Lt = 1 euro
<i>Geographical situation:</i>	Lithuania is a state in Eastern Europe
<i>Neighboring countries:</i>	Latvia, Belarus, Poland, and Russia
<i>Independence:</i>	Announced on 16 February 1918 Restored on 11 March 1990
<i>Form of Government:</i>	Parliamentary democracy
<i>Head of State:</i>	President – Dalia Grybauskaitė (since 12 July 2009) Government of the Republic of Lithuania (Algirdas Butkevičius – Prime Minister since 13 December 2012) The Seimas (parliament) of the Republic of Lithuania (Loreta Graužiniene – Speaker of the Seimas since 3 October 2013)

<i>International membership:</i>	NATO member since 29 March, 2004 Member of European Union since 1 May, 2004
<i>Largest cities (number of inhabitants):</i>	Vilnius (538 700) Kaunas (307 500) Klaipėda (158 900) Šiauliai (106 800) Panevėžys (97 600)
<i>Administrative division:</i>	The territory of Lithuania is divided into 10 counties. Counties are subdivided into 60 municipalities. 103 cities and towns Municipalities consist of 546 elderships
<i>Ethnic composition (%):</i>	Lithuanians: 84.2 Poles: 6.6 Russians: 5.8 Belorussians: 1.2 Other: 2.2 The total number of nationalities living in Lithuania is 154
<i>Religion:</i>	Most Lithuanians belong to Roman Catholic Church. There are also Eastern Orthodox, Evangelical Lutheran, Reformed Church, Eastern Orthodox, Judaism, Islam and other religions.
<i>Life expectancy:</i>	Average life expectancy in Lithuania is 73.7 year Average female life expectancy is 79.1 year Average male life expectancy is 68.1 year

<sup>1</sup> [http://new.lietuva.lt/en/about\\_lithuania/quick\\_facts](http://new.lietuva.lt/en/about_lithuania/quick_facts)

## 1.2. Epidemiological Trends with Respect to HIV, TB and AIs

HIV, TB and AIs prevalence in the country including geographic breakdown, co-infections, trends (last 5 years) of HIV, TB and AIs prevalence and incidence, break down by age, gender and transmission routes

### 1.2.1. HIV/AIDS trends<sup>2</sup>

The first HIV case in Lithuania was reported in 1988. HIV epidemic in Lithuania has gone through 3 phases:

- » phase one: (50% hetero and 38.5% homosexual contacts) featured HIV prevalence among men who have sex with men (MSM) and heterosexual population (especially sailors) between 1988 and 1996;
- » phase two: was distinguished by HIV prevalence (85%) among intravenous drug users (IDU) between 1997 and 2003;
- » phase three: was characterised by spread of HIV both among heterosexual and IDU populations between 2004 and 2013.
- » In 2013 were more infected through sexual contacts than through intravenous drug use. This means that the HIV infection progresses to the next phase of the spread of HIV. Is likely to continue to actively spread of HIV to the general population through IDU sexual partners (bridging population).

A total of 2237 HIV cases were registered in Lithuania (population 2.9 million) at the end of 2013 (31 December). During the whole HIV reporting period starting from 1988, a total of 1812 (81.0%) HIV cases in males and 425 (19.0%) in females were reported. M/F cases ratio was: 3/1 and 4.2/1 2005 and 2013 respectively.

Cumulative number of HIV cases by the modes of transmission in 1988–2013 (31 December): intravenous drug use – 65.6% (n=1468) cases, heterosexual contact – 17% (n=381) cases, homosexual contact – 7% (n=157), MTC – 0.1% (n=3), unknown – 10.2 (n=228) cases (Figure 1).

In 2011–2013, the mean age at the moment of HIV diagnosis was 35. The age group with the highest incidence rates is from 25–34 years (42,5% of all cases). The second most affected age groups was 35–39 (16% of all cases) and 20–24 age group (15.1% of all cases).

HIV incidence rate in the last five years (2009–2012) has slightly increased: 5.4 per 100 000 population in 2009 compared to 5.3/100 000 in 2012. The HIV

Figure 1. New HIV cases by modes of transmission in Lithuania, 2009–2013

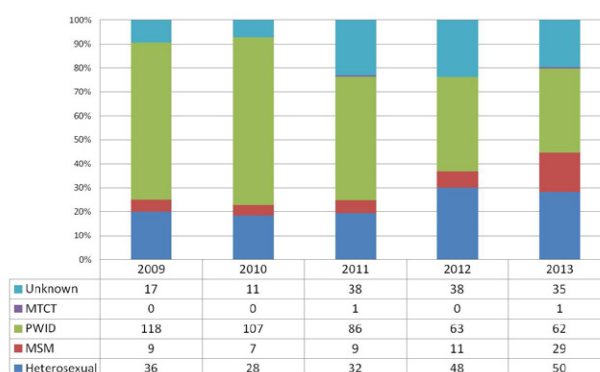
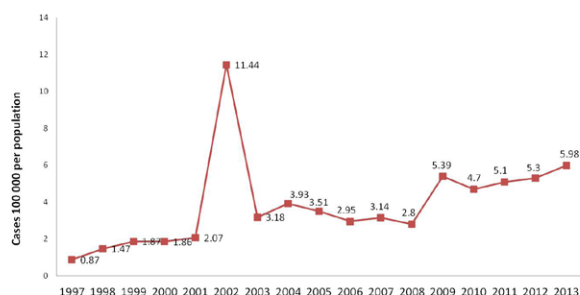


Figure 2. HIV incidence in Lithuania, 1997–2013



<sup>2</sup> Lithuanian Centre for Communicable Diseases and AIDS (CCDA). 2014.

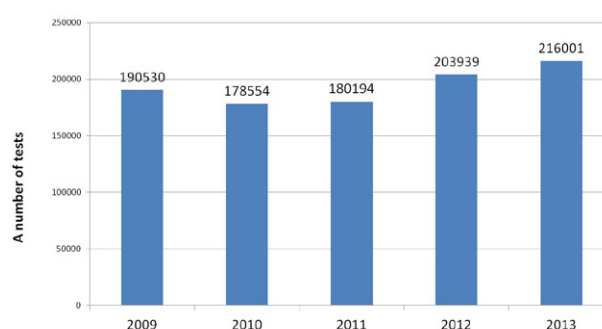
incidence in Lithuania was lower (5.3/100 000 population) compared to the EU average number of HIV cases per 100 000 population (5.8) (Figure 2).

HIV incidence rate can be influenced by the decline in the population of Lithuania. In 2001, Lithuania was 3,4 mln. population. During the last decade (2001–2011) the population has fallen by 12 per cent (430.2 thousand). Most of the population declined due to emigration (76%) and significant impact on the population decline had a negative natural change (24%)<sup>3</sup>.

HIV cases were registered in all administrative units (60 municipalities) in Lithuania. There subnational differences can be observed in Lithuania regarding HIV prevalence. The region with the highest HIV prevalence by the end of 2013 is Klaipėda (seaport) and Vilnius (capital).

The data on the HIV tests performed are derived from different sources, ranging from monthly activity reports from HIV testing sites in country. The total number of HIV tests performed in country is increasing year by year. In 2013 216,001 HIV tests were performed (7301.8 HIV tests per 100,000 population),

Figure 3. HIV testing dynamics in Lithuania, 2009–2013



in 2012 – 203,939 HIV tests (6825.8 HIV tests per 100,000 population) (Figure 3). Number of the health care institutions and other bodies (testing sites) performing HIV tests has been annually increasing too.

During 2011–2013 a number of late HIV diagnoses (in AIDS stage) increased from 4.8% to 9.0% respectively.

The Lithuanian HIV testing reporting system can provide detailed information (monthly) about what kind of risk groups are tested (Table. 1). Data suggest that the coverage of HIV testing among STI patients is not enough – it cover about 30% of all registered STI cases.

Table. 1 HIV testing by target groups in Lithuania, 2010–2013

Target group	Number of tested persons				New HIV cases 2013
	2010	2011	2012	2013	
Clinical indications	1631	1826	2049	3147	31
STI patients	345	208	199	129	1
Persons who have more than 1 sexual partner	37	23	448	178	1
TB patients	784	1262	2165	1 724	4
Pregnant women	41978	50303	45071	45242	5
Persons who applied for testing on their own will	4511	5737	6846	12090	21
Prisoners	18324	17155	16797	13912	46
IDUs	900	837	2897	2 116	62
Other groups/unknown	110044	102843	127467	142755	6
Total	178554	180194	203939	221293**	177

\*\*revised data by CCDA.

3 Lithuanian Department of Statistics. 2013.



Accordinging of the analysis of HIV testing coverage by target groups, it can be said that HIV testing among STI patients is inadequate and should be expanded. In addition, such intervention is necessary for another last year trend – the spread of HIV infection in bridging groups (IDUs sexual partners).

Another important group – prisoners. The testing coverage every year reaches at least 90% of all new imprisoned persons. HIV testing of imprisoned persons – is an important part of the Lithuanian HIV surveillance system, as each year not less than one-third of new HIV cases are found in newly imprisoned persons. This indirectly allows to fill in the gaps in HIV testing among IDUs, who because of criminal behavior falls into prisons.

Persons who are tested in accordance with the clinical indications (symptoms) mostly diagnosed in late HIV stage (mostly AIDS). So it is necessary to increase the physicians, especially family physicians (GPS), clinical vigilance, teaching them to suspect HIV infection or raise their skills on HIV.

83.7 percent (in year 2012) of new TB patients was tested for HIV. Last year this coverage decreased up to 56.3 percent. Average of this indicator in Europe is 75%, but very good coverage – 90 percent. Very good coverage was reached in 10 European countries (no Baltic countries<sup>4</sup>). According Lithuanian Tuberculosis Information System data, HIV prevalence among

new TB cases varies from 0.89% in 2010, to 2.5% in 2012 and 1.66% in 2013. HIV prevalence among new TB cases in Estonia and Latvia is higher and higher than the EU average (5.5 percent).

### AIDS

Until 1 January 2014, 378 cases of AIDS were reported. There was an increase in AIDS incidence rate from 0.7 per 100 000 population in 2011 to 1.5/100 000 in 2013. Four most common AIDS-indicative diseases (60% out of all) among adults and adolescents 2010–2013 were pulmonary tuberculosis, pneumocystis pneumonia, oesophageal candidiasis and wasting syndrome due to HIV. Half of AIDS patients was – IDU (CCDA data, 2013).

A total of 142 AIDS-related deaths were reported until 1 January 2013. During the last five years the number of AIDS related deaths increase from 14 in 2008 to 28 in 2012. Mortality rate in the last five years (2008–2012) increase: 0.4 per 100 000 population in 2008 compared to 0.9/100 000 in 2012 (Table 2).

Table 2. AIDS mortality 100 000 population in Lithuania, 2008–2012

Year	2008	2009	2010	2011	2012
Total	0,4	0,4	0,6	0,6	0,9
Male	0,7	0,7	1,0	1,1	1,7
Female	0,2	0,2	0,2	0,2	0,3

### 1.2.2. Viral hepatitis B (HBV) and C (HBC) in general population<sup>5</sup>

Since 1990, Lithuania has been observing a decrease in the incidence of acute viral hepatitis B (HBV). The incidence decreased from 10.9 cases/ 100 thousand population in 2001 to 0.8 cases/ 100 thousand population in 2012 (Figure 4).The location of infection acquirement of the majority acute cases (91.3%) in

2012 was not detected. The highest incidence rates for men were in the 25–34 age group and 35–44 age group, whereas for women they were highest in the groups of 25–34 and 45–54 years of age. Since 2001, Lithuania has also been observing a decrease in the incidence of acute viral hepatitis C (HCV).

4 TB surveillance and monitoring in Europe. Surveillance report. ECDC/WHO. 2012

5 Lithuanian Centre for Communicable diseases and AIDS (CCDA). 2014.

The incidence rates decreased from 5.36 cases/ 100 thousand population in 2001 to 1.3 cases/ 100 thousand population in 2012 (Figure 4). Incidence rate of acute hepatitis C for men in 2012 was higher than that for women. The highest incidence rates for men were in the 25–34 age group whereas for women they were highest in the group of 15–24. More often than not, infection causes and risk factors remain undetected. According to the recent ECDC Surveillance report<sup>6</sup>, the incidence rate of acute HBV in Lithuania is one of the highest compared to other EU countries, but as yet there are no such comparative data on HCV. Prevalence of HBV and HCV biological markers among blood donors remains high. In 2012, there were more laboratory markers registered among regular blood donors and the ones willing to become a regular donor compared to 2011: 7 times as many cases of hepatitis B (HBsAg), and 3.3 as many cases of viral hepatitis C (antiHCV).

But in 2013, the incidence of acute HBV and HCV has increased<sup>7</sup>.

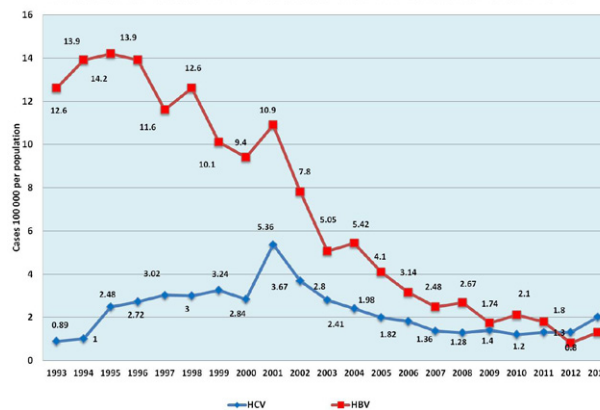
VHB prevalence of chronic (HBsAg carrying) in Lithuania is not known. Pregnant women for HBsAg markers not tested. Unpaid blood donor population

### 1.2.3. Sexually transmitted infections (STIs) in general population<sup>8</sup>

Behavioural and laboratory data are collected and linked in STI clinics as part of routine surveillance process in Lithuania. Institution which responsible for these data collection – is Lithuanian Centre for Communicable diseases and AIDS.

In 2012, the incidence of syphilis, gonorrhoea and chlamydia decreased compared with the year 2011. Gonorrhoea incidence rate in the last three years (2010–2012) decreased from 9.5 to 7.3 cases / 100 thousand population. Syphilis incidence rate during

Figure 4. Incidence of acute HBV and HCV in Lithuania 1993–2013



consist of only 30 percent of all blood donors. Therefore indirectly assess the prevalence of HBsAg is not possible.

In 2013, Hepatitis B vaccination coverage among infants increasing and amounted to 97,7% compared to 95.7% in 2011. Over the 11 years period (2002–2012) the number of newborns who have not been vaccinated against hepatitis B amounted to approximately 5 700.

the same period decreased from 10.3 cases / 100 thousand population in 2010 to 7.6 cases / 100 thousand population in 2012. However, the incidence rate of syphilis in Lithuania is one of the highest (exceeded only by Romania and Malta) compared to other EU

countries and 1.6 times higher than the EU average (4.9 cases/ 100 thousand population in 2011 m). In 2012, only one-fifth of all laboratory-confirmed cases of syphilis were reported in the country. Chlamydia incidence rate during the period of

6 Hepatitis B and C surveillance in Europe 2006–2011. Surveillance report. ECDC. 2013. www.ecdc.europa.eu

7 Lithuanian Centre for Communicable Diseases and AIDS. 2013.

8 Lithuanian centre for communicable diseases and AIDS (CCDA). 2014

2010–2012 decreased from 11 cases to 8.9 cases / 100 thousand population (Figure 5).

Behavioural surveillance system in STI clinics have been implemented in 2003<sup>9</sup>. Collecting information about sexual behavior to assess exposure to risk and interpret symptoms is an integral part of the dermatologist consultation process. To the dermatovenereologist patient can apply directly without a GP referral. There is obviously great variation between STI clinics in the consistency of recording information. Despite this, the STI surveillance (including and behavioural) data are evidence that STI highly concentrated among young people (20–29 years group), who have more than one sexual partner per 12 month and half of them never use condoms having new sexual partners.

STIs are diagnosed each year among school students – in 2013: nine syphilis cases (2012–10), 10 gonorrhoea cases (2012–13) and 7 chlamydia cases (2012–3). It shows that risky sexual behavior especially among young people exists.

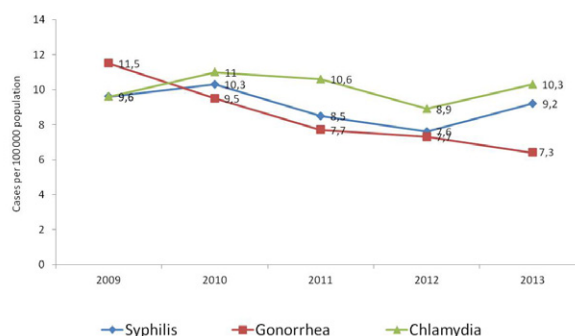
Chronic, untreated STI leads to an infertility development. Infertility problem facing in Lithuania 10–15% of families (couples). According Department of Lithuanian Statistics, every year in our country officially

#### 1.2.4. Tuberculosis in general population

According to the TB registry data<sup>10</sup>, the number of TB cases in all registration categories from 1998 to 2012 decreased by nearly 45% (Figure 6). In 2012, the prevalence of TB in Lithuania was 59.61 cases/100 thousand population. 1 274 new cases of pulmonary TB (or 42.64 cases/100 thousand population) were reported and 78.8% of cases were bacteriologically confirmed.

TB incidence in children from 1998 annual was declining on average by 0.45 cases/100 thousand

Figure 5. STI incidences in Lithuania, 2009–2013



married about 20 thousand pairs. So with such a problem faced every year at least two thousand new couples. It is estimated that in Lithuania, as in other European countries, infertile couples are about 10–15%, what constitutes more than 55, 000 infertile couples.

#### Syphilis and HIV Prevalence among pregnant woman

In recent years, increasing the number of syphilis among pregnant women: percentage of antenatal care women who were positive for syphilis: 0.08% in 2012, 0.06% in 2011, 0.05% in 2010. These data can reflect that STI prevalence in general population is relatively high.

children. In 2012, 78 TB cases were registered in children (14.18 cases/100 thousand children) of which about 16% were open pulmonary TB. The number of multidrug-resistant TB cases decreased during the period 2009–2012 by almost 16% (from 322 cases to 271 cases), but the ratio for previously untreated TB patients who were diagnosed with multidrug-resistant TB remains about 40% of all multidrug-resistant TB cases. There is almost no difference in new treatment results of pulmonary multidrug-resistant

9 Mapping of HIV/STI behavioural surveillance in Europe. Technical report. ECDC. 2009.

10 National Tuberculosis data processor is a National Tuberculosis and Infectious Diseases University Hospital

TB over the period of 2004–2010 with around 30% of patients discontinuing the treatment (more than 2 months) and around 20% of them die. In 2012, 26 new cases of HIV-infection and TB coinfection were registered and that was almost twice as many compared with the year 2009. Although the prevalence of TB was almost by 45% lower than in 1998, during 2010–2012, despite the absolute decline in TB cases, relative TB indexes increased. In 2012, 209 TB related deaths were reported in Lithuania which is by almost 19% more than in the year 2011. In 2010, the TB rate in Lithuania, compared to other EU countries, was one of the highest (58.2 cases/100 thousand population), exceeded only by Romania (98.2 cases/100 thousand population) whereas the average EU rate was 14.7 cases/100 thousand population<sup>11</sup>. In terms of TB prevalence and incidence Lithuania remains the leading country in Europe. TB epidemiological situation is under improving: number of multidrug-resistant TB patient continued to decrease. Every year there are more successful TB treatment cases (82.5% in 2011), less cases of discontinued treatment and treatment fails, less TB patients died because of TB.

TB epidemiological situation continued to improve: number of multidrug-resistant TB patient continued to decrease (Figure 7).

### 1.2.5. Co-infections

#### HIV/TB

During 2010–2012, the most often AIDS indicator disease was pulmonary tuberculosis (TB). Screening of TB patients on HIV is regulated by order of MOH and annually increases. Coverage of HIV testing among new TB cases increased from 43.2% in 2010 up to 83.7% in 2012. However, HIV prevalence among new TB cases has increased disadvantageously for the country: from 0.89% (2010) up to 2.5% (2012). As compared to other EU countries, it is a high indicator.

Figure 6. New TB cases in Lithuania, 1998–2012

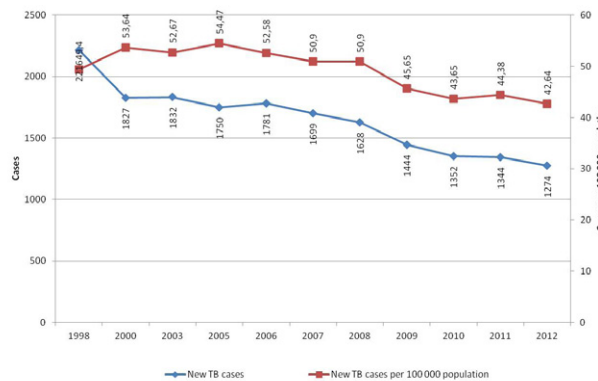


Figure 7. Multidrug-resistant TB in Lithuania, 1999–2013

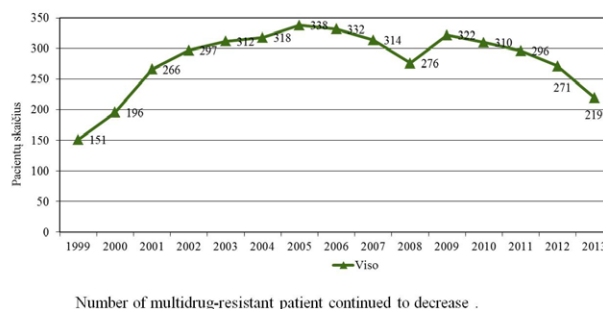
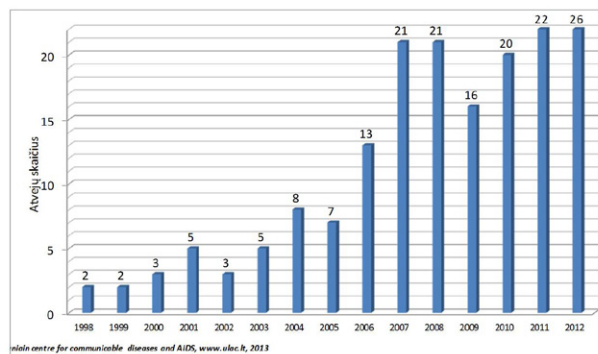


Figure 8. HIV/TB dual infection cases in Lithuania, 1998–2012



<sup>11</sup> TB surveillance and monitoring in Europe. Surveillance report. ECDC/WHO. 2012.

Patients with TB are tested on HIV by the Order No. V-374, 30/04/2008, of the Minister of Health of the Republic of Lithuania “On approval of the procedure description of prophylactic testing on HIV infection in people with TB” (Off. Gaz., 2008, No. 54-2007). This order provides for HIV testing for patients with first TB diagnosis, TB relapse, disrupted treatment, treatment failure when resistant TB or multi-drug resistant TB is diagnosed.

In 2012 26 new dual TB/HIV infection cases were reported. As compared to 2009 (16 cases), a number of the new HIV/TB cases has almost doubled (Figure 8). Most of HIV positive TB patients (86%) were diagnosed in 25–44 year age group.

The prevalence of HIV infection and dual HIV/TB infection in Lithuania are not as wide as in the neighbouring countries, especially in Latvia, Estonia or Russia.

### 1.3. Most-at-risk populations for HIV, TB and AIDS

trends (last 5 years) | factors promoting HIV, TB and AIs transmission among most-at-risk groups | expected trends in prevalence of these infectious diseases among most-at-risk groups

#### 1.3.1. MSM

##### *HIV epidemiology situation:*

7% of all HIV cases reported in Lithuania are attributed to homosexual transmission. In 2013 as compared to 2009 threefold increase in HIV cases among MSM was observed: from 9 up to 29 cases respectively (Figure 1 in 1.2.1 chapter).

##### *Behaviour:*

Risky behaviour of Lithuanian MSM related to HIV/STI was evaluated in the European MSM Internet

Figure 9. Prevalance of infections among IDUs in The Baltic States

Serological Marker (%)	Tallinn	Riga	Vilnius
<b>HIV Prevalence</b>	<b>55,3</b>	<b>22,6</b>	<b>8</b>
<b>HCV Prevalence</b>	<b>93,4</b>	<b>74,2</b>	<b>94,8</b>
<b>HBV Prevalence antiHBVcor</b>	<b>76,8</b>	<b>55,7</b>	<b>82</b>
<b>Coinfection HIV+HBV+HCV</b>	<b>47,4</b>	<b>15,6</b>	<b>6,8</b>

Source: Irma Caplinskiene, RDS study 2008, supported by EU

##### *Co-infections among IDUs*

Consistent trends, as far as co-infections are not collected in routine way in the country. According study results in the Baltic countries among IDUs, HIV / HBV / HCV co-infections testing markers was found in 6.8% of IDUs (Figure 9)<sup>12</sup>.

Survey (EMIS)<sup>13</sup>. Results of this survey showed that every third Lithuanian respondent (36.3%) had one regular male partner (European average was higher – 39%). 49.7% of the respondents had no regular partner and were lonely. Safer sex was not a priority of MSM. 40.5% of MSM having anal sex in the last 12 months didn’t use condoms. Condoms – that may protect from sexually transmitted infections – with non-regular partners were often or always used by 67% of respondents. The remaining used them

12 Prevalance of HIV and other infections and risk behaviour among injecting drug users in Latvia, Lithuania and Estonia in 2007. Study report. 2009. Expanding Network for Coordinated and Comprehensive actions an HIV/AIDS prevention among IDUs and Bridging population.

13 EMIS 2010: The European men-who-have-sex-with-men Internet survey. Technical report. ECDC/EC. 2013.

occasionally, rarely or didn't use at all. The survey proved insufficient care of own health: only 19.9% of the respondents underwent an HIV test in the last 12 months (European median – 34.6%), even less got tested on sexually transmitted infections – 17% (European median – 29%). 2% of the respondents (n=12) reported positive HIV testing result. In one third of cases HIV was diagnosed at a late stage of HIV infection. 3.6% of the respondents reported any sexually transmitted infection in the last 12 months including 0.2% of syphilis (European median 1.9%), 1.2% of gonorrhoea (European median 2%), 0.3% of herpes infection (European median 0.7%). Almost a half of the respondents were not immunized against viral hepatitis B, which is transmitted sexually. Full course of immunization against hepatitis B received

only 20.7% of the respondents, and this is the lowest percent as compared to other European countries.

Sex for money was not popular: 7.3% of the respondents have paid for sex in the last 12 months, and 5.3% were paid for sex.

**Knowledge:**

MSM knowledge on HIV/AIDS was sufficient: the majority – 83% of Lithuanian respondents gave correct answers to five questions related to HIV/AIDS. However, this indicator was lower as the European average (93.1%). Almost 73% of the respondents noted that are satisfied with their knowledge on HIV/AIDS and sexually transmitted infections, 8.9% – were not, and the remaining have no strong opinion.

**1.3.2. Sex workers**

There is no data of comprehensive sentinel surveillance among SWs. Only those attending the low threshold services are under surveillance. The data show that the number of SWs using drugs has increased. In 1998 the sentinel surveillance study<sup>14</sup> in Vilnius SWs showed that 23% of them were drug users, and in 2011 – 90%. According to the data of the Klaipeda City Centre for Dependence Diseases, (Bio-behavioural

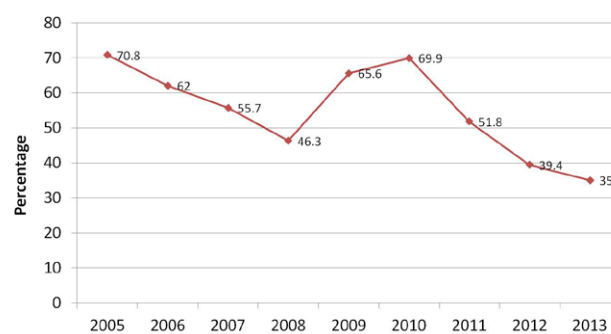
survey/cross-sectional anonymous survey of 46 SWs; was carried out in the year 2010), 32.6% of SW in 2010 reported having been tested for HIV during the last 12 months and being aware of the results. 15 SW were tested for HIV and one was HIV (+) positive. In 2009–2012 no HIV cases among SW were reported. According to the National HIV/AIDS surveillance data, HIV prevalence among SW was 0.31%<sup>15</sup>.

**1.3.3. PWID (People who inject drugs – IDUs)**

New HIV cases (%) among IDUs annually decreasing; from 69.9% (in 2010) to 35% (in 2013) – (Figure 10). HIV prevalence last year among IDUs slightly increasing from 4% in 2010 to 4.59% in 2012 and 5.5% in 2013.

In 2013 were more infected through sexual contacts than through intravenous drug use. This means that the HIV infection progresses to the next phase of the spread of HIV. Is likely to continue to actively spread of HIV to the general population through IDU sexual partners (bridging population). Also see 1.2.1 chapter.

**Figure 10. New HIV cases (%) among IDUs in Lithuania, 2005–2013**



Data source: Centre for Communicable Diseases and AIDS, 2014

14 Lithuanian response to HIV/AIDS – first 15 years. Lithuanian AIDS centre under MOH. 2004.

15 National HIV/AIDS surveillance data. Lithuanian Centre for Communicable Diseases and AIDS. 2013.

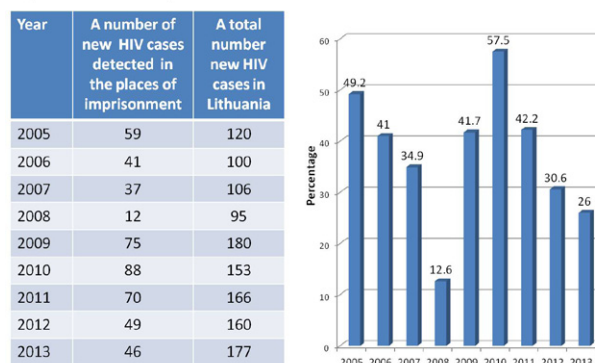
### 1.3.4. STI patients

Behavioural and laboratory data are collected and linked in STI clinics as part of routine data collecting process. STI surveillance (including and behavioral) data are evidence that STI highly concentrated among young people (20–29 years group), who have more than one sexual partner per 12 month and half of them never use condoms having new sexual partners. By sex more syphilis registered among women, and chlamydia and gonorrhoea among men. STIs are diagnosed each year among school students – in 2013: nine syphilis cases (2012–10), 10 gonorrhoea cases (2012–13) and 7 chlamydia cases (2012–3). It evidens that risky sexual behavior especially among young people exist. Sex education programs in Lithuanian schools are not fulfilled. Information about sexually transmitted infections is integrated into the school curriculum of subjects according to age group. However, information about the risky behavior prevention and links with STI is not integrated in school curriculum and not available.

#### 1.3.4.1. HIV, drug use in prisons<sup>16</sup>

As of January 1, 2013, in Lithuania 11 imprisonment places operated, and compared to 2011 and 2010, the average monthly occupancy increased (2012 – 9906 persons, 2011 – 9450, 2010 – 8267). As of January 1, 2013, out of the total number of 9729 persons in Lithuania imprisonment settings 14.6 percent (1422 persons) were registered as drug users or dependent on drugs or psychotropic substances (use identified by testing or confession) and the number of registered decreased, compared to 2010 (19 percent, i.e. 1646 persons from total 8665). Though the number of male users of drugs and psychotropic substances is higher more than 9 times compared to that of females, however, the proportional drug use among all imprisoned women is higher compared to men, i.e. in 2013 January 1<sup>st</sup>. – 30,3 percent of all imprisoned women used drugs and psychotropic substances, while this indicator among men was lower – 13,9 percent.

Figure 11. Percentage of new HIV cases detected in the place of imprisonment in Lithuania, 2005–2013



60% of all HIV positive people have imprisonment experience. Every year from 40% (2009) up to 26% (2013) of the new HIV cases are identified in incarceration facilities (Figure 11).

According to the data of the Prison Department under the Ministry of Justice, vast majority of the HIV cases newly reported in prisons have acquired the virus in the outside community. However a few cases of HIV infection through injection drug use in prisons are reported, as well.

Every year 280–300 people with HIV at average serve their sentences in the incarceration facilities, including 99.9% of those infected by injection drug use.

Qualitative survey (interview) among HIV (+) inmates in prisons in 2009 revealed that HIV (+) inmates had various drug using experience: from 3 up to 20 years. In prisons a few cases of acute viral hepatitis B and C have been reported, proving risky behaviour that facilitates virus transmission. In 2009 total of 10 acute HBV and 4 acute HCV cases were registered in the Lithuanian incarceration facilities.

It shows that in the imprisonment establishments a big danger exists for spreading such diseases as HIV, hepatitis.

<sup>16</sup> Department of Prisons under the Ministry of Justice. 2014.

### 1.3.5. Expected trends in prevalence of these infectious diseases among most-at-risk groups

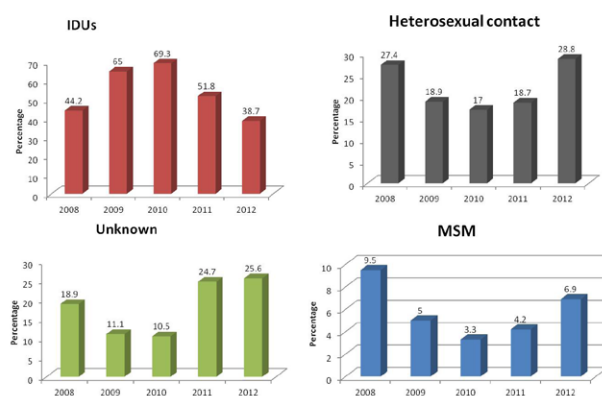
#### Summary in epidemiology:

» Declining HIV new cases among IDUs, growing number of HIV through heterosexual and homosexual contacts and growing number of HIV with unknown mode of HIV transmission (Figure 12).

- » Decreasing HIV trends among IDUs, but increasing among their sexual partners.
- » Expected more deaths from AIDS due to the increasing number of late HIV diagnosis.
- » Expected to fall in the general population awareness about HIV / AIDS because of declining resources for HIV/AIDS education.

Figure 12. HIV trends by mode of transmission

New HIV cases by mode of transmission in Lithuania 2008-2012



#### STI and hepatitis trends:

- » STI surveillance (including and behavioural) data are evidence that STI highly concentrated among young people (20–29 years group), who have more than one sexual partner per 12 months and half of them never use condoms having new sexual partners. Expected growth in STI incidence among young people, couples infertility problems.
- » Increasing HIV/STI trends among MSM was observed and expected in future.
- » Expected to grow viral hepatitis B among young people, because spreading movements against vaccines and a growing number of unvaccinated children from HBV.

## 1.4. Providing treatment care and support for PLW H, TB and AIDS patients (including to- be-addressed issues)

### 1.4.1. ART

In Lithuania, all HIV/AIDS patients are provided with mandatory health insurance using public funds (according 1994 Health system Law of the Republic Lithuania, art. 47-7). Medical doctors (infectologists, dermatovenerologists, internists) provide counseling to HIV/AIDS patients regarding HIV infection, monitor the process of their disease, prescribe antiretrovirus (ARV) treatment. ART is available in the biggest cities of Lithuania – Vilnius, Kaunas, Klaipeda, Siauliai which are evenly distributed in the country geographically. All ARV pharmaceuticals registered

with the Register of pharmaceutical preparations of the European Community may be used in Lithuania. ARV treatment is reimbursed from the budget of the compulsory National Health Insurance Fund. HIV disease diagnosis, treatment and surveillance is regulated by the Order of the Minister of Health of the Republic of Lithuania No. V-384, 3/05/2010, “On approval of the procedure description of the human deficiency virus disease diagnosis and treatment budgeted from the compulsory National Health Insurance Fund”. Since 1<sup>st</sup> January 2013 changes of the



Order No V-384 came into force stating that in case of asymptomatic HIV infection in adults and teens older than 13 years ART is initiated when blood CD4 count between 200 and 350 cells/mm<sup>3</sup> (before it was 200/mm<sup>3</sup>). HIV infected patients may choose an HIV care institution in the proximity of their residence

place. At the end of 2013, 407 patients were on ART, of them by the way of transmission 162 (39.8%) were infected through sharing of drug injection equipment, 149 (36.6%) through heterosexual and 68 (16.7%) through homosexual contact.

#### 1.4.2. VHB/VHC treatment

Patients infected with viral hepatitis B and C undergo treatment in health care institutions in compliance with the approved schemes at out- and in-patient clinics. Hepatitis treatment is regulated by the order of the MOH No:V-652 (HCV) and V-458 (HBV).

HCV and HBV treatment is reimbursed from the budget of the Mandatory Health Insurance Fund (14.6 mln. litas (4,3 mln Euro) for B and C medications only; and 2,1 mln. litas (624.000 Euro) for outpatient and in-patient service.

## 2. Analysis of National HIV, TB and AIDS Response

### 2.1. Description of government coordination, management and financial support for HIV, TB and AIDS response

National HIV/AIDS and STI Prevention and Control Action plan (AP) – the key strategic document on HIV/AIDS/STI prevention and control in Lithuania (Order of MoH No.V-304 2013/03/22). Implementation of AP is coordinated by the MoH. HIV/AIDS/STI health promotion, education, surveillance, control and other activities in AP are planned for all levels of health services, justice, police, education systems, ect. Surveillance of

HIV/AIDS/STI in Lithuania is undertaken by the Lithuanian Centre for Communicable Diseases and AIDS. HIV/AIDS/STI response is decentralized in Lithuania to municipalities. Work with risk groups, prevention programs coordinate and funded by the municipalities. Methodological information on the HIV response provides a national institution – the Lithuanian Centre for Communicable Diseases and AIDS.

#### State financial support\* for ARV

	2010	2011	2012	2013
Number of persons treated with ARV drugs + Number of persons treated with ARV drugs in Prison settings		226 + 54	291 + 24	407 + 36
ARV treatment costs covered by the State (MHF) budget (mln.litas**) + ARV treatment costs covered by the State (MHF) budget (mln. litas**) in prisons	4.5	4.8 + 0,7	4.4 +N/A	5.7 +N/A
Budget for HIV patients outpatient health care costs (mln.litas**) + Budget for HIV patients outpatient health care costs (mln.litas**)		0.226 + 0.310	0.688 + 0.286	0.781 +N/A
Total for ARV and outpatient health care costs		6.036	5.374 (without ARV costs in prisons settings)	

National Health Insurance Fund data. 20014  
Prison department under Ministry of Justice. 2014  
\*\* exchange rate: 1€ : 3,45 litas

TB/HIV care services are integrated in Lithuania. National Tuberculosis prevention and control programme 2011–2014 is on the implementation. However, HIV / TB comprehensive response in Lithuania is not sufficiently integrated. TB prevention and control response in Lithuania coordinates the MOH. TB programme implementation activities coordinates

health care institution – Santariskes Clinic of the Vilnius University (TB care department).

HIV/AIDS/TB/STI/VH treatment, care, prevention in prisons setting is coordinated by Prison Department under the Ministry of Justice.

## 2.2. Description of normative framework and legal environment

### 2.2.1. Health system in Lithuania (general principles of health care services)

#### *General overview*<sup>17</sup>

Lithuanian health system is a mixed system, predominantly funded from the National Health Insurance Fund (NHIF) through compulsory health insurance scheme, supplemented by substantial state contributions on behalf of the economically inactive population amounting to about a half of its budget. Primary care is delivered by a GP or a primary care team. The development of the GP gate-keeping function has been an important goal of the primary healthcare reforms. Emergency care is commonly provided by GPs during services hours. Alternatively, and during the GP out-of-hours times, it is provided by emergency departments of hospitals. The number of pharmacies increased from 465 in 1993 to 1498 in 2011, and the vast majority of them are privately owned. The number of authorized medicines has also increased to 4659 registered pharmaceuticals in 2010. The level of reimbursement for pharmaceuticals in Lithuania remains low, and access to innovative medicines was shown to be lacking. Between 1990 and 2011, the total number of hospitals in Lithuania declined and the majority of hospital premises were renovated. By 2010, the number of beds in acute care was reduced to 498 per 100 000 population – half the number of beds that existed in 1992 – but still higher than the EU average. At the same time, nursing and elderly home

beds have gradually been increasing. Hospital admissions have fallen but, at a rate of 22 per 100 inhabitants, still remain high in comparison with the other Baltic States and EU averages. The average length of stay in acute hospitals decreased from 14.7 in 1992 to 6.4 in 2010, comparable to EU averages. Overall, the health workforce has decreased by approximately 18%: from 65 000 in 1990 to 47 000 in 2010, mostly through a large decrease in nursing personnel. Recent research on migration shows that about 3% of health professionals left the country between 2004 and 2010.

#### *Financing*

Total health expenditure as a percentage of GDP increased from 5.4% in 1995 to 6.6% in 2011, similar to the average for other central and eastern European EU countries, though less than the average of 10.6% for the 15 ‘old’ EU Member States. Of this, public expenditure accounts for around 73% of total health expenditure (also similar to other central and eastern European EU states).

Since 1997, the NHIF has been the main financing agent for the health system, accounting for 61% of the total expenditure on health in 2010. However, about half of NHIF revenue comes from the national budget in the form of transfers for population groups insured

<sup>17</sup> Lithuania health system review. Health system in Transition. Vol.15.No.2, 2013. L.Murauskiene, R.Janoniene, M.Veniutė, Ewout van Ginneken, M.karanikolo. European Observatory. EU2013.lt

by the state (eg. those receiving any pension or benefit, children and the elderly, women on maternity leave and single parents, amounting to about 60% of the population). In addition, the state budget covers long-term care at home, health administration, education and training, capital investment and public health services, which in total accounted for 11% of total health expenditure in 2010. Consequently, in 2010, taxes were the main source of health financing, accounting for 40% of the total health expenditure, followed by social insurance contributions (32%) and out-of-pocket payments (27%). Since 2011, the contributions from the economically active population have been increasing again, and so have the out-of-pocket payments.

### Regulation

The Ministry of Health is a major player in health system regulation through setting standards and requirements, licensing health-care providers and professionals and approving capital investments. In the 1990s many health administration functions were decentralized from the Ministry of Health to the regional authorities. The 60 Municipalities (*savivaldybė*), varying in size from less than 5000 people to over 500 000, become responsible for organizing the provision of primary and social care, and for public health activities at the local level. They also own the majority of polyclinics and small-to-medium sized hospitals, yet concerns exist over whether they have the capacity to effectively govern these facilities.

The state health-care system is intended to serve the entire population, and the Health Insurance Law requires all permanent residents and legally employed non-permanent residents to participate in the compulsory health insurance scheme (typically paying 6–9% of taxable income), without an option to opt-out.

The role of the private sector has been limited, particularly in inpatient care. The private sector does

play a substantial role in dental care, cosmetic surgery, psychological therapy, some outpatient specialties and primary care. Since 2008, the NHIF has increasingly been contracting private providers for specialist outpatient care.

Compulsory health insurance provides a standard benefits package for all beneficiaries. There is no positive list of health services provided in state-financed health-care facilities. Emergency care is provided free of charge to all permanent residents irrespective of their insurance status. For pharmaceuticals, drugs prescribed by a physician are reimbursed for certain groups of the population (e.g. children, pensioners, the disabled) as well as for patients suffering from certain diseases. All other insured adults must pay the full cost of both prescribed and over-the-counter drugs out of pocket.

### Public health

The principal guidelines for the public health service have been outlined in the Health System Law (1994). The public health system in Lithuania consists of 10 public health centres, subordinated to the Ministry of Health, and a number of specialized agencies with specific functions (radiation protection, emergency situations, health education and disease prevention, communicable disease control, mental health, health surveillance, and public health research and training). At the local level, municipal public health bureaus carry out public health monitoring, health promotion and disease prevention.

### Future developments

A policy document, Lithuania's Health System Development Dimensions 2011–2020, was adopted in 2011 and defined the main directions for health system development until 2020<sup>18</sup>. The document is intended to provide consistency to the future development of the system and make it more efficient

18 Parliament of the Republic of Lithuania (2011a). Lithuania's Health System Development Dimensions 2011–2020. Resolution XI-1430. Valstybes Žinios [Official Gazette], No. 73-3498 (2011.06.16)

and competitive. The key areas of focus are health improvement and disease prevention; expansion of the health-care service market through fair competition; increasing transparency, cost-effectiveness and rational use of resources; and ensuring evidence-based care and access to safe and quality services. The Health System Development Dimensions document suggests three stages of future development:

### 2.2.2. Infection diseases reporting system

Communicable disease prevention and control in Lithuania is regulated by the Law on Prevention and Prophylaxis of communicable diseases (1996). Based on this law was created national infectious disease reporting system (Communicable diseases and agent national surveillance system (CDANSS) coordinated by Centre for Communicable diseases and AIDS). There are 82 statutory notifiable diseases in Lithuania. The data about diagnosed infection diseases cases are reported from territorial (doctors) to regional (regional public health) and to national level (CCDA). Computer based Communicable disease reporting system was implemented in 2010 and from this time national level gets individual data about all statutory notifiable communicable diseases.

#### 2.2.2.1. TB reporting system

Individual TB cases from health care institutions (pulmonologists, medical doctors, general practitioners, internists and doctors of other specialities) report the data to the National Tuberculosis Information System (NTIS), which is monitored by the specialised health care institution Santariskes Clinic of the Vilnius University Hospital (TB department), by completing the tuberculosis notification and registration forms approved by the Order of the Minister of Health No. 638, 9/11/2000.

Data on the new, relapsed and resistant tuberculosis cases from all over Lithuania are accumulated in the NTIS. Epidemiological tuberculosis data are analyzed, diseases progression and treatment outcomes

(1) structural changes, including reduction in the numbers of hospitals, hospital beds and physicians; (2) the introduction of budgetary ceilings for health-care providers; and (3) increase in cost-sharing through VHI, legalizing co-payments and introduction of fair competition and effective management principles in health care.

assessed, proposals for evaluation of the efficiency of tuberculosis control approaches notified. This institution is also in charge of implementation of the National Tuberculosis Prevention and Control Programme approved by the Government of the Republic of Lithuania (Order No.V-1033 of December 03, 2010, of the Minister of Health).

Regional Public health centers (n=10) complete TB protocol and sent to Communicable diseases and agent national surveillance system (CDANSS) coordinated by Centre for Communicable diseases and AIDS. CDANSS consist of: data of TB case report date, data about TB patient, data of the case classification, TB epidemiological data, data of diagnosis. CDANSS all data about TB can analyze and compare by: Lithuanian regions and cities, genders, age groups, urban and rural cases, years and months.

#### 2.2.2.2. TB prophylaxis and control

Is based on National Tuberculosis prevention and control programme 2011–2014. (Order No.V-1033 of December 03, 2010, of the Minister of Health). TB epidemiological surveillance and control are based on Order No.V-525 of May 17, 2013, of the Minister of Health)

### 2.2.3. National HIV/AIDS normative base

#### *HIV testing guidelines*

The procedure of organization and implementation of HIV testing is based on Order No.V-991 of November 16, 2010, of the Minister of Health („ON approval of procedure description of testing for human immunodeficiency infection“ (Off. Gaz., 2010, No. 138-7085).

#### *MTC prevention guidelines*

Procedure of the testing for HIV infection in pregnant women, treatment of pregnant women with HIV (ART initiation), referral to delivery, recommendations on newborn care, payment for services and epidemiological surveillance (data submission, accumulation, analysis) is based on Order No.V-439 of May 4, 2007, of the Minister of Health (“On approval of procedure description of prevention of HIV mother-to-child transmission“ (Off.Gaz., 2011, No. 57-2723, 2013, No. 28-1343)).

Since 2007, all pregnant women are tested for HIV and syphilis twice – up to 12 pregnancy week and at 32 pregnancy week. Testing is free of charge and costs are covered from the resources of the Compulsory Health Insurance Fund.

#### *TB patients screening*

TB patients (new cases, TB relapse, break of treatment, treatment failure, resistant or multi-resistant TB) screening for HIV is based on Order No.V-374 of April 30, 2008, of the Minister of Health (“On approval of procedure description of preventative HIV testing in people with tuberculosis” (Off. Gaz., 2008, No. 54-2007).

#### *Blood donors screening*

Is based on Order No.V-84 of February 4, 2005, of the Minister of Health („On approval of procedure description of blood donor health examination, list of mandatory tests, required health indicators and questionnaire of blood donors“ (Off.Gaz., 2005, No. 18-588); 31/08/2009 No.104-4362; 31/12/2009 No.159-7220; 31/08/2009 No.104-4362))

Blood donations are required to be tested for HIV, syphilis, HBsAg, anti-HCV. IN regard to epidemiological situation, nucleic acid amplification tests for HIV, HCV, HBV are performed.

Non-remunerated blood donation amount to one third of all donations in Lithuania.

#### *HIV testing policy in prisons*

Incarcerated persons are tested on HIV by the Order No.343/191 of the Minister of Health and the Minister of Justice of the Republic of Lithuania „On modification of the procedure of prophylactic testing on dangerous and extremely dangerous communicable diseases in persons incarcerated in the facilities subordinated to the Prison Department under the Ministry of Justice“ (new wording of the Order of the Minister of Health and the Minister of Justice, 2/07/2002; Off. Gaz., 2013, No.31-1548). By this Order, persons incarcerated in the facilities subordinated to the Ministry of Justice undergo an HIV test on prophylactic and voluntary basis as follows: 1) on entering the incarceration facility or at displacing from one incarceration facility or territorial police lockup to other incarceration facility (in case of a time-span longer as four weeks after the last testing), 2) four weeks after the first testing, once a year (in case a test was not performed because of other reasons) or by epidemiological or clinical indications. In 2011 92.6%, and in 2012 94.3% of incarcerated persons in total were tested on HIV (data of the Prison Department under Ministry of Justice).

#### *HIV care*

HIV diagnostics, treatment and monitoring are based on Order No.V-384 of May 3, 2010, of the Minister of Health (“On approval of the procedure description of the human deficiency virus disease diagnosis and treatment budgeted from the compulsory National Health Insurance Fund”. (Off. Gaz., 2010, No. 54-266, 2010, No. 96-5001, 2010, No. 138-7084, 2012, No. 27-1227)).

### *HIV care in prisons system*

Prescribing ART to the incarcerated persons with HIV disease is based on national algorithm for diagnosis and treatment of HIV disease (Order of the Ministry of Health No. V-384). ART for the incarcerated persons is budgeted from the Budget of the Prison Hospital (Budget of the Ministry of Justice). CD4 and other HIV patient surveillance tests are regularly performed in people with HIV. In 2012 623 cell immunity tests in total were performed. In 2011–2012 596 thousand Litas in total were budgeted for the laboratory monitoring of HIV infected prisons. 54 and 36 HIV infected inmates were on ART in year 2011 and 2013.

Every year 300–400 people with HIV at average serve their sentences in the incarceration facilities, including 99.9% of those infected by injection drug use.

### *Post-Exposure HIV prophylaxis (PEP)*

PEP is based on Order No.V-853 of December 1, 2004, of the Minister of Health („On approval of description of prescription post-exposure HIV prophylaxis“ (Off. Gaz., 2004, No.:179-6634; 2009, No.120-5169).

### *HIV/AIDS Surveillance*

Epidemiological surveillance of sexually transmitted infections and HIV infection is based on the Order No.V-117 of February 25, 2003, of the Minister of Health (“On approval of procedure description of sexually transmitted infections, HIV carriage and HIV disease epidemiological surveillance in personal and public health care institutions” (Off. Gaz., 2003, No. 27-1105, 2011, No. 79-3880, 2012, No. 74-3861).

### *Low threshold service (or harm reduction) regulation*

Procedure of provision of the low threshold services is based on Order No.V-584 of July 5, 2006, of the Minister of Health (“On changes in approval of procedure description of drug and substance harm reduction programme implementation” (Off. Gaz., 2006, No. 77-3020; 2008, No. 46-1743; 2012, No. 100-5113)).

### *IDUs treatment regulation*

Maintenance therapy of opioid dependence with buprenorphine is based on Order No. V-204 of May 3 (“On addiction treatment and rehabilitation standards“ (Official Gazette, 2002, No.47-1824, 2007, No.90-3586, 2011 Nr.154-7304).

### *Assessment of HIV/AIDS knowledge, attitudes, behaviors on HIV / AIDS in general population*

People’s knowledge on HIV/AIDS transmission ways and prevention is an important starting-point in planning national response to HIV in general population. In order to plan the HIV prevention campaigns in the general population the knowledge, attitudes, behaviors on HIV / AIDS in general population is assessed every 2–3 years by Lithuanian Centre for Communicable Diseases and AIDS. Population knowledge has been periodically assessed in Lithuania. Objective of this study was to assess people’s knowledge on HIV transmission ways and prevention, and their misconceptions.

According 2013 survey data, correct knowledge on HIV transmission through contaminated syringes had 93%, on transmission through contaminated blood – 86%; on mother-to-child transmission during delivery and labour – 86%; on HIV transmission via breast-feeding – 62%. 73% were aware that a condom could prevent HIV infection. Correct answers to five questions on HIV transmission were given by 80% of population (in 2003–77.6%). Knowledge on all issues was better in women as compared to men, in the age group 30–39 as compared to the age group 50–72, in urban population as compared to the rural one. 69% of population knew that HIV is not curable, but every fourth respondent (23%) believed that vaccination against HIV was available. 78% agreed that healthy appearance did not guarantee a negative HIV status. Information sources about HIV/AIDS: TV (63%), press (29%), internet (30%), radio (23%), friends (13%), medical workers (8%), teachers (6%). The young respondents up to 29 years mentioned the most often these information sources: internet, TV, teachers. In spite of relatively good knowledge on

HIV transmission modes, a share of population has misconceptions: that HIV may be acquired by kissing (41%), by mosquito bite (31%), by eating with HIV infected person (19%), by coughing of other person (16%). Conclusions: 80% of population

correctly answered to five questions on HIV transmission. However, one fourth of the respondents still have misconceptions. Therefore, IEC should be supplemented by targeted actions to change the misconceptions.

### 2.3. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

Epidemiological data on HIV/AIDS/ STI is collected and analyzed by the HIV/AIDS/STI and Hepatitis Surveillance department of the Lithuanian Centre for Communicable diseases and AIDS (CCDA). *Annual HIV/STI epidemiological report* is prepared and published in CCDA webpage [www.ulac.lt](http://www.ulac.lt)<sup>19</sup>

In order to plan for HIV prevention campaigns in the general population the knowledge, attitudes, behaviors on HIV / AIDS in general population is assessed every 2–3 years by Lithuanian Centre for Communicable Diseases and AIDS. According 2013 survey data, correct answers to five questions on HIV transmission were given by 80% of population (in 2003–77.6%).

All reported infectious disease epidemiological review and annual recommendations are publicly available in CCDA publication “Review of Communicable diseases in Lithuania – 2012”<sup>20</sup>. Annual TB surveillance reports are prepared by the specialised health care institution Santariskes Clinic of the Vilnius University Hospital (TB department) and CCDA.

The **HIV treatment** and care in Lithuania decentralised in year 2009. ARV is available in the biggest cities of Lithuania (which are evenly distributed in the country). ARV treatment is reimbursed from the budget of the compulsory National Health Insurance Fund. Since 1<sup>st</sup> January 2013 changes of the Order No V-384 came into force stating that in case

of asymptomatic HIV infection in adults and teens older than 13 years ART is initiated when blood CD4 count between 200 and 350 cells/mm<sup>3</sup> (before it was 200/mm<sup>3</sup>). HIV infected patients may choose an HIV care institution in the proximity of their residence place. Given that HIV patients are diagnosed in all Lithuanian administrative areas, for HIV patients is not always convenient (geographically) to have HIV diseases monitoring in biggest cities. General practitioners, who are closest to the HIV patient, can’t carry out laboratory monitoring of HIV disease. At the end of 2013, 407 patients were on ART. Annually increasing number of ART patients who were infected through injecting drug use.

**ART for the incarcerated persons** is budgeted from the Budget of the Prison Hospital (Budget of the Ministry of Justice). There are lack of the HIV physicians the Lithuanian prison system.

In Lithuania, **substitution therapy with methadone** was introduced after confirmation of the Order of the Minister of Health in 1995. In 2002, the maintenance therapy of opioid dependence with methadone and buprenorphine was confirmed as the standard of addictive disorders and rehabilitation. According the Order of the Minister of Health, persons receiving maintenance therapy with methadone or buprenorphine are tested for HIV. In 2007 the *Standards for Substitution Treatment* extend a requirement at least 2 times annually to make analysis regarding HIV

19 Available online: <http://www.ulac.lt/lytiskai-plintanciu-infekciju-ataskaitastatistika>

20 Available online: <http://www.ulac.lt/apzvalgus>

infection, tuberculosis, sexually transmitted diseases, general blood and urine tests of the patients participating in the substitute treatment programs. Currently, according to the effective legislation all healthcare institutions must have opiate antagonists in their first aid kits. Besides, training of staff in first aid services is carried out on a regular basis instructing how to act in overdosing cases. (Order No. V-653 of August 6, 2007, of the Minister of Health).

In 2012 the number of drug users involved in long-term methadone treatment continued to increase (in 2011 the number was 653, in 2013 – 677). Substitution treatment in 2012, served 19 health care facilities<sup>21</sup>.

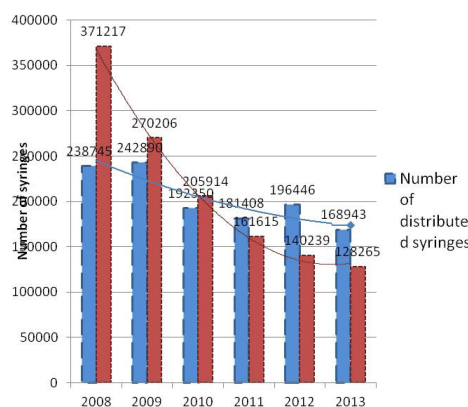
In 2012, there were 11 **low threshold centers** (LTC) functioning in Lithuania. The main services in LTC’s include syringes and needles exchange, condom distribution, health education and information, voluntary counselling and testing for HIV, hepatitis B, hepatitis C, social support and mediation, consultations of IDUs on available testing and treatment, referrals to the dependency treatment programs. The total number of visits in the LTS decreases (in 2013 the number was 38017, 2012 – 46344). Decreasing the number of new LTSs clients. Compared to 2013, in 2012 was less distributed disinfectants (disinfecting wipes), bandages, condoms, but given the more wound dressing, personal hygiene, and mediation (and referral) services. In 2013 Lithuania Low threshold services (LTS) offices were handed out to 168 943 syringes and 96 787 needles, and collected less: 128 265 and 133 591 respectively. HIV testing in LTS continued to increase (in 2013 was conducted 5949 HIV tests, 2012 – 4420) Two LTS conducted the testing for hepatitis B and C<sup>22</sup>.

If HCV and HBV patients meet the criteria for treatment, this treatment of the Health insurance covers them completely.

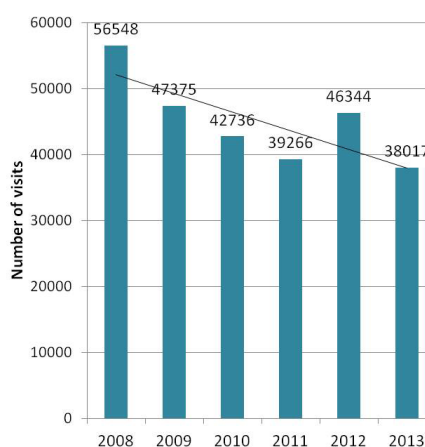
**Summary of low threshold services cabinets’ activities in Lithuania 2008-2013**

No.	Name of service/ visitors-client	Lithuania					
		2008	2009	2010	2011	2012	2013
1.	Total number of visits	56 548	47 375	42 736	39 266	46 344	38 017
2.	Number of regular clients	-	-	-	-	2 589	2 669
3.	Number of new clients	-	-	-	-	1 943	1 148
4.	Number of clients who visited the low threshold services cabinet even once a year	-	-	-	-	4 719	7 720
5.	Number of distributed syringes	238 745	242 890	192 350	181 408	196 446	168 943
6.	Number of distributed needles	313 894	188 364	102 763	110 726	103 536	96 787
7.	Collected syringes	371 217	270 206	208 914	161 618	140 239	128 265
8.	Collected needles	277 109	225 987	136 553	157 145	126 867	133 591
9.	Number of distributed disinfectants (disinfecting tissues)	280 591	256 532	209 428	234 342	238 791	265 123
10.	Number of distributed condoms	42 548	34 722	30 051	32 697	32 031	27 170
11.	Number of distributed bandages	39 968	21 035	17 426	20 555	21 724	19 558
12.	Number of provided wound dressing services	2 715	2 606	1 257	696	1 150	1 425
13.	Number of performed HIV tests	-	-	1 739	3 775	4 420	5 949
14.	Number of performed HIV tests	-	-	-	-	169	318
15.	Number of consultations, information services	29 290	23 587	24 309	20 871	17 534	16 157
16.	Number of medication services	1 209	1 738	2 502	2 672	3 094	4 821
17.	Number of provided personal care services	3 425	2 458	3 224	1 617	2 069	2 034
18.	Other services	-	-	-	-	7 562	10 096

**Number of distributed and collected syringes in the LTS 2008-2013**



**A total number of visits in the LTS 2008-2013**



21 State Mental Health Center. www.vpsc.lt

22 Lithuanian Low threshold services report – 2013. Centre for Communicable diseases and AIDS. 2014.



### 3. Conclusions

(expected trends in HIV, TB, AIDS prevalence, highlighting response measures where international support is likely to prove most effective – in relation to the activities listed in the application for “seed money”)

- » General HIV epidemiology trends: declining HIV new cases among IDUs, growing number of HIV through heterosexual and homosexual contacts and growing number of HIV with unknown mode of HIV transmission (Figure 12). In 2013 were more infected through sexual contacts than through intravenous drug use. This means that the HIV infection progresses to the next phase of the spread of HIV – expected that HIV will actively spread of HIV through IDU sexual partners (bridging population) to the general population.
- » Though 80% of general population correctly answered to five questions on HIV transmission, but one fourth of the respondents still have misconceptions<sup>23</sup>. Therefore, IEC should be supplemented by targeted actions to change the misconceptions. In addition, expected to fall awareness about HIV / AIDS in the general population because of decreasing resources for HIV/AIDS education.
- » STI surveillance (including behavioural) data are evidence that STI highly concentrated among young people (20–29 years group), who have more than one sexual partner per 12 month and half of them never use condoms having new sexual partners. Expected growth in STI incidence among young people, couples infertility problems. Infertility problem facing in Lithuania 10–15% of families (couples). It is estimated that in Lithuania 55, 000 infertile couples. Sex education programs in Lithuanian schools are not fulfilled. Information about sexually transmitted infections is integrated into the school curriculum of subjects according to age group. However, information about risky behavior prevention and links with STI is not integrated. Sexual health issues in general population very stigmatized, condom promotion programmes are not implemented.
- » Expected to grow viral hepatitis B among young people, because of lightning spreading of movements against vaccines and a growing number of unvaccinated children from HBV in country. Any information about viral hepatitis in school curriculum.
- » The Lithuanian HIV testing reporting system can provide detailed information (monthly) about what kind of risk groups are tested (Table. 1). Data suggest that the coverage of HIV testing among STI patients is not enough – it cover about 30% of all registered STI cases. Persons who are tested in accordance with the clinical indications (symptoms) mostly diagnosed in late HIV stage (mostly AIDS). So it is necessary to increase the physicians, especially family physicians (GPs), clinical vigilance, teaching them to suspect HIV infection or raise their skills on HIV.
- » According of the analysis of HIV testing coverage by target groups, it can be established that HIV testing among STI patients is inadequate and should be expanded. In addition, such intervention is necessary for another last year trend – the spread of HIV infection in bridging groups (IDUs sexual partners).
- » Increasing HIV/STI trends among MSM was observed and expected in future. In 2013 as compared to 2009 threefold increase in HIV cases among MSM. (figure 1 in 1.2.1 chapter). STI risky behaviour are very prevalent among MSM.

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23 Lithuanian population survey on HIV / AIDS-related knowledge, attitudes and behavior - 2013. Lithuanian Centre for Communicable Diseases and AIDS. 2014.

## 4. Challenges (issues to be addressed):

- » STI and HIV prevention services development in primary health care institutions (GPs trainings, e-learning module on HIV/STI/hepatitis, training modules for the syndromatic management of STIs<sup>24</sup>);
- » Information, education, communication (IEC) campaigns for general population especially for young people (condom promotion campaigns and etc.);
- » BBS and IEC among MSM;
- » Implementation international recommendations “HIV treatment as prevention” (trainings, adaptation of learning materials for country needs, ect.)<sup>25</sup>;
- » Vaccination campaigns among risk groups: (assessment of HBsAg among risk groups and vaccination campaigns)
- » Behavioural change interventions among high-risk groups (STI patients, IDUs) and among young population (especially in municipality level in relation with targeted HC and PH specialists);
- » Targeted HIV prevention activities (sentinel surveillance implementation) among injecting drug users in pilot (most affected) regions of the country

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24 Lithuanian population survey on HIV / AIDS-related knowledge, attitudes and behavior - 2013. Lithuanian Centre for Communicable Diseases and AIDS. 2014.

25 Evaluating HIV treatment as prevention in the European context. Technical report. ECDC. 2012

# APPENDIX 8 | NORWAY

Dr. Hans Blystad

Norwegian Institute of Public Health

## 1. HIV, TB & AIs Situation in Norway

### 1.1. Country's Background

As of October 2013, the total population in Norway was 5,07 millions. Of these 593 321 were migrants born abroad and 117 100 were persons born in Norway by migrant parents. Together these two groups constitute 14% of the total population. In Oslo, these two groups constitute 30%. 57% of people with migrant background originate from Asia, Africa and Latin-America. Persons originating from Poland, Sweden, Lithuania and Germany were the largest immigrant groups.

Mainland Norway is divided into 19 counties. The administrative level is characterized by a large number of municipalities. The 428 municipalities in Norway varies in population size from the largest with 632 990 inhabitants (Oslo) to the smallest with 210 inhabitants. The Svalbard archipelago with a population of approximately 2000 Norwegians and 500 Russian and Ukrainian citizens is a separate administrative area of Norway.

### 1.2. Epidemiological Trends with Respect to HIV, TB and AIs

The incidence rates of the diseases in question are generally low compared with many other European

countries. The following table shows an overview of the surveillance systems and incidence rates in 2012:

Disease	Notification	Reported by	Coverage	Number reported 2012	Notification rate 2012 *
HIV infection	Anonymous	Clinician + Lab	National	242	4,8
Tuberculosis	Patient identification	Clinician + Lab	National	376	7,4
Gonorrhea	Anonymous	Clinician + Lab	National	443	8,8
Syphilis	Anonymous	Clinician + Lab	National	110	2,2
Chlamydia	Anonymous	Laboratories	National	21489	431,0
Hepatitis B ***	Patient identification	Clinician + Lab	National	705	14,2
Hepatitis C ***	Patient identification	Clinician + Lab	National	1513	29,9

\* Number of reported cases per 100 000 population | \*\* Primary, secondary and early latent stages | \*\*\* Both acute and chronic

### Major trends

While the incidence of the sexual transmitted diseases HIV infection, gonorrhoea and syphilis were in the mid-1990s low, a considerable increase has been observed since the late 1990s. This increase is mainly caused by newly infected cases among men who have sex with men. The majority of MSM have been infected through sex with casual partners in Oslo, but the last years have shown an increase also among MSM in other major cities like Bergen, Trondheim and Stavanger. In addition, a relative large number of cases of HIV infection, gonorrhoea and sexual transmitted hepatitis B syphilis are reported among heterosexuals travelling abroad, mainly in Thailand and the Philippines.

The increase among newly diagnose cases of HIV infection observed the last ten years are also related to an increase in cases among asylum-seekers, refugees and family reunion migrants from high endemic countries who have been infected prior to entering Norway.

Following more than ten years of steadily increase in the number of diagnosed cases of chlamydia, a slight decrease has been reported during the last few years. This observed decrease of chlamydia cases are mainly seen among younger girls.

The incidence of hepatitis A and acute hepatitis B have during the last few years remained low following large outbreaks among of these two diseases in the late 1990s. The relative high number of diagnosed cases of chronic hepatitis B diagnosed every year reflects an increase among migrants from medium-and high endemic countries. The hepatitis C situation is dominated by chronic infections among persons born in Norway and infected mainly through past and present drug use.

The incidence rate of tuberculosis in Norway is among the lowest in the world, and MDR-TB cases are still a rare condition in Norway. About two out of three cases of the 300–400 cases of tuberculosis diagnosed every year are pulmonary tuberculosis. Approximately 85 per cent of the cases occur among immigrants from high endemic countries Most are believed to be infected in their country of origin before arriving in Norway. Norwegian-born patients with tuberculosis are mostly elderly people who were infected when tuberculosis was common in Norway, and who have developed the disease as they become older and weaker. In Norway, DNA studies are carried out on all tuberculosis bacteria that have been grown in the laboratory. These genetic tests are also called fingerprint studies. They show that there is little transmission between immigrants from different countries and between immigrants and Norwegian-born people.

### 1.3. Most-at-risk populations for HIV, TB and AIs

With regard to the diseases in question (except chlamydia), three main most-at-risk groups have been observed: men who have sex with men, people who inject drugs and migrants from high-endemic countries. The following table show the proportion of these groups notified in 2012:

Risk group	Disease	Proportion of all cases notified in 2012
Men who have sex with men	HIV infection	31%
	Gonorrhea	54%
	Syphilis	88%
Migrants from high endemic countries	HIV infection	40%
	Tuberculosis	61%
People who inject drugs	Hepatitis B (acute)	15%
	Hepatitis C	85%

Apart from hepatitis C and B, there are no reliable prevalence data with regards to the different risk groups and diseases. A prevalence study in 2011 among people who inject drug in Oslo showed that 29% of the tested had markers of once being infected by the hepatitis B virus and 61% had markers of once being infected with the hepatitis C-virus.

### 1.4. HIV, TB and AIs situation among General Population

There are few prevalence studies among the general population with regards to the diseases in question. A study in 2001 among the adult general population showed that 0,5% had markers of once being infected by the hepatitis B virus and 0,5% had markers of once being infected with the hepatitis C-virus. Several chlamydia studies among the general population have shown a prevalence of 1–8%.

#### *Providing treatment care and support for PLW H, TB and AIs patients (including to-be-addressed issues)*

Treatment for the diseases in question is easily accessible all over the country and free of charge for the patient. At present there is no HIV treatment register in operation and as a consequence there are no reliable data on the number of people living with HIV that are on treatment. It has been estimated that in 2012 about 400 persons were treated for hepatitis B and about 800 were treated for hepatitis C.

## 2. Analysis of National HIV, TB and AIs Response

### 2.1. Description of government coordination, management and financial support for HIV, TB and AIs response

A National HIV and AIDS Council was set up in 2007 by the Ministry of Foreign Affairs and the Ministry of Health and Care Services. The Council meets two times a year. The Council has members from affected government agencies and from civil society, including representatives for people living with HIV and from organisations that work on international development cooperation and with youth. Financial support for HIV testing and HIV care within the health care system is included in the normal health insurance system. Each year the Ministry of Health and Care Services gives

grants and financial support to non-governmental organisations with up till 3 mill Euros yearly.

A similar tuberculosis council is run by the Norwegian Institute of Public Health which also includes NGOs. There is no special money set aside for tuberculosis prevention work.

Costs of testing and care for HIV, Tuberculosis and AIs within the health care system is included in the normal health insurance system.

### 2.2. Legal environment

The Communicable Disease Act was introduced in 1995 and has shown to be a good tool for infectious disease control of all the diseases in question. No major changes in the law has been added since 1995. In addition, several law regulations are in place for tuberculosis control.

Compulsory testing for tuberculosis is in place for migrants arriving from high endemic countries. All other tests (like HIV and hepatitis) are voluntary.

### 2.3. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

A National HIV Strategy was introduced in 2009 and runs until 2015. Six ministries and their underlying agencies, including the regional and local levels, play a role in the follow-up of the strategy. In 2013 a mid-term report of the strategy was published.

strategy and policy document. Regions and municipalities are by law obliged to have their own tuberculosis action plan.

There is no national strategy plans for other STIs or hepatitis.

There is no national tuberculosis strategy plan, but the tuberculosis guidance document published by the Norwegian Institute of Public health act as a

## 2.4. Treatment, care and support for PLWH, TB and AIs Patients

Costs of testing, care and support for HIV, tuberculosis and AIs within the health care system is included in the normal health insurance system. Treatment, care and support for people diagnosed with the

diseases in question is freely accessible all through the country and free of charge for the patient. Both consultations and medication are free of charge.

## 3. Challenges (issues to be addressed)

Diseases	Challenges
HIV infection	<ul style="list-style-type: none"> <li>» secure the following up of PLWH with regards to sexual counselling</li> <li>» increase the testing activities among risk groups, mainly MSM</li> <li>» extending low threshold services with use of rapid HIV test</li> </ul>
Tuberculosis	<ul style="list-style-type: none"> <li>» increase awareness of tuberculosis symptoms among the public and professionals</li> <li>» implementation and follow-up of screening of risk populations</li> <li>» increase uptake of treatment of latent tuberculosis among migrants</li> </ul>
Gonorrhoea	<ul style="list-style-type: none"> <li>» reduce number of cases among MSM</li> <li>» improve surveillance of gonorrhoea resistance</li> </ul>
Syphilis	<ul style="list-style-type: none"> <li>» reduce number of cases among MSM</li> <li>» more rapid testing among MSM</li> </ul>
Chlamydia	<ul style="list-style-type: none"> <li>» improve testing activity esp. among young men</li> <li>» improve condom use among young heterosexuals</li> </ul>
Hepatitis B and C	<ul style="list-style-type: none"> <li>» improve surveillance</li> <li>» reconsider to introduce universal hepatitis B vaccination</li> <li>» introduce universal screening hepatitis B in pregnant women</li> <li>» develop a national strategy plan for hepatitis</li> </ul>

# APPENDIX 9 | POLAND

Dr. Dorota Rogowska-Szadkowska

Medical University of Białystok

## 1. HIV, TB & AIs Situation in the Country

### 1.1. Country's Background

The Republic of Poland occupies an area of 312 679 km<sup>2</sup> inhabited by 38 512 000 people, 18 644 000 of which are men and 19 868 000 are women. 60.8% of the population lives in cities, 39.2% in rural areas. (Data for 2011). According to data from statistical yearbook the natural growth in Poland has started to decline in the 80s of the twentieth century. From 2002 to 2004 the number of live births was lower than the number of deaths; in 2012 these numbers were equal. In 2012, over 20 000 Polish citizens emigrated from the country, mainly to Germany (39.6%), Great Britain (23.2%) and the USA (7.5%). Immigration (in 2012 – 14 583 people) occurs mainly from European Union countries, Ukraine and in small numbers from other parts of the world.

Since 1989 Poland has been under the process of a political transition. As a consequence various changes affect all aspects of life. The process of privatization of state enterprises is still under way – with the exception of former state farms. Commercialization is present, that means the transformation of a company into a sole shareholder of the Treasury of State, direct privatization, and liquidation of enterprises for economic reasons. Balanced unemployment rate, on average amounted to 10.4% for women, and 9.0% for

men in 2011. The risk of poverty rate was 24.1%. The epidemiological situation concerning HIV, tuberculosis, viral hepatitis B and C and sexually transmitted diseases of the neighboring Eastern countries was worse than in Poland.

The health care system in Poland has been changing since 1989. Primary health care (PHC) constitutes the basic element of the medical care system, most often represented by a specialist in family medicine (General Practitioner) responsible for the treatment and health prevention of patients assigned to him/her. If the patient's condition requires specialized treatment, the primary health care specialist issues a referral to the appropriate clinic or hospital.

No referral is required for a visit in the following clinics:

- » gynecological and obstetrical,
- » ophthalmological,
- » oncological,
- » psychiatric,
- » dermatological and STIs,
- » dental.



No referral is required for:

- » TB patients,
- » HIV patients,
- » war invalids and the persecuted,
- » addicted to alcohol, drugs and psychotropic substances – patients of rehab centers.

Confirmation of health insurance serves as the basis for obtaining health benefits. According to the statistical yearbook, in 2011 in Poland, there were 2 763 public and non-public healthcare clinics and 6 587 contracts signed between doctors and the National Health Fund.

Homosexuality is not punished in Poland since 1932. However, there is still an extreme opposition to the legalization of civil unions. Societal discrimination against homosexual people seems to be decreasing in recent years (more in large cities), but in many areas it still exist although there is one open gay and one transsexual person in the Polish Parliament.

Taking illegal drugs and addiction to them is not a crime in Poland, it is also possible to derogate from punishment for possession of small amounts of illegal substances, although the legislature does not specify

which “small amount” means. Treatment of injecting drug addicts is conducted mainly in stationary centers – public and private. Needle and syringe exchange is run by NGOs but not in a consistent way. Methadone substitution therapy was introduced, but with a difficult access to it for those in need of treatment. There are several methadone programs in penitentiary centres.

Commercial sexual services are legal in Poland. Reaping the benefits of prostitution of others is punished. Along with the political transformation of the 90s of the twentieth century the development of the sex industry in Poland flourished. The clubs, apart from the Polish women, mainly employ women from the eastern border: Ukrainians, Russians, Belarusians and Bulgarians. The OBOP study conducted at the end of 2002 shows that over 17% of respondents when undertaking commercial sexual services are driven by the possibility of income and profit, and 14% by the desire to raise the standard life, but the majority of them (over 60% of women) became sex workers due to the difficult financial situation. 2.8% of the respondents declared that they were forced to do so by other people. Men take care of the sale of sexual services, but the scale of this phenomenon is not known.

## 1.2. Epidemiological trends with respect to HIV, TB and AIs.

### *HIV/AIDS*

Doctors and /or managers of provincial laboratories of sanitary-epidemiological stations are responsible for submitting newly diagnosed HIV/AIDS cases. Notifications are classified according to case definition of HIV and AIDS for the purpose of epidemiological surveillance, in accordance with the Decision of the European Commission of 19<sup>th</sup> of March 2002. The Department of Epidemiology of the National Institute of Public Health – National Institute of Hygiene also carries out an annual voluntary survey

among the heads of laboratories that offer HIV testing in Poland. The data from the Central Statistical Office on deaths due to HIV is also used.

In 2011, after excluding the number of tests performed routinely among candidates for blood donors, 8 tests per 1 000 inhabitants were conducted. The number of tests carried out was 5% higher than in 2010. The number of tests performed by men having sex with men (MSM), people taking up risky types of sexual behavior,

Tests for HIV anti-bodies and newly diagnosed cases from 2007 to 2011.

Group of respondents	2011		2010		2009		2008		2007						
	Total number of tests	Newly diagnosed cases		Total number of tests	Newly diagnosed cases		Total number of tests	Newly diagnosed cases		Total number of tests	Newly diagnosed cases				
		Number of people	Incidence*		Number of people	Incidence*		Number of people	Incidence*		Number of people	Incidence*			
Homo- and bisexuals	669	300	44,84	349	153	43,84	608	63	10,36	419	49	11,69	385	22	5,71
Injecting drug users	884	60	6,79	657	36	5,48	1176	43	3,66	859	48	5,59	1064	67	6,30
Sex workers	16	0	0	27	0	0	95	1	1,05	106	0	0	92	1	1,09
Recipients of blood, sperm, tissues and organs	1473	0	0	1495	0	0	1331	0	0	1748	0	0	1060	0	0
Patients with hemophilia	15	0	1,25	739	0	0	698	0	0	69	0	0	118	0	0
Heterosexual people	6243	78	4,71	4046	91	2,25	6050	64	1,06	4208	50	1,19	4901	53	1,08
Total number	9300	438	0,004	7313	280	3,83	9958	171	1,72	7409	147	1,98	7621	143	1,88
Blood donors	1204003	54**	0	1220589	47	0	1201545	60	0	1102177	37	0	1025746	26	0
Donors of blood, sperm, tissues and organs	1341	0	0,19	364	0	0	448	0	0	880	0	0	30890	0	0
Others/no data	304458	590	0,07	220492	596	0,27	208883	680	0,33	143728	624	0,43	128217	540	0,39
All Polish citizens	1519102	1082	1,05	1448758	923	0,06	1420834	906	0,06	1254194	808	0,06	1202474	709	0,06
Foreigners	2187	23**		1613	28	1,74	1125	33	2,93	747	13	1,74	924	9	0,97

\* newly diagnosed cases in relation to number of tests carried out (per 100 tests),

\*\* known way of transmission for blood donors; MSM – 7, heterosexual – 1, for foreigners: MSM – 1, heterosexual – 5, vertical – 2.

Newly diagnosed HIV and AIDS cases in Poland from 2007 to 2011 according to provinces.

	Province	2011		2010		2009		2008		2007	
		HIV - n	AIDS - n	HIV - n	AIDS - n	HIV - n	AIDS - n	HIV - n	AIDS - n	HIV - n	AIDS - n
	Poland	1105	175	954	173	961	127	823	162	714	134
1.	Lower Silesia	128	34	102	35	117	38	81	38	137	52
2.	Kuyavian-Pomeranian	29	5	37	6	42	3	30	4	18	4
3.	Lublin	38	4	20	7	15	1	8	8	9	6
4.	Lubusz	28	12	24	10	42	6	31	7	16	7
5.	Łódź	61	19	53	19	55	8	46	13	44	13
6.	Lesser Poland	59	6	38	6	42	12	48	8	33	6
7.	Masovian	294	19	201	11	114	9	119	8	75	9
8.	Opole	30	6	14	6	18	3	18	4	12	3
9.	Subcarpathian	17	4	10	4	14	8	13	10	9	0
10.	Podlaskie	19	6	22	2	17	4	5	6	6	0
11.	Pomeranian	59	11	57	20	36	9	26	12	31	13
12.	Silesian	136	11	117	17	40	5	23	16	44	10
13.	Świętokrzyskie	13	4	10	1	8	1	14	1	1	1
14.	Warmian-Masurian	38	7	21	8	23	7	28	12	43	6
15.	Greater Poland	92	16	64	11	63	8	54	14	32	2
16.	West Pomeranian	33	11	32	10	36	5	38	1	23	2
	unknown	31	0	132	0	279	0	271	0	181	0

sperm, tissues, and organs donors, and people injecting drugs also increased. It was shown in the table above. In 2011 HIV infection was diagnosed in 1 105 patients (2.87 per 100 000), 15.5% more (151 cases) than in 2010, and 36.6% more than the median number for 2005 to 2009. The number of diagnosed HIV cases in 2011 was higher by 391 in comparison with 2007. The biggest number of new HIV cases diagnosed in 2011 was recorded in Masovian Province – 294 (5.57 per 100 000), the lowest in Subcarpathian (0.80 per 100 000) and Świętokrzyskie (1.02 per 100 000). In comparison with 2010, a significant increase was observed in 8 provinces: Lower Silesia, Kuyavian-Pomeranian, Lodz, Opole, Masovian, Silesia, Warmian-Masurian and Greater Poland, the decline was registered in three provinces – Lubusz, Lesser Poland and Subcarpathian. Most infections were diagnosed among people from 20 to 39 years of age – 772 (69.9%). Three babies, four children aged from 1 to 8 years and twelve people from 17 to 19 years of age were diagnosed as HIV+.

In 2011, as in previous years, HIV infection dominated among men who constituted 82.2% of the total number of the infected. There is no information on a possible way of transmission in case of the majority of people diagnosed with HIV. It has been like that for several years. In 2011, this information was missing in case of 58.5% of newly diagnosed cases, in 2010 the percentage was even higher, reaching 68.7%. The biggest group of people who are aware of their way of transmission are men who have sex with men (67.1%), people who take up heterosexual risky types of behavior (18.3%) and those who probably got infected via IDU. In comparison with 2010, the increase of the number of infections among MSM amounted to 100%, among IDUs to 62.2%. In 2011, 175 AIDS cases were diagnosed (0.45 per 100 000), Two cases more than in 2010 and twenty three more than the median number for the years 2005–2009. Compared with 2007, the number of AIDS cases in 2011 was higher by 41 cases.

In 2011, 102 AIDS cases were diagnosed almost simultaneously with HIV infection (within 3 months of

diagnosis of HIV), which amounts to 60% of all cases. From 2007 to 2011 HIV was diagnosed almost simultaneously with AIDS in more than 50% of the cases: in 2007 in 51.1%, in 2008 in 58.6%, in 2009 in 51.8%.

Cachexia was the most commonly diagnosed AIDS indicator disease from 2007 to 2011. In 2008, it accounted for more than 38 all diagnosed diseases indicative for AIDS, in 2011 for more than 29%. It takes many years of being infected to develop cachexia. HIV infection should be identified long before and properly treated. Until now only a small percentage of people diagnosed with AIDS receive antiretroviral treatment, or at least such an attempt was taken up.

*Niedźwiedzka-Stadnik M, Rosińska M. HIV and AIDS in Poland in 2011. Przegl Epidemiol 2013;67:267-72.*

Indicator diseases most frequently identified among AIDS cases diagnosed from 2007 to 2011.

	2011 n - 175	2010 n - 173	2009 n - 127	2008 n - 162	2007 n - 134
cachexia	51 (29,1%)	46 (26,6%)	32 (25,2%)	62 (38,3%)	40 – (29,8%)
candidiasis of oesophagus	32	42	19	30	22
pneumonia P. jiroveci	32	27	18	29	28
lung tuberculosis	24	29	16	24	29
unspecified oportunistic infections	17	16	22	21	18
recurring pneumonia	16	12	11	17	12
brain toxoplasmosis	14	14	5	9	5
HIV encephalopathy	10	17	5	13	8
extrapulmonary cryptococcosis	6	-	-	1	5
chronic ulceration Herpes simplex	5	3	-	3	2
progressive multifocal leukoencephalopathy	4	1	-	3	6
Burkitt's lymphoma	4	3	-	1	2
disease provoked by cytomegalovirus	4	9	6	5	2
Kaposi's sarcoma	2	6	6	4	4

## Tuberculosis

The average annual decline in incidence in the years 2007–2011 was 0.4% and was lower than in the previous five-year period (from 2002 to 2006), when it amounted to 3.6%.

The highest incidence was detected in the provinces of Lublin (37 out of 100 000 inhabitants), Świętokrzyskie (32.3 per 100 000 residents), and Łódź (29.4 per 100 000 inhabitants), the lowest in Greater Poland (12.8 per 100 000 inhabitants), Warmian-Masurian (13.4 per 100 000 inhabitants) and Podlaskie (14.6 per 100 000 inhabitants).

Lung tuberculosis accounted for 92.9% of cases, 599 patients suffered exclusively from extra pulmonary tuberculosis.

In recent 10-year period the incidence of tuberculosis decreased significantly, but it is still higher than the average of European Union countries. The highest

incidence occurs in the older age groups, it is higher among men, higher in cities than in rural areas. Low incidence relates to children, also compared to the average of other European Union countries. We also have a low proportion of infections caused by drug-resistant mycobacteria.

*Korzeniewska-Kosela M. Tuberculosis in Poland in 2011. Przegl Epidemiol 2013;67:277-81.*

### Tuberculosis in Poland from 2007 to 2010.

	Number of cases in age groups (years)					
	Together	0–14	15–19	20–44	45–64	65+
2011	8478	111	130	2731	3895	2171
2010	7509	62	114	2086	3441	1806
2009	8236	99	131	2250	3704	2025
2008	8081	76	115	2248	3685	1957
2007	8614	74	135	2538	3762	2105

### Tuberculosis in Poland from 2007 to 2010, according to provinces.

	2011	2010	2009	2008	2007
Poland	8478	7509	7654 – 21,6*	8081 – 21,2*	8614
1. Lower Silesia	742	582	22,7*	20,2*	610
2. Kuyavian-Pomeranian	377	386	19,5*	19,0*	524
3. Lublin	797	646	34,3*	30,6*	766
4. Lubusz	165	135	14,5*	12,0*	116
5. Łódź	746	810	29,4*	28,1*	732
6. Lesser Poland	545	490	16,9*	17,4*	618
7. Masovian	1196	992	22,1*	22,8*	1264
8. Opole	158	132	19,0*	22,6*	211
9. Subcarpathian	503	302	15,9*	18,9*	425
10. Podlaskie	173	158	15,2*	17,0*	184
11. Pomeranian	447	449	24,8*	19,8*	460
12. Silesian	1300	1181	24,1*	22,2*	1114
13. Świętokrzyskie	409	284	32,3*	33,0*	395
14. Warmian-Masurian	191	260	20,5*	17,2*	314
15. Greater Poland	437	441	13,6*	16,6*	528
16. West Pomeranian	292	261	17,0*	19,1*	355

\* incidence per 100 000 inhabitants.

## Hepatitis B

There is a further decline in the number of acute cases of hepatitis B – by 21% in comparison to 2010, the proportion of cases of acute hepatitis B reported to the State Sanitary Inspection without laboratory confirmation decreased (6% compared to 15% in 2010), which shows a certain improvement of the quality of supervision. 83% of all registered cases met the criteria of confirmed cases, ie the typical clinical symptoms were observed and the presence of specific anti-HbcIgM was demonstrated. The incidence of hepatitis B in recent years has been determined primarily by chronic cases. In 2011, like in previous years, there were significant regional differences – in 8 provinces we observed lower number of cases – especially in Lesser Poland (decrease by 41%), and in 8 provinces more cases – especially in Podlasie, where the number increased five-fold compared to 2010. In 2011 the discrepancy in the incidence of acute hepatitis B deepened between provinces: especially in Podlasie – 1.00 per 100 000 inhabitants, not so much in

Subcarpathian – 0.5 per 100 000 inhabitants, but the downward trend is observed in all provinces.

As in previous years, men got ill more often than women (more than twice), the majority of them lived in cities. The peak incidence shifted to older age groups in comparison to previous years – from 26–29-year-olds to 30–34-year-olds. High frequency of infection was also observed among people aged from 65 to 74 years (0.58 per 100 000 inhabitants). The highest incidence among men from rural areas was observed in the age group 65–74 (1.44 per 100 000), from cities in the age group 30–34 years (1.11 per 100 000 inhabitants). The highest incidence was observed among women from rural areas who were over 74 years of age (0.77 per 100 000 inhabitants). Women of the same age but living in cities showed the lowest incidence (0.10 per 100 000 inhabitants). The lowest incidence of hepatitis B was observed in the age group from 0 to 24 years, that is totally covered by compulsory vaccination.

### Hepatitis B in Poland from 2007 to 2010, according to provinces.

	2011		2010		2009		2008		2007	
	acute – %	acute – %	acute – %	acute – %	acute – %	acute – %	acute – %	acute – %	acute – %	
Poland	1 583	6,6	1633	7,8	1475	13,5	1337	19,6	1454	25,0
1. Lower Silesia	122	5,7	114	7,0	164	3,0	137	8,0	130	13,8
2. Kuyavian-Pomeranian	89	3,4	113	4,4	99	5,1	127	6,3	103	16,5
3. Lublin	60	6,7	69	7,2	76	7,9	106	16,0	114	15,8
4. Lubusz	37	8,1	31	9,7	18	33,3	12	50,0	13	30,8
5. Łódź	197	6,1	185	5,9	209	9,1	150	9,3	186	11,3
6. Lesser Poland	16	43,8	27	77,8	20	85,0	43	76,0	49	77,6
7. Masovian	233	11,2	282	9,2	208	18,3	178	27,0	172	37,8
8. Opole	114	3,5	122	2,5	82	11,0	68	14,7	60	21,7
9. Subcarpathian	62	1,6	67	10,4	45	13,3	51	23,5	65	35,4
10. Podlaskie	76	15,8	13	38,5	20	70,0	17	64,7	21	85,7
11. Pomeranian	72	11,1	63	1,6	41	14,6	30	26,7	67	25,4
12. Silesian	124	6,5	134	9,7	185	18,4	172	26,7	184	37,0
13. Świętokrzyskie	71	1,4	48	2,1	76	3,9	71	11,3	65	16,9
14. Warmian-Masurian	12	25,0	11	9,1	10	80,0	16	75,0	16	50,0
15. Greater Poland	263	1,1	234	3,1	192	8,3	130	10,0	178	11,2
16. West Pomeranian	35	5,7	30	26,7	30	23,3	29	17,2	31	16,1

Main probable ways of transmission were, as in previous years, common medical procedures – 57 cases, 55% of cases of acute hepatitis B, including 5 infections during dialysis or blood transfusion. In seven cases (6.7%), infection occurred as a result of sexual contacts (mostly young among men, 20–36 years of age, who maintained hetero- or homosexual contacts. In seven cases (6.7%) the infection was most likely the consequence of IDU, and in the next seven – casual contacts with infected family members. In 25% of cases, the way of infection remains unknown.

In 2011, according to preliminary data obtained from the Central Statistical Office, eight people died from acute hepatitis B, three more patients than in 2010.

There were 1 479 chronic hepatitis cases caused by HBV registered (3.84 per 100 000 inhabitants), about 3% less than in the previous year. In 2011, as in previous years, the registration of cases of chronic hepatitis B was based on medical diagnosis. We have to be careful while interpreting this data due to the fact that there is no definition of chronic hepatitis B but there is a possibility of duplication of previously reported cases as well as there are different approaches to these cases from the side of epidemiological surveillance mode in individual provinces. All that indicates the necessity of organizing the epidemiological surveillance of chronic hepatitis B.

We still observe big regional differences: the most severe ones in Opole – 10,83 per 100 000 inhabitants,

### Hepatitis C

In 2011, the frequency of diagnosis of hepatitis C was increasing, but was still lower compared to the years 2006 to 2008. In comparison to 2010, the incidence of infections increased approximately by 5.5%. There were significant regional differences in the frequency of diagnosed cases. Compared to 2010 there was a significant increase in Podlaskie,

the smallest in Lesser Poland – 0,27 per 100 000 inhabitants, reported equally in 2010 and 2011. In 2011, the rate of diagnosis increased eightfold in Podlasie (the biggest increase), less in other eight provinces. The reduction of the incidence of diagnoses observed in eight provinces did not exceed 20%. All around the country, more than half (56.5%) of patients suffering from chronic hepatitis B was hospitalized, but in Masovia only 20.3%, in Subcarpathian, Podlasie and Kuyavian-Pomeranian more than 90% of patients. The incidence was higher among men than women (4.73 and 3.0 per 100 000 inhabitants). Men 75 years of age and older were ill four times more than women. The incidence was higher in urban areas than in rural ones (respectively 4.36 and 3.03 per 100 000 inhabitants), two times higher among urban males aged 40–49 years. Children from rural areas got ill more frequently, in the age group 15–19 years, the incidence was the highest since 2006 – 8.45 per 100 000. The incidence in this age group decreased slightly compared to the previous year, although in the next few years we expect a gradual decrease in incidence connected with the growth of people vaccinated in childhood.

According to preliminary data of the Central Statistical Office, 40 people died from chronic hepatitis B, but this information may be incomplete.

*Stępień M, Czarkowski MP. Hepatitis B in Poland in 2008. Przegl Epidemiol 2010;64:239-44.*

*Stępień M, Czarkowski MP. Hepatitis B in Poland in 2011. Przegl Epidemiol 2013;67:239-45.*

Subcarpathian and West Pomeranian – respectively 324%, 109% and 79.1%.

The frequency of diagnoses decreased respectively by 61%, 53% and 51% in the provinces of Lublin, Silesia and Swietokrzyskie. The incidence of HCV infections is two times higher in cities than in rural areas, higher

among men than among women (but among women > 50 years of age higher than men). The upward trend of the incidence of hepatitis C observed from 2009 to 2011 may be the result of increased access to diagnostic tests during that period. In 2011, 191 people died from hepatitis C (0.50 to 100, 000), including six patients with acute HCV infection.

In 2005 the Sanitary Inspection carried out more intensified activities that aimed to increase the level of the supervision over hepatitis C. At the same time social campaigns disseminating knowledge about hepatitis C were launched, free testing was offered, as well as an extensive educational campaign for health care workers. These activities probably triggered a sharp rise of detected and reported cases in the years 2005–2006 and a gradual decline in the next few years. This decrease mainly dealt with the number of newly detected infections. This sudden change does not reflect the epidemiological situation, it was rather

the result of changes in the epidemiological surveillance and / or the frequency of HCV testing. However, there is no information on the total number of tests and methods used in the subsequent years, which does not allow to draw clear conclusions. In 2008, the obligation to report positive cases for hepatitis C by laboratories was abolished (Regulation of the Minister of Health Dz. U. 203/2007 poz. 1467 of 17<sup>th</sup> of 2007 which led to removing an important source of data.

Persistent variations in the incidence of hepatitis C between regions are probably due to differences in the epidemiological surveillance modes and classification of cases, as well as to alternations in the incidence of reporting.

*Stępień M, Rosińska M. Hepatitis C in Poland in 2008. Przegl Epidemiol 2010;64:245-50.*

*Rosińska M, Parda N, Stępień M. Hepatitis C in Poland in 2011. Przegl Epidemiol 2013;67:247-51.*

#### Hepatitis C in Poland from 2007 to 2010, according to provinces.

	2011		2010		2009		2008		2007	
		HCV/ HBV		HCV/ HBV		HCV/ HBV		HCV/ HBV		HCV/ HBV
Poland	2151	30	2021	38	1939	40	2353	38	2753	60
1. Lower Silesia	240	2	245	0	250	2	331	1	293	6
2. Kuyavian-Pomeranian	151	0	153	2	131	3	181	1	150	3
3. Lublin	91	1	110	1	122	1	137	2	257	8
4. Lubusz	142	1	140	4	60	1	29	1	28	1
5. Łódź	180	4	168	5	260	9	199	5	314	7
6. Lesser Poland	18	0	25	0	30	0	32	2	34	2
7. Masovian	383	9	443	13	323	4	427	6	505	10
8. Opole	62	0	79	0	37	1	56	2	55	2
9. Subcarpathian	72	1	34	0	30	1	44	0	46	1
10. Podlaskie	103	1	24	1	27	1	27	1	30	0
11. Pomeranian	96	2	77	2	89	3	77	3	117	5
12. Silesian	135	2	146	1	189	5	287	5	300	3
13. Świętokrzyskie	85	3	88	3	66	4	159	3	174	2
14. Warmian-Masurian	44	2	39	0	24	0	17	1	32	0
15. Greater Poland	278	2	211	6	257	5	303	4	343	9
16. West Pomeranian	71	0	39	0	44	0	47	1	75	1

## Syphilis

In 2011 we observed an increase in the incidence of syphilis by 3%. The number of tests performed for syphilis is lower and lower. In 2011 less than 100 000 samples of blood were examined – which represents 2% of research made 10 years ago. Serological tests for blood donors and pregnant women were limited which had an influence on insufficient number of diagnosis. In 2007 there were 514 969 blood samples examined, which accounted for 7% of research made 10 years ago.

### Stages of syphilis in Poland from 2007 to 2010.

year	Syphilis				
	all forms	early symptomatic	early latent	late	congenital
2011	841	394	169	274	11
2010	817	393	179	277	18
2009	1234	604	326	256	13
2008	906	434	265	207	0
2007	915	446	248	215	6

### Syphilis in Poland (all forms) in Poland from 2007 to 2010, according to provinces.

	2011	2010	2009	2008	2007
Poland	841	817	1234	906	915
1. Lower Silesia	56	65	80	86	63
2. Kuyavian-Pomeranian	32	51	45	46	19
3. Lublin	20	17	12	1	22
4. Lubusz	39	12	44	44	36
5. Łódź	112	67	68	47	42
6. Lesser Poland	66	128	151	96	68
7. Masovian	246	246	464	319	354
8. Opole	10	22	2	3	15
9. Subcarpathian	8	5	7	2	5
10. Podlaskie	5	19	19	16	12
11. Pomeranian	26	-	37	22	31
12. Silesian	81	81	163	96	103
13. Świętokrzyskie	3	9	9	12	10
14. Warmian-Masurian	33	12	24	14	14
15. Greater Poland	76	53	71	80	82
16. West Pomeranian	26	30	38	22	39

## Gonorrhea

In 2011 we observed an increase in gonorrhea cases by 28%.

The law on infectious diseases and infections from 6th of September 2001 does not assure free diagnosis, treatment with medication or control after treatment for all patients. Free-of-charge venereal care is foreseen only for patients covered by health insurance.

Waiting lists for a visit to a specialist are also long. Doctors do not fulfill their statutory obligation to report cases of illness, patients do not disclose their sexual partners and do not inform them about the need to seek medical advice. The lack of funds for research and education, low level of health awareness among general society, easy access to sexual services have adverse effect on epidemiological situation.



Gonorrhea in Poland from 2007 to 2010, according to provinces.

	2011	2010	2009	2008	2007
Poland	351	274	408	303	488
1. Lower Silesia	15	10	14	12	151
2. Kuyavian-Pomeranian	30	33	50	25	24
3. Lublin	3	5	4	7	7
4. Lubusz	11	6	15	24	29
5. Łódź	5	24	24	28	32
6. Lesser Poland	16	7	12	11	11
7. Masovian	211	143	224	101	125
8. Opole	-	-	1	-	2
9. Subcarpathian	4	2	1	2	-
10. Podlaskie	8	5	5	9	6
11. Pomeranian	14	-	13	27	37
12. Silesian	14	11	19	29	24
13. Świętokrzyskie	3	12	3	1	3
14. Warmian-Masurian	5	3	5	3	7
15. Greater Poland	10	9	13	19	17
16. West Pomeranian	2	2	5	5	13

Majewski S, Rudnicka I. Sexually transmitted diseases in Poland in 2011. *Przegl Epidemiol* 2013;67:283-6.

Majewski S, Rudnicka I. Sexually transmitted diseases in Poland in 2007. *Przegl Epidemiol* 2009;63:287-91.

## Chlamydia

From 2007 to 2011 there has been a decline in the number of Chlamydia infections.

Zieliński A, Czarkowski MP. Infectious diseases in Poland in 2007. *Przegl Epidemiol* 2009;63:161-7.

Zieliński A, Czarkowski MP. Infectious diseases in Poland in 2009. *Przegl Epidemiol* 2011;66:171-9.

Zieliński A, Czarkowski MP, Sadkowska-Todys M. Infectious diseases in Poland in 2011. *Przegl Epidemiol* 2013;67:171-9.

The number of chlamydia cases submitted in Poland from 2007 to 2011.

	2011	2010	2009	2008	2007
Poland	319	539	908	695	627

### 1.3. Most-at-risk populations for HIV, TB and AIs

#### *- trends (covering last 5 years),*

##### **MSM**

In the years 2007–2011 the number of HIV infections among MSM increased, but at the same time we noted the increase of the number of men who while making the test revealed their homosexual orientation. Infections relate primarily to men from 20 to 39 years of age. No data is available concerning the sexual orientation of people suffering from sexually transmitted infections. However, information gathered from non-governmental organizations and hotlines seem to indicate the spread of these diseases among homosexual men.

##### **IDU**

Number of individuals performing HIV tests who admit to be injecting drug uses ranges from 1 064 in 2007 to 657 in 2010. The incidence of HIV infection was among IDU was from 6.30 to 5.48 per 100 tests performed. Taking in the account the increased infectivity of HCV incidence of HCV infection is certainly definitely higher in this population. The same applies to HBV. Data on sexually transmitted

diseases in this population is not collected. However, their living conditions, especially taking heroin, favor the transmission of mycobacterium tuberculosis, in case a sick person appears in the group that shares common space. Due to the fact that the sale of sexual services is a way of earning money for the purchase of drugs, it must be assumed that sexually transmitted diseases also appear among members of this population.

##### **general population**

From 2007 to 2011 there was a steady growth of the number of infections among heterosexuals.

##### **sex workers**

From 2007 to 2011 very few people reported the sale of sexual services as a reason for testing for HIV. Most of them – 106 individuals – performed the test in 2008, the fewest of them – 16 – in 2011. In those years, there was no case of infection diagnosed. There was one diagnosed among 95 people who performed the test in 2009 and one among 92 individuals in 2007.

#### *- factors promoting HIV, TB and AIs transmission among most-at-risk populations,*

HIV infection among MSM spreads primarily via unprotected anal intercourse, in stable relationships when one partner is infected and due to casual sexual intercourses. Information gathered in hotlines and publications tell us that HIV-infected men sometimes inform their sexual partners after a certain period at the same time maintaining risky sexual types of behaviour. Erroneous assessment of a partner's HIV status is also common due to the lack of knowledge on it by him/her or keeping it silent. Syphilis is transferred as a result of both anal and oral intercourses. Similar to other sexually transmitted diseases the important risk factor is the number of sexual partners.

Transmission of HIV, HCV and HBV among IDU takes place mainly through the use of shared needles and syringes. Although in Poland it is legal to buy injecting equipment without a prescription in pharmacies, it is often the case that pharmacists refuse to sell it to suspicious-looking people. The availability of needle exchange and syringe programmes is also to small.

*- expected trends in prevalence of these infectious diseases among most-at-risk populations.*

Available epidemiological data, country-specific conditions, as well as the political situation behind the eastern Polish border (the possibility of the influx of refugees) do not indicate the reduction in the number

of infections of HIV, HBV, HCV, as well as sexually transmitted infections and tuberculosis among key populations.

#### 1.4. Providing treatment care and support for PLW H, TB and AIs patients (including to- be-addressed issues)

HIV treatment is conducted in accordance with the recommendations of the Polish Scientific AIDS Association and updated every year. 2013 version suggests to initiate treatment regardless of the number of CD4 lymphocytes in case of pregnant women to prevent vertical infections and patients diagnosed with HIV-associated nephropathy, an increased risk of cardiovascular diseases in patients over 50 years of age, patients with co-infection of HBV and HCV, and in case of diagnosed cancer. It is also recommended to start treatment as quickly as possible in case of patients who show symptoms of HIV infection (stages B and C, according to the CDC classification), regardless of CD4 cell count, patients with CD4 counts <350/mm<sup>3</sup> and non-treated pregnant women after the 14th week of pregnancy.

Antiretroviral therapy is provided in reference centres run by the public health care facilities. AIDS incidence is a measure of the effectiveness of the system of diagnosis and care of people living with HIV. In more than half of the cases identified in 2011, AIDS was diagnosed simultaneously with HIV infection. This points to the big problem of undiagnosed HIV infections by doctors visited by patients unaware of their infection and who looked for medical attention only when they were in the stage of AIDS.

Treatment of tuberculosis: in 2011 the incidence of tuberculosis in Poland was higher than in 2010 (22.2 v 19.7). It seems that it is the result erroneous case registration rather than the worsening epidemiological

situation. For comparison, in 2010 there was a significant decrease in the number of cases and incidence rates compared to the preceding year. Future measurements, ie, the incidence of consecutive years will show the actual cause of ups and downs.

The level of incidence of tuberculosis in Poland is still higher than the average incidence level of the European Union as well as Norway and Iceland (72 334 cases, 14.2 cases per 100,000 population – data for 2011). In most EU countries the incidence is low (eg Germany-rate of 5.3 per 100 000, Italy-5.8; Netherlands-6.0, Norway 7.3, Austria 8.2, 5.7 Czech Republic, Slovakia 7, 3). The lowest incidence was recorded in Iceland-2.8. Poland with a ratio of 22.2 belongs to the group of EU countries (and associated ones) of highest TB numbers being placed in the ranking ahead of Portugal (23.9), Estonia (25.4), Bulgaria (32.1), Latvia (39.7), Lithuania (58.7) and Romania (89.7).

In the EU countries, new, that is, previously untreated cases accounted for 80% of all TB cases. A high percentage of re-treated patients is a sign of irregularities of previous therapy. Poland with the percentage of new cases ratio 88.6% does not stand out significantly from the EU average. In Poland, bacteriological confirmation of tuberculosis that is confirmed with the positive results of cultures, accounted for a slightly higher percentage of cases than in the EU (65.8% in Poland to 61% in the EU). Mostly elderly people suffer from tuberculosis among the indigenous

communities of the EU. Similarly to Poland, the majority of patients are 45 and older. In EU countries, like in Poland, tuberculosis is more common in men than women (ratio 1.8:1). It is the regularity observed in the group of the local population of these countries.

Treatment of HCV infections is conducted in accordance with the recommendations developed and updated by the Polish Group of HCV Experts. According to the recommendations of 2011 acute hepatitis C should be treated on the basis of the level of HCV RNA concentrations:

- » If HCV RNA at week 8, after exposure is > 800 000 IU/mL, treatment should be started in the 9<sup>th</sup> week of HCV infection
- » If HCV RNA at week 8 after exposure is <800,000 IU/mL but still detectable at week 12, treatment should be started in the 13<sup>th</sup> week of HCV infection.

Treatment of chronic HCV infection is an indication for antiviral therapy. For many years, the only option was to combination therapy with interferon alpha (later on with pegylated interferon) and ribavirin. Currently, triple therapy is recommended if the patient is infected with genotype 1 HCV, together with interferon and ribavirin of one HCV protease inhibitors – boceprevir or telaprevir.

Patients infected with HCV should be systematically monitored for hepatocellular carcinoma.

Treatment of chronic HBV infection is conducted in accordance with the recommendations of the Polish HBV Expert Group elaborated in 2013. Registered drugs in the treatment of HBV infections in Poland:

- » Interferons (IFN):
  - Natural,
  - Alpha 2a and alpha2b (IFN $\alpha$ 1 I IFN $\alpha$ 2b),
  - Pegylated alpha2a (PegIFN $\alpha$ 2a).

» Analogs (AN):

- nucleoside: lamivudine (LMV), telbivudine (LDT) and entecavir (ETV)
- nucleotide: adefovir (ADV) and tenofovir (TDF).

Due to the highest efficiency, convenience and administration method (once a week), PegIFN $\alpha$ 2a should be used out of IFN. Conversely, due to the most potent antiviral and high genetic barrier – TDF and ETV should be used out of An.

Qualification for the treatment of patients with both HBeAg-positive or HBeAg-negative required to demonstrate the presence of HBsAg during for at least 6 months, and fulfillment of two of the following three criteria evaluated at the same time:

1. HBV DNA higher than 2000 IU/ml.
2. ALT exceeding the level of upper limit.
3. Features of inflammation or fibrosis of the liver with a value of at least 1 degree shown in the histopathological (liver biopsy) on a scale of 5 progressive (0 to 4).

According to experts, there are no conclusive results of controlled studies on the effectiveness of therapy of acute AN hepatitis B of severe course (including fulminant). Treatment with AN should be considered only in those patients with simultaneous assessment of the possibility of liver transplantation. If we decide to apply AN treatment, it must be initiated with drugs of high antiviral activity and high genetic barrier, namely ETV or TDF. However, the essential element of the procedure should liver transplantation.

## 2. Analysis of national HIV, TB and AIs responses

AIDS was placed on the list of infectious diseases, it was also included in the list of diseases subjected to compulsory treatment in 1986 (The Regulation of Council of Ministers of 21<sup>st</sup> of October 1986. Dz. U. Nr 40, poz. 197). HIV and AIDS treatment is carried out on the basis on the National Programme for Preventing HIV Infections and Combating AIDS updated every few years and approved by the Council of Ministers. The latest version of the Programme was developed for the years 2012–2016. The National AIDS Centre carries out tasks on behalf of the Minister of Health, in the field of preventing and combating HIV / AIDS. The activities of the National AIDS Centre aim at reducing the spread of HIV, improve the quality of life of PLWHA and their families by:

- » prevention of HIV infections and provision of adequate access to information, education and services concerning HIV/AIDS prophylaxis,
- » improving the quality of life in the psychosocial sphere of people living with HIV/AIDS, and their families and relatives,
- » provision of ample access to diagnostic and HIV treatment,
- » improving of quality and diagnostic/healthcare accessibility for people living with HIV/AIDS and those vulnerable to HIV infection,
- » reduction of HIV infections among children.

In a wide range, the National AIDS Centre also carries out activities in the field of international cooperation. The very first National Programme for Preventing HIV Infections, Providing Care For People Living with HIV and Suffering from AIDS was carried out between 1996 and 1998. The subsequent editions of the Programme encompassed the periods of 1996–2003 and 2004–2006.. Afterwards, the legal basis was the Regulation of the Council of Ministers on the 13th of September, 2005 on the National Programme for Combating AIDS and Preventing HIV Infections (publication number Dz. U. Nr 189, poz. 1590).

In Poland there is a considerable need for prevention, including information on HIV/AIDS. In the long term, failure in preventing HIV/AIDS will significantly increase the cost of treatment of patients both in direct and indirect costs (cost of lost productivity of people infected with HIV and AIDS patients). Poland is one of the EU member states which, counted per capita, spends the least (i.e. 0.05 Euro = approx 20 gr) on prevention measures (according to the ECDC in 2006).

Apart from providing the possibility of ARV treatment to all patients meeting the medical criteria, there is an urgent need to strengthen and expand prevention efforts. Currently, approximately 96% of all funds for HIV/AIDS from the state budget allocated to ARV treatment, and only 4% of the funds remain for the prevention of HIV infection. It is very worrying if we think of the epidemiological situation of HIV/AIDS around Poland's eastern borders. An example would be Warmia and Mazury in the immediate vicinity of the Kaliningrad region (which has the highest rates of HIV infection in Europe). For the last four or five years there has been a systematic increase in the number of HIV infections in the province.

In order to better diagnose the problem and to direct preventive measures to specific populations, a systematic approach to behavioural and epidemiological research is necessary. There is a need to continue a multi-faceted prevention activities targeting different social groups, taking into account specific needs of each of them.

In recent years the budget expenditure spend on HIV/AIDS in Poland has been limited, which results in constraints in (and in many cases in termination of) specific activities in this area. The National AIDS Centre, on behalf of the Minister of Health, in accordance with applicable regulations, orders tasks to NGOs in the area of preventive activities.

The cost of ARV drugs is funded by the Ministry of Health, other costs of medical care for PLWHA are covered by the National Health Fund.

TB patients during mycobacterial stage are covered with compulsory hospitalization as well as people justly suspected of mycobacteria (regulation of 19<sup>th</sup> of April 2013).

The costs of recommended vaccinations and medical examinations prior to vaccination of people with no rights to health insurance are carried out by people subjected to vaccination and examination (Regulation of 2013).

## 2.1. Description of governmental coordination, management and financial support for HIV, TB and AIs response

Measures aimed at the prevention of infectious diseases in the framework of the existing health care system, such as systematic screening tests designed to detect previously undiagnosed infections are extremely difficult to implement due to frequent changes of the system. Any attempts to increase the number of financial resources for this purpose encounter

opposition. HIV/AIDS prevention is carried out by a number of NGOs. However, most of them operate in big cities, which makes inhabitants of small towns and rural areas virtually with no access to preventive education and health promotion.

## 2.2. Description of normative framework and legal environment

According to the Regulation on Prevention and Combating of Communicable Diseases and Infections in Humans signed in 2008 cases suspected of chlamydia, sexually transmitted diseases, tuberculosis and other mycobacteria, viral hepatitis (A, B, C, etc.) as well as HIV, AIDS or deaths due to any of these diseases require notification to the authorities of the State Sanitary Inspection. The State Sanitary Inspection, Military Sanitary Inspectorate, State Sanitary Inspectorate of the Ministry of Internal Affairs, Veterinary Inspection, Military Veterinary Inspectorate, Inspectorate for Environmental Protection, reference centers and research institutes work together to prevent and fight infections and spread of infectious diseases, to identify and monitor the epidemiological situation and to maintain the system of early warning of possible threats of any epidemic in the country. Chief Sanitary

Inspector and entities indicated by him/her cooperate with EU Member States, the European Commission and the European Centre for Disease Prevention and Control in the framework of the Communicable Diseases Network for the epidemiological surveillance and control of communicable diseases. It involves:

- » Providing data on registered cases of infections, illnesses and deaths due to infectious diseases to basic and specialized EU surveillance networks,
- » exchange of information relevant to the prevention and control of infections and communicable diseases.

Compulsory hospitalization applies to individuals suffering from tuberculosis during mycobacteria and people with high suspicion of mycobacteria.

Compulsory treatment is applied in case of people suffering from:

- » pulmonary TB,
- » syphilis,
- » gonorrhoea.

The costs of health care and health benefits related to these infections and diseases and provided to the insured, as well as drug costs are financed according to health care services regulations financed from public funds.

Costs of health services connected with these infections and infectious diseases provided to people who health insurance and the cost of drugs are financed from the part of the state budget administered by the minister of health.

There is a record “who knowingly exposes another person to HIV infection is punishable by imprisonment up to 3 years” in the Polish Penal Code.

### 2.3. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

Prevention of HIV infections in Poland is difficult primarily to worldview reasons. It would be appropriate to promote use of condoms, however many social and political groups oppose to this. In addition, information on the ineffectiveness of condoms use is often disseminated, which further discourages from their use. The only key population targeted with a campaign to promoting condom use has been MSM, though even this campaign faced sharp criticism from some social circles. Although the regulation signed in the early 90s that restricted the legal criteria of abortion speaks of the need for sex education at schools, this requirement has not been yet implemented.

In 2001 on the initiative of the National AIDS Centre the network of voluntary counseling and testing centres was established, where one can take an HIV test anonymously and free-of-charge, according to international standards that include pre- and post-HIV counselling. Despite the lack of funds to promote VCTs, every year they note more and more clients. VCTs employ professionals trained in counseling, mostly medical doctors and psychologists. However, the availability of VCTs is not universal, and still too few people take HIV tests.

According to the Polish law, some vaccinations are compulsory, and some recommended. Compulsory ones are for all (both the insured and not) and financed from public funds. Mandatory vaccinations cover tuberculosis and HBV and are performed in the first day of babies life. Financing recommended vaccination varies. When implemented by primary care provider selected by the patient, the patient covers only the cost the vaccine, the cost of the qualifying examination and the vaccination itself is covered by healthcare provider. If the patient decides to visit a commercial vaccination facility has to cover full cost.

Recommended vaccinations include almost all possible vaccine products registered in Poland. The selection of recommended vaccinations quickly covers the introduction of new vaccines to the market. Normally, the following year after the date of the first registration of the vaccine, it is already included as recommended to the immunization program. However, vaccinations implemented in this mode (patient covers the cost of the vaccine) are considered as individual, with no significant impact on the resistance of the whole population. None of the new vaccines registered in the past 10 years, including HPV, was not so far included into the mandatory vaccination

schedule for children and adolescents. Undoubtedly, widening the scope of recommended vaccinations is an action that increases the availability of this type of prevention, but at the same time it contributes to the increase of social inequality. In addition, this mode results in immunization not of those who do need it most, but of those that can afford it. Despite significant progress made compared to the situation of the past decade, positive changes in the mandatory vaccination appear too slowly. That is why Polish immunization program differs significantly from programs implemented in most European countries.

*Mrożek-Budzyn D. Ewolucja polskiego programu szczepień ochronnych na przestrzeni ostatnich 10 lat. Przegl Epidemiol 2012;66:107-112*

According to the recommendations of the Polish HBV Expert Group – Immunization Team – anti-HBV vaccination should cover:

- » professionals exposed to HBV,
- » people who are close to HBV patients and carriers,
- » chronically ill patients, including those suffering from liver and kidney failures and diabetes
- » immunocompromised people, including HIV+,
- » people prepared for operations with cardiopulmonary bypass,
- » those who had or have numerous sexual partners,
- » intravenous drug users,
- » prisoners.

HAV and HBV vaccinations are recommended for all people traveling to countries with moderate or high risk of infection who have not been vaccinated yet.

The increase of the number of infections acquired via non-medical exposures means getting closer to pattern observed in industrialized countries, where the number of infections acquired via sexual transmission constitutes 30–50% of all new HBV cases. The primary method of preventing new incidences of hepatitis B is still the recommendation of vaccination against hepatitis B and the dissemination of knowledge about the

possible ways of infection, especially among people who are particularly vulnerable due to their lifestyle.

The epidemiological situation of chronic hepatitis B, often asymptomatic, is much more difficult to interpret due to the high dependence of the number of cases detected (acquired in the past) on the frequency of testing (screening only among pregnant women and blood donors) and the way of conducting surveillance in different parts of the country. In order to obtain reliable and comparable data on chronic hepatitis B it is necessary to improve the monitoring activity and refresh data on the prevalence of chronic hepatitis B among the general population and subpopulations.

Indicators of prophylactic treatment of syphilis and gonorrhea have been very low since many years. Patients do not reveal the data of sexual partners and do not inform them of the need to seek medical advice.

The lack of funds for prevention research and education, low level of health awareness among Polish society, easy access to sexual services and bad epidemiological situation of the countries of the eastern countries where incidence rates exceed the rates quoted repeatedly in Poland for years have had adverse effect on the epidemiological situation in Poland.

From the 1<sup>st</sup> of January 2009, the Regulation on the Prevention and Fight of Infections and Diseases in Humans of December 5, 2008 (Journal of Laws No. 234, poz.1570) has been in force. Thanks to it the free diagnosis, treatment with medication, monitoring after treatment for all patients with syphilis and gonorrhea – also uninsured have been restored.



## 2.4. Treatment, care and support for PLWH, TB and AIs Patients

Treatment of PLWHA is carried out by professionals working in referral centers in 17 Polish cities, two more centres offer PEP and two more prevention of vertical transmission, one offers PEP and therapy for pregnant women.

It has a great advantage: HIV infected patients are cared by professionals who treat them, and monitor the effectiveness of treatment in accordance with international standards. Communing constitutes the disadvantage for some patients, which impedes professional carries (employers are reluctant to give

some days-off every month necessary to get medication and perform necessary testing 2–3 times a year to monitor the effectiveness of treatment). The financing health care in Poland makes patients who need to get tested several days of hospitalization, which further complicates their family and professional life.

There are organizations that support people with HIV, adults and children in major Polish cities, esp, in Warsaw and Wroclaw.

## 3. Challenges (issues to be addressed)

Growing number of HIV cases demands to take up educational activities, especially among MSM, but also among all young people.

Recent increase in the incidence of HIV infections among IDUs makes it necessary to carry out more harm reduction actions, including increasing access to sterile injecting equipment and substitution therapy programs. Even if the observed increase of 2011 was merely a consequence of more complete information about the possible way of transmission – in 2011 these data would be available for 41.5% of the cases, in 2010 only for 31.3%.

The trend of not collecting data on likely ways of HIV transmission has been very worrying in the recent years. The current document entitled “Registration form of AIDS and HIV cases “ does not include any question about the likely route of infection. The most complete data are collected at VCTs run by the National AIDS Centre.

The national strategy on combating sexually transmitted diseases should take account their social side and provide financial resources necessary for prevention and education. This is also important due to the steady growth of the number of people infected with HIV through sexual contact and the fact that the symptoms of “classic” venereal diseases repeatedly increase the infectivity of HIV in Poland.

## 4. Conclusions

(expected trends in HIV, TB, AIs prevalence, highlighting response measures where international support is likely to prove most effective – in relation to the activities listed in the application for “Seed Money”)

Due to still evolving the legal situation regarding health care, increasing amount of private healthcare facilities, decreasing regulatory role of the state, as well as specific Polish ideological situation it is extremely difficult to conduct prevention works, esp in

the field of HIV/AIDS and other STIs. In turn, the lack of preventive measures, lack of sexual education and education on sexually transmitted diseases will lead to the increase of the number of these infections.

## 5. Recommendations

It would be good to improve the data on the potential transmission routes of HIV. The knowledge we have is too scarce. It is necessary to introduce sexual education at schools, as well as basic knowledge base of other than HIV STIs. There is the need for education targeting people at risk of HIV, that is women and MSM. It would be good to improve the accessibility to STI clinics. The epidemiological situation in Poland is much better compared to our eastern neighbors, however, a very complicated situation in Ukraine may have a negative impact.

# APPENDIX 10 | RUSSIAN FEDERATION

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## 1. HIV, TB & AIs Situation in the Country

### 1.1. Country's background

Russia is a federal republic, comprising 83 federal subjects. At 17,075,400 square kilometres, Russia is the largest country in the world, covering more than one-eighth of the Earth's inhabited land area. Russia is also the world's ninth most populous nation with 143 million people representing 194 nationalities, as of 2012. From northwest to southeast, Russia shares land borders with Norway, Finland, Estonia, Latvia, Lithuania and Poland (both with Kaliningrad Oblast), and Belarus. Most of Russian regions bordering on these countries belong to the *North-West Federal District*, one of the eight federal districts of Russia. It consists of the northern part of European Russia. Its population was 13,616,057 (83.5% urban) according to the 2010 Census, living on an area of 1,677,900 square kilometers. The District contains the city of St Petersburg, the biggest metropolitan area in the Baltic Sea region. The city's economy includes machine-building factories, trade and banking,

food processing as well as extensive service sector. St Petersburg is a major seaport and transportation center. Employment opportunities available in the city make it attractive for labour migrants whose annual influx is estimated at 450,000 (<http://kmkspb.ru/content/view/231/123/>). St Petersburg also features well-developed medical network consisting of over 150 institutions providing specialized help and 106 primary care facilities (polyclinics). Such institutions as the Republican Clinic for Infectious Diseases and the Research Institute for Phtysiopulmonology are the leading national entities providing treatment for HIV-infected children and TB patients, respectively. Kaliningrad, another metropolitan center of the North-West Federal District, is also a major seaport and transportation hub. Being an enclave bordering on Poland and Lithuania, Kaliningrad features extensive range medical services provided at 39 hospitals, 4 dispensaries and 203 primary medical aid units.

### 1.2. Epidemiological trends with respect to HIV, TB and AIs

Massive socio-economic dislocations of the 1990s were accompanied by a sharp rise in the number of infectious diseases across the country. Since then both the economic and the epidemiological situations

have become more stable, with annual registrations of such diseases as tuberculosis, syphilis and gonorrhoea being in decline. However, their incidence and prevalence still remain well above the respective statistics

for Scandinavian and East European countries while the HIV epidemic demonstrates no signs of being reversed. In fact, in 2012 there were 70,453 HIV cases

registered in Russia which is a 20.9% increase over 2010 (see Table 1).

Table 1: Overview of the HIV and AIs Epidemics in Russia

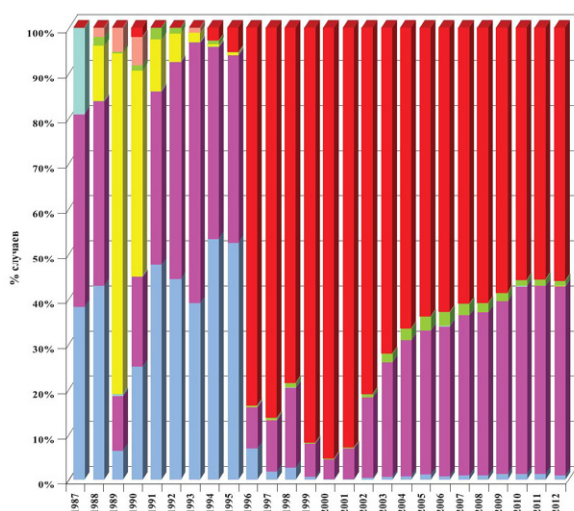
Infection	Number of Cases Registered in 2012	Trend in Annual registration of cases (2010/2012)	Male/Female % %	Populations at Risk of Infection
1. HIV	70,453	Increase by 20.9%	64 /36	PWIDs, hetero-sexual contacts
2. TB	97,542	Decrease by 6.7%	69/31	Prisoners
3. HCV	N/A	Decrease for acute cases; increase for chronic cases. Registration of asymptomatic cases stopped in 2009.	N/A	Prisoners, PWIDs, STI patients
4. Syphilis	46,200	Decrease by 12.3%	49/51	Sex workers, PWIDs
5. Gonorrhoea	51,400	Decrease	N/A	Sex workers, PWIDs

Source: <http://vestnik.mednet.ru/content/view/514/30/lang,ru/>; <http://demoscope.ru/weekly/2013/0547/barom03.php>

In comparison with 2000, HIV prevalence increased by 5,5 times to 53,4 patients per 100,000. HIV transmission is dominated by injecting drug use with non-sterile equipment (56% of the 2012 cases). However, it is also important to note that **for over ten years the proportion of HIV cases attributed to heterosexual contacts has been on the rise**. In 2012 these contacts accounted for almost 42% of registered HIV cases (temporal trends in relative weight of various

transmission routes for HIV are presented in Chart 1). At the same time significance of homosexual contacts tends to be limited, with less than 1% of the 2012 cases attributed to this transmission route.

Chart 1: Trends in HIV Transmission Routes



Source: ВИЧ-инфекция. Информационный бюллетень № 38, 2013 (HIV Infection, #38, 2013)

As the HIV epidemic has been driven by injecting drug use since mid-90s, males constitute 63.7% of HIV patients in Russia, yet there are also 260,400 HIV-infected women (36.3% of registered HIV cases). Among women, highest HIV prevalence is registered within the age group of 25–34 years. As a result, there is a growing number of children born by HIV-positive mothers. 32,476 of them were monitored for HIV, as of January 1<sup>st</sup>, 2013. Among 4,866 children HIV was detected. With heterosexual transmission gaining significance, the proportion of women among people living with HIV (PLWH) is likely to increase.

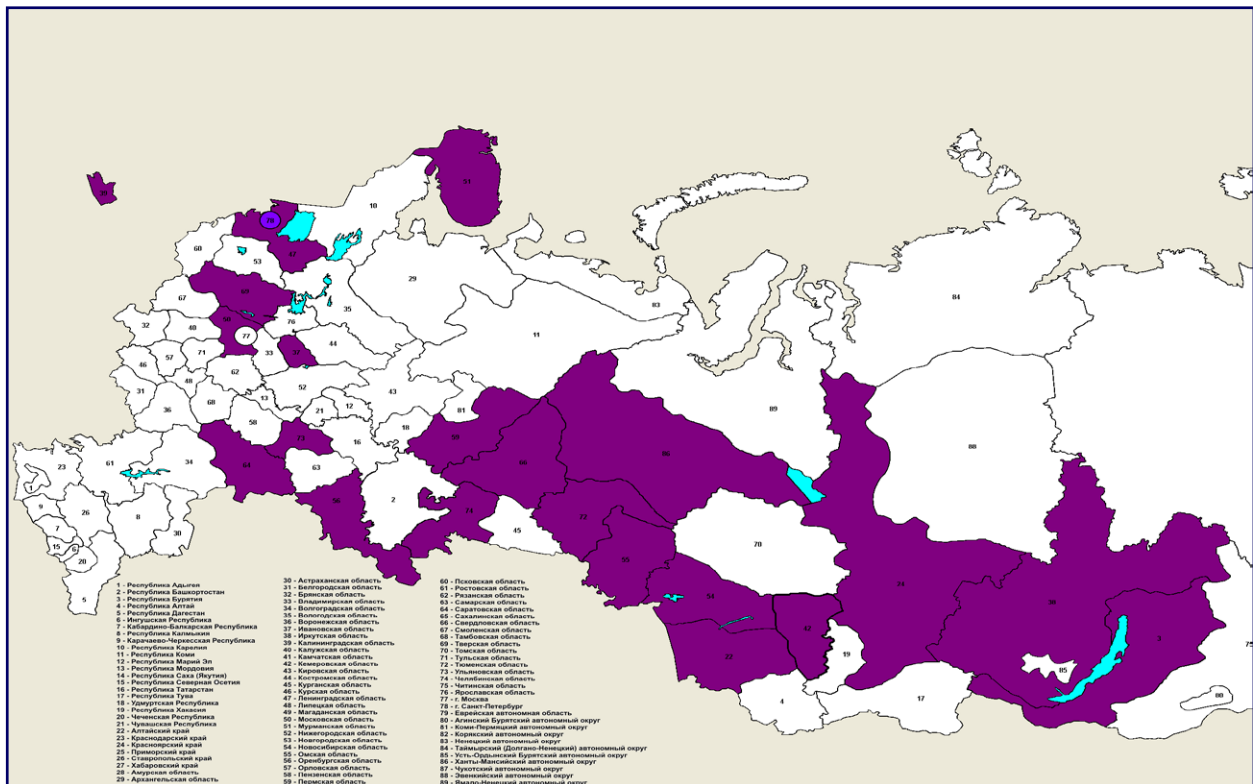
Age-wise, HIV is concentrated among cohort of 30 years and younger who account for 63,5% of total number of registrations. Among those between 15 and 49 years of age HIV prevalence rate reaches 0.8% which is two times higher than that among other age groups.

The total number of PLWH who died from various causes is 101,576.

HIV prevalence (as well as prevalence of other infectious diseases) is unevenly distributed across Russian regions, with 18 subjects being referred to as “most affected by HIV”. Three of them are from

the North-West Federal District: Leningrad oblast (1086.5 cases per 100,000), St Petersburg (988.5), and Kaliningrad oblast (537.1). Chart 2 presents HIV prevalence by region in graphic format.

Chart 2: HIV Prevalence by Region



Over a half of PLWH (57.1%) also suffered from pulmonary tuberculosis, while another 17% had other forms of TB. Partly, high prevalence of TB PLWH is a consequence of late detection of their status, with about a half of patients who started treatment in 2012 having CD4 below 200 cells/mm<sup>3</sup>. Another indication of HIV being detected late is that patient’s death is the dominant cause for ART discontinued.

**TB.** As to the TB epidemic, between 2011 and 2012 the incidence of this disease was reduced by 6.7%, from 73,0 to 68.1 per 100,000, while in comparison with the respective 2008 statistics the reduction reaches 20.0%. 97,542 cases of active TB were detected in 2012. Practically all of them (97%) are pulmonary

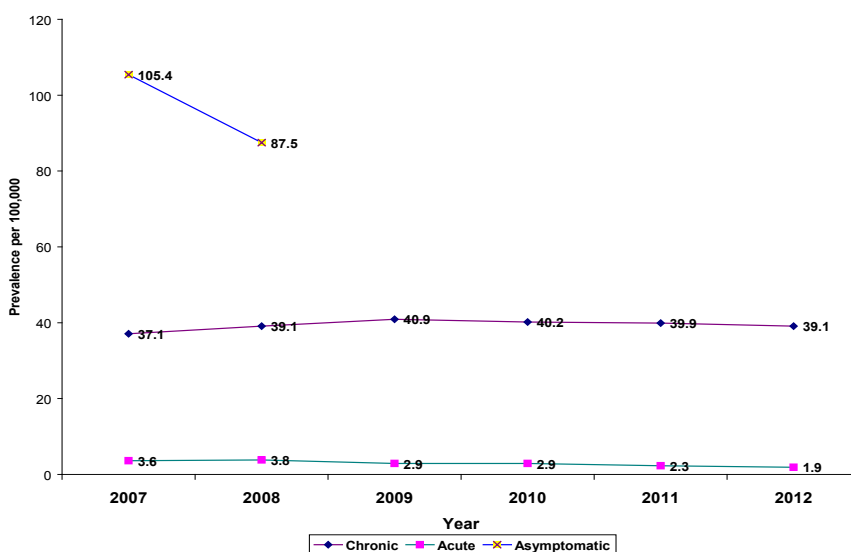
TB, with every fourth case (42,2%) representing advanced stages of the disease. The total number of TB patients in Russia stood at 240,400, as of January 1, 2013. Men are almost three times more likely to be affected by TB than women, although from 2008 on the incidence rate among men has been in decline. In this respect it should be noted that TB cases tend to be concentrated among males of 18 to 34 years of age, with the age group containing 35- to 54 – year old males being not so distant second. In general, these two age groups, representing economically active segments of population, account for 80% of all TB registrations. Across the North-Western Federal District the TB incidence stands at 56.2, this is below the national average. Still, Kaliningrad, Leningrad and

Pskov oblasts are singled out as being most affected by TB. Practically, every tenth patient with TB detected in 2012 also had HIV infection, with St Petersburg having one of most extensive pools of patients with HIV/TB co-infection (855). **Also of concern is growing prevalence of drug-resistant forms of TB in Russia.** In 2012 the 4.2% increase was registered, with prevalence of multi-drug resistant TB standing at 24.6 per 100,000. Over a half of TB patients in North-West regions like Pskov, Arkhangelsk and Novgorod suffered from these forms of TB.

**HCV, HBV epidemics.** With respect to hepatitis B and C, official statistics makes a distinction between their acute and chronic forms. Incidence of acute forms for both infections demonstrates a steady decline since

2001 when 24, 203 cases of hepatitis C were registered. For comparison, the respective figure for 2012 was 2169 cases. However, for chronic hepatitis the trend is reverse: incidence of chronic hepatitis C, for example, increased from 12.9 per 100,000 in 1999 to 39.1 per 100,000 in 2012 (Chart 3). Also to be noted is that hepatitis B and C tend to be asymptomatic, with the latter being more prevalent than either its acute or chronic forms. In 2004–2008 for 1,8 cases of acute hepatitis C there were 9 cases of chronic disease and 26,4 cases of its asymptomatic form. However, starting from 2009 information on asymptomatic forms of hepatitis is no longer being collected. Specialists estimate the number of HBV patients in Russia at 650,000. The respective estimate for HCV is 4,7 million ([http://www.profiz.ru/sec/5\\_2012/virusnye\\_gepatity/](http://www.profiz.ru/sec/5_2012/virusnye_gepatity/)).

Chart 3: Incidence of HCV in Russia, 2007–2012



Source: Вирусные гепатиты в Российской Федерации, 2013, с 114 (Virus Hepatitis in the Russian Federation, 2013, p. 114)

As to acute hepatitis, it is young people between 20–29 years of age who demonstrate highest incidence rate (5–6% per 100,000), followed by those between 30 and 39 years of age (3.7–3.8% per 100,000). Patients with chronic hepatitis C tend to be older, with most of them coming from the 30–39 age group. **Among adults HCV is being transmitted, mostly, through**

**sexual contacts (28.1%) and through using contaminated equipment when injecting drugs (23%).** Medical manipulations and household contacts such as manipulations at beauty salons account only for 3% and 2% of infections, respectively. However, the epidemiological investigation fails to establish the source of HCV in 44% of registered cases.

**Syphilis and other STDs.** As of 2012, there were 248,000 syphilis patients registered in Russia which constitutes almost a three-fold reduction in comparison with 2001. At the same time, however, in 83% of syphilis cases registered in 2011, the source of infection was not established suggesting that the actual prevalence of this infection is much higher. The 2012 syphilis incidence rate stood at 32 cases per

100,000. While men and women are equally represented among syphilis patients, the latter constitute the majority accounting for up to 74% of patients among teenagers and young adults (up to 29 years of age); men dominate among those 30 years of age and older. About 40% of patients are between 20 and 29 years of age making the possibility of vertical transmission of syphilis quite plausible.

### 1.3. Most-at-risk populations for HIV, TB and AIs

As to most-at-risk populations, the epidemiological reviews issued by the Federal AIDS Center single out **people who use drugs** as the group driving the HIV epidemic in Russia. Blood-borne transmission through unsafe injections of drugs is also a factor in promoting the HBV and the HCV epidemics. At the same time heterosexual ties are playing more prominent role in HIV transmission in recent years and the impact of this factor extend beyond the so-called “risk groups” such as commercial sex workers. Still, it is to be admitted that the latter have higher probability of being infected with HIV as well as with HBV/HCV and STIs. For this reason they are included in this overview. Also included are prisoners: at least, in some regions they tend to display higher prevalence rates for TB.

**People Who Inject Drugs (PWID).** Officially, 655,005 drug users were registered in Russia, as of January 1, 2012 (prevalence 458 per 100,000). Their estimated number reaches 2,5 million. Studies of sociodemographic profile of drug-users reveal that three out of every four of them (77%) are men while women account for 23% of drug-using population. The latter are getting involved into drugs at younger age: while the average age for males is 26.7 years, for women it is 24.6 years. Between 30% to 40% of drug users have permanent or temporary employment, whereas the rest depend on their relatives for support or are involved in various irregular activities including illegal ones. The drug of choice for Russian PWIDs is heroin and other opiates yet in recent years amphetamines are gaining

popularity among them. To be noted is that most of these drugs are consumed intravenously. Prevalence of unsafe practices during injections among drug users in Russia varies from 26% for sharing paraphernalia when preparing drugs to 86% for drawing individual doses from common container. However, the available empirical evidence reveals wide regional variations in types of unsafe injection practices and their prevalence (UNGASS, 2010).

Another risk factor for HIV and HBV/HCV among drug users is unsafe sexual practices including contacts with several sexual partners and non-regular condom use. According to the 2010 UNGASS report for Russia, the average age of sexual debut among PWIDs is 15 years while one-third of them admitted having casual sexual partners. Condom use at last sex is reported by 25% to 49% of drug using respondents (UNGASS, 2010). Sexual contacts of PWIDs extend to non-users as well. According to some empirical findings, non-users constitute between 50% to 63% of sexual partners of PWIDs while fewer than one in four PWIDs reported constant condom use in such partnerships. (*Eritsyana et al, 2013*). Substantial number of drug using sex workers (30%) also indicates that women are forced to sell sexual services for drugs.

While there is a lack of reliable estimates of drug-related deaths, the number of fatal overdoses indicates that such occurrences are not uncommon. Only in

Moscow 1,198 deaths from overdose were registered in 2012, with women accounting for 154 of them.

**Commercial Sex Workers.** There are no legal restrictions on providing sexual services in Russia, yet there is no official recognition of them, either. The uncertain legal status together with public disapproval of such behavior forces most of sex business either underground or in the “grey” zone. As a result, the empirical evidence related to commercial sex workers is limited to sporadic studies conducted in one or several locations. One of the most extensive surveys of that sort was held among sex workers in 15 cities of Russia covered by the sentinel surveillance studies. These 2009 data suggest that the HIV prevalence among sex workers stood at 4.5%; HCV – 21.8% and syphilis – 5.6%. The study also revealed close connections between sex work and drug use, with every third sex worker admitting drug injections. Sexual transmission of infections must also be a common occurrence among this group as only 58% of sex workers report using condoms with non-commercial partners. The

number of commercial partners per month varies between 26 and 101. In light of these reports, it is not surprising that 61% of sex workers suffered from STIs during the period of twelve months preceding the interview (UNGASS, 2010).

**Prison Inmates.** Prisons contain up to 12% of PLWH in Russia who end up there, mainly, for drug-related crimes. Their weakened immune system promotes progressing of TB among them, especially when combined with such factors as prison cells being overcrowded, physical and nervous pressures. Moreover, prisons contain a significant number of homeless and unemployed, i.e. those who lived in conditions of social adversity with no access to health care system. At the same time testing for HIV and TB is mandatory for arriving prison inmates. According to some estimates, there are about 28,500 TB patients among prison inmates (<http://www.mk.ru/social/news/2013/11/01/939940-fsin-nazval-chislo-zaklyuchennyih-v-rossii.html>)

## 1.4. HIV, TB and AIs situation among general population

With heterosexual transmission gaining strength, the HIV epidemic in Russia is moving closer to the generalized phase. At the end of 2012 the HIV prevalence among those between 15–49 years of age stood at 0.81%. With other age groups included, the respective statistics goes down to 0.43%. HIV prevalence at 0.5, i.e. above this national average, is registered in eighteen regions of Russia accounting for one-third of its population. Among them are Leningrad and Kaliningrad oblasts, and the city of St Petersburg.

The increasing influence of heterosexual transmission of HIV is also reflected in the results of massive testing campaigns held in Russia. For example, in 2012 over 26 million blood samples coming from Russian citizens and about 1,25 million of those coming from foreigners were tested for HIV. Such a high

volume of testing is a result of medical requirements that make testing mandatory for pregnant women, medical professionals, STI patients, prisoners and patients displaying clinical manifestations of HIV. Talking about STI patients specifically, one can refer to the increasing detection rate for HIV among this group: up from 0.21% in 2006 to 0.43% in 2012. In other words, unsafe sexual behavior is being linked to HIV transmission closer.

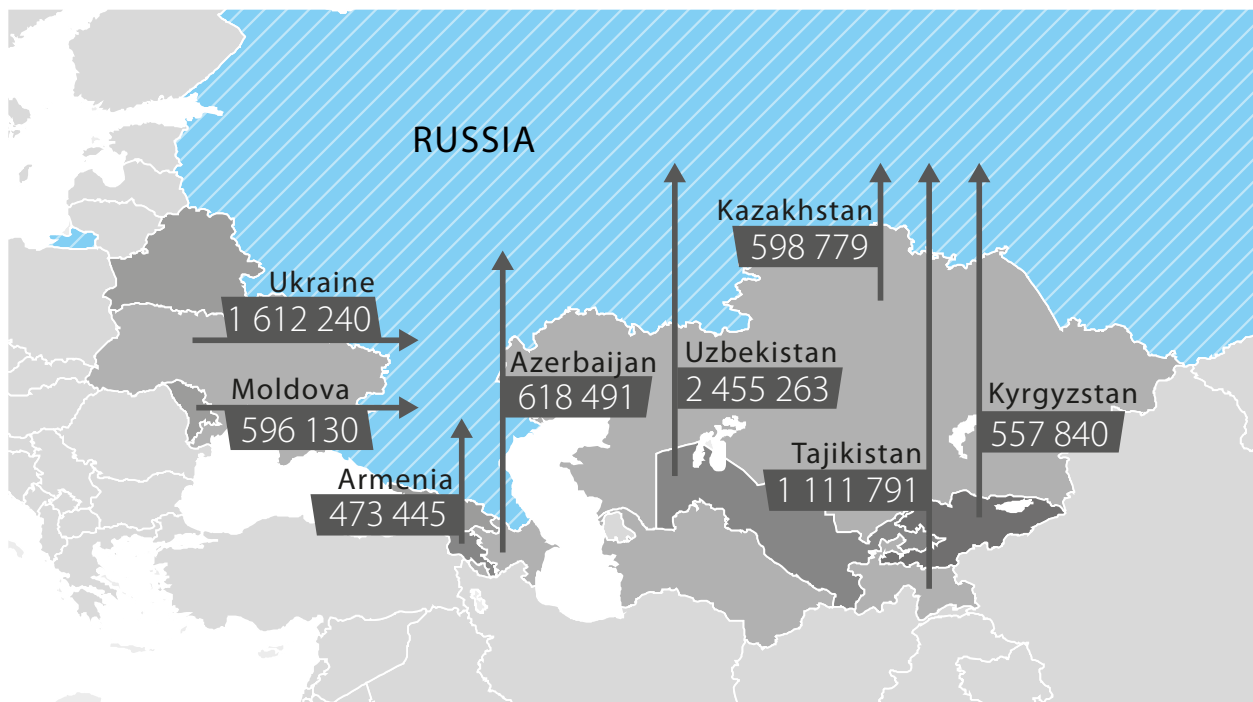
In the context of heterosexual transmission of HIV migrants also deserve attention. **While migration in and of itself does not make one vulnerable to infectious diseases, it may be associated with a series of factors promoting HIV, TB or hepatitis transmission.** They include living in overcrowded places, physical and nervous pressure at work, unsafe sexual



behaviour and restricted access to health care. In case of Russia who has second-largest migrant population in the world (about 10 million), most of them come from former Soviet republics having visa-free regime with the Russian Federation. As it is demonstrated in

Chart 3, Uzbekistan, Ukraine and Tajikistan are the largest migrant-sending countries. Azerbaijan, Moldova and Kyrgyzstan also have significant volume of their residents going to Russia.

Chart 3. Migrants in Russia by Their Country of Origin, 2012



Source: The Federal Migration Service (<http://www.fms.gov.ru/about/statistics/data/>)

It is safe to assume that most of their citizens go to Russia for employment yet their foreign status make them ineligible for employer-covered medical insurance available for Russian citizens so that their access to medical institutions is limited. Furthermore, there are legal provisions that make foreign citizens with certain infectious diseases subject to deportation from Russia. This make it even less attractive for labour migrants to undergo testing for infectious diseases while a significant number of them come from the areas with high prevalence of TB and blood-bourn diseases such as hepatitis B and C. Note that 16,2% of the 2012 TB cases detected in Moscow and 18,2% in St Petersburg were among those coming from other countries. Also of significance is that economic hardships and undocumented status may promote one

being involved in commercial sex or practicing other forms of risk behaviour for infectious diseases. The available empirical evidence suggests that while injecting drug use among migrants is relatively limited, practicing unsafe forms of sexual behaviour including having sex with commercial partner and/or unprotected sex is quite typical for labour migrants in Russia (*Uzbekistan, 2009; Moldova, 2006*).

## 1.5. Providing treatment care and support for PLWH, TB and AIs patients

Provision of ART in Russia is covered through public funds or national health insurance plans and is offered at no cost to PLWH who have legal status in the country. In general, ART is available to PLWH in Russia, with national estimates putting it at 96% of those at the advanced stage of the disease (2010 UNGASS). According to the Russian regulations, ART is prescribed to patients with CD4 cell count below 350, yet in making this decision physicians take into account the patient's general state of health so that ART can be prescribed even when CD4 cell count is above the cut-off point (Pokrovsky et al, 2011). However, the actual availability of ARV drugs across Russia is still subject to discussions, as reports of them being in short supply emerged during the hearings on HIV response held at the Public Chamber (Public Chamber, 2011). The 2011 UNAIDS/WHO Progress Report on the HIV/AIDS situation in Eastern Europe and Central Asia also points to problems with supply of ARV drugs in a number of the countries including Russia: "The Russian Federation has experienced significant interruptions to treatment regimens, and short-term interruptions have also been registered in Latvia, Romania and Ukraine." In other words, despite the official statistics indicating high ART coverage, the actual availability of anti-retroviral drugs needs to be monitored closely.

Also, there are reports about patient's involvement into drug use serving as criteria to deny one's access

to ART (*International Treatment Preparedness Coalition, 2011*). If confirmed, these reports would suggest that access of principal group of PLWH to treatment is somewhat restricted. Active drug users also have high drop-out rate among TB patients under treatment. One of the reasons for that is non-availability of drugs during their receiving treatment at in-patient facilities. However, their interrupting TB treatment results in cases of MDR TB becoming more prevalent among this group. Another reason for growing number of MDR cases is outpatient forms of TB treatment being weakly developed as traditionally most TB patient received treatment at hospitals. However, with the TB epidemic rooted among homeless or other undocumented patients, hospitalization is often not possible as they also lack insurance and other documents required for medical services to be provided. Moreover, even locating these patients presents challenges as they are unlikely to report for testing and treatment on their own, while medical professionals have limited skills and resources to seek for potential patients in the community.

In addition to the above-mentioned issues, treatment of hepatitis C is also quite costly. Most patients are required to cover treatment costs out-of-pocket, while the price tag for the suggested regimen is equivalent to \$1,800-2,500 per month. This is well above the reach for most patients. On the other hand, vaccination for hepatitis B is provided across the country.

## 2. Analysis of national HIV, TB and AIs responses

### 2.1. Description of governmental coordination, management and financial support for HIV, TB and AIs response

Response to the HIV epidemics in Russia demonstrates uneven progress in following the UNAIDS-recommended "Three Ones" principles that call

for establishing national coordinating authority, adoption of action framework and introduction of country-level M&E system. The *Federal Commission*

on HIV Prevention, Diagnostic and Treatment, the coordination authority in Russia, was disbanded on July 23, 2012. However, even after this development the country still retains the *Coordination Council on HIV/AIDS* under the Ministry of Health. The respective programs of response to infectious diseases have been developed at regional level while their national counterparts are missing. For example, in St Petersburg HIV-related activities are guided by the HIV/AIDS Response Program, 2013–2015. When discussing national action framework, the 2010 Country Progress Report submitted by Russia refers to policy documents such as “*The Strategy for National Security of Russia, 2009–2020*” where HIV is just mentioned

among other communicable diseases as posing potential threat to public health. No specifications with respect to objectives, actions and implementing partners in the HIV/AIDS area are provided in this policy document. In fact, the absence of national strategy to respond to HIV/AIDS was one of the highlights of the discussion held at the Public Chamber held in March 2012. There it was also revealed that the effective model of collaboration between government agencies and NGOs in the country is missing. Another factor hindering response to infectious diseases is the absence of national standards for TB diagnostic and treatment. The same applies to hepatitis.

## 2.2. Description of normative framework

Currently, official policies with respect to preventing HIV and other infectious diseases are tilted toward promoting healthy lifestyle and primary prevention of risky behavior such as drug use. With respect to the latter, the Government’s Strategy of Anti-Drug Policy (2010) and Comprehensive Program for Rehabilitation and Socialization of Drug Users (2013) are especially relevant. Their provisions include promoting rehabilitation schemes among drug users so that up to 30% of them are in remission. This is in addition to efforts to prevent supply of illicit drugs coming or being produced in Russia. The results of the Global Fund-sponsored projects that promoted “harm reduction” principles and the respective lines of activity among drug users and other vulnerable groups are treated with degree of official skepticism so that government funding for projects involving needle exchange is likely to be provided on a limited basis. Substitution therapy is not available in Russia. Non-acceptance of “harm reduction” approach and substitution therapy is confirmed in the Strategy of Anti-Drug Policy in Russian Federation adopted by the Federal Drug Enforcement Agency who tends to shape national agenda on drug-related issues.

As to TB-related policies, their premise is the Law on TB Prevention in the Russian Federation and various normative documents regulating provision of TB diagnostic and treatment. Among them are Instructions on Providing Medical Aid to TB Patients in the Russian Federation, Government Guarantees for Providing Free Medical Aid, 2013–2015, Program for Developing Health Care System, etc. The latter includes several TB-related indicators such as coverage by TB diagnostic, percentage of patients recovered from TB, percentage of patients converted into non-active stage of TB and prevalence of TB-related deaths. The respective TB response programs are available at regional level as well. For example, in St Petersburg TB-related policies are specified in the document “Improving the Effectiveness of Health Care in St Petersburg, 2013–2018”. While their ultimate objective is to maintain effective prevention and timely detection of TB, in recent years the number of cases detected upon patient’s seeking medical help has been increasing while coverage of population by TB diagnostic campaigns demonstrate the opposite tendency. For several decades in-patient forms of TB treatment have been dominant in Russia yet with

influx of drug users maintaining these policies are problematic. As drug treatment is not available at TB institutions, PWID tend to interrupt their treatment before full recovery. This results in the growing number of MDR-TB cases. Also of concern is the growing number of active TB cases detected among non-residents (mainly, homeless and migrants). The sticking point – especially, with respect to homeless – is their lacking medical insurance which is a precondition for providing diagnostic and some treatment services. To be sure, treatment of active TB is offered at no charge to various categories of non-residents, yet they are hard to reach by the TB diagnostic campaigns held by medical institutions whereas their lack of medical insurance and identification documents make them unlikely to visit health facilities on their own. With respect to treating hepatitis C, the situation is more problematic as even those with government-sponsored medical insurance have to cover the cost of drugs on their own.

As to migrants, detecting cases of HIV, TB and some STIs makes them subject to deportation from Russia. The respective Inter-Sectoral Agencies involving officers from the Sanitary Control (*Rospotrebnadzor*) and the Federal Migration Service are established

at regional level. There the reports of communicable diseases detected among foreign citizens are reviewed, with the decision on deportation made by the Director of *Rospotrebnadzor* or his Deputy. Still, medical treatment is provided to patients with active TB so that even if decision to deport is made, its implementation will be postponed until the treatment is completed. In any case, it is important to note that some legal and organizational provisions are not conducive to holding disease prevention campaigns among those groups where cases of infectious diseases have been registered.

At the same time migrants applying for work or residence permit in Russia are required to undergo testing for infectious diseases including HIV and TB. Usually, tests for specific diseases are provided at several institutions although there are opposite examples. In the city of St Petersburg, there is Unified Medical Center where migrants can receive the full range of medical testing and treatment.

### 3. Challenges (issues to be addressed)

Summarizing the discussion, below is the list of some issues to be addressed with respect to specific infectious diseases:

#### HIV:

- » Growing incidence of HIV across Russian regions, with the perspective of the HIV epidemic entering the generalized stage
- » The share of registered HIV cases accounted by heterosexual transmission has been rising since 2002
- » Lack of systematic prevention efforts among population groups like PWIDs most affected by HIV
- » Incoherent organizational framework guiding national HIV response
- » HIV prevention among MSM is restricted due to a number of factors including legal provisions
- » Specialized help for drug-using women including the period of pregnancy is not available.

#### *TB:*

- » Insufficient coverage by TB diagnostic campaigns of general population and specific groups
- » Significant number of cases of MDR-TB stemming from interrupted treatment or patients violating treatment protocol
- » Lack of local funds to provide food packages as incentive for TB patients to stick to treatment protocol
- » Limited opportunities for TB patients to receive social support apart from payments for disability
- » Long period of in-patient TB treatment, poor conditions at TB hospitals, high drop-out rates
- » Drug treatment is not available to patients in TB hospitals.
- » Limited availability of information materials on disease prevention targeting migrants and other categories of non-residents
- » Lack of cooperation between medical institutions and NGOs in promoting testing for TB among vulnerable groups and ensuring adherence to treatment
- » Limited number of health facilities such as Unified Medical Center in St Petersburg targeting migrants for disease diagnostic and treatment
- » Lack of effective forms of cooperation between medical services in migrant-sending and migrant-receiving countries in ensuring uninterrupted treatment.

#### *Hepatitis C*

- » Government-funded treatment is not available. High cost of treatment to be covered by patient regardless of whether s/he is having government-sponsored medical insurance

#### *STIs:*

- » Lack of effective forms of primary prevention of STIs
- » Low awareness of STI transmission routes and prevention methods among migrants
- » Ineffective control over quality of services at private facilities providing treatment of STIs

## 4. Conclusions

While the incidence of most infectious diseases is likely to subside among Russian population, it may not be the case among foreign citizens coming to the country, especially those who come to be employed illegally. These people tend to come from the areas where blood-borne diseases are highly prevalent and in Russia their working and living conditions promote outbreaks of communicable diseases among them. Furthermore, there are legal and organizational obstacles for them to undergo medical testing and receive medical help. The same applies to members of vulnerable groups such as homeless and PWIDs who tend to lack residence registration, medical insurance and other documents

required by healthcare institutions. On the other hand, the latter are not in position to conduct active case detection among these groups, partly due to their limited ties to the respective NGOs. This means that regional outbreaks of infectious diseases are likely.

At the same time the organizational framework for response to infectious diseases also exists, mostly, at the regional level, so that the respective structures can be targeted with advocacy campaigns. Taking into account that responsibility for providing medical help rests with regional authorities, they can be responsive to disease prevention initiatives whose implementation

does not require allocating extra funds. The proposed activities, however, should be packaged in such a way as to include promotion of “healthy lifestyle”, the official priority of national policies in this area.

Heterosexual ties playing more prominent role in HIV and HCV transmission deserve special attention. This is a predominant route for women to get involved into the epidemic, and this moves it closer to the generalized stage. Accordingly, effective response to the HIV epidemic includes preventing infections among this gender group. Drug-using women present a particular

challenge in this respect as often they are forced to sell sexual services for drugs thereby increasing their chances for contracting HIV or hepatitis C. They also tend to have numerous sexual partners including non-users and – in case of pregnancy – they seek medical help late or avoid it altogether. As a result, their children have higher chances of contracting HIV and other blood-borne diseases via vertical route. On the other hand, this also means that effective prevention of virus transmission among drug-using women will have a tangible impact on stemming the epidemic.

## 5. Recommendations

In light of aforementioned, the following recommendations can be made for the “*Strengthening prevention and reduction of impacts of HIV/AIDS and associated infections in the Baltic Sea Region by joint international activities*” project.

1. Due to the uncertain shape of national policies, prevention initiatives and advocacy campaigns promoted by the project should be focused at regional/local level.
2. Drug-using women, migrants and other groups of non-residents emerged as one of the groups affected by the epidemics of infectious diseases in recent years. This justifies targeting prevention efforts of the project on them.
3. Given the conditions of economic adversity in which members of these groups live, testing and treatment of infectious diseases can be intertwined with provision of social help. For example, the respective outlets where drug-users and non-residents receive food packages, employment counseling, etc together with testing for HIV, hepatitis, syphilis and TB can be established.
4. The project can also contribute to increasing the effectiveness of prevention measures by publishing the respective materials in national languages of non-residents. Publications will highlight symptoms of specific communicable diseases such as TB, HIV and hepatitis and methods to prevent them and provide contact information for medical facilities.
5. In light of legal provisions for migrants with infectious diseases to be deported, forms of anonymous testing among non-residents can be promoted as addition to disease testing required by immigration rules
6. To ensure the impact and cost-effectiveness of the project’s activities among drug-using women or migrants, it is recommended to rely on existing structures that have connections with members of these target groups. An example of these is the Unified Medical Center established in St Petersburg. The project’s activities can facilitate and expand its services to migrants by providing information materials on disease prevention or by training medical staff. The respective curriculum can include presentations highlighting the Baltic experience in the respective field.

7. Given the absence of treatment and support programs tailored to the needs of drug-using women and substitution therapy being prohibited in Russia, it is recommended to start with providing social help to this group of population. Specifically, the respective programs can include sharing with them information on diseases prevention, providing references to medical and social welfare institutions. Ideally, these programs can be focused on patients and attached to the respective medical institutions such as Women's Clinics.
  
8. To coordinate disease prevention activities among members of target groups and improve cooperation between government and non-government sectors, it is recommended to establish Coordination Council on Disease Prevention among Risk Groups and Non-Residents in pilot region(s). The idea of having this exchange is to promote synergy and consistency in disease prevention/treatment approaches, where appropriate. Through setting up Coordination Council at the regional level, we expect the Federal Migration Service, medical institutions, social welfare services, commercial companies, relevant NGOs and ethnic diasporas to be involved in these efforts. The Council can serve as a platform for exchange of best experience with partners in the Baltic Sea region. Possible areas of cooperation include developing health advisories for Russian visitors going to Finland/Sweden/rest of Europe and Finnish/Swedish/other European residents visiting Russia, sanitary rules for migrants and short-term visitors, updating requirements for medical insurance, informing mobile workers and migrants about conditions for provision of medical help at the country to be visited. Special efforts need to be invested in making sure that these advisories reach target groups.

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# APPENDIX 11 | SWEDEN

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## 1. HIV, TB & AIs Situation in the Country

### 1.1. Country's Background

The population of Sweden was 9.6 million in 31 Dec 2013. There are 20 counties (regions) with their own health care administration, planning and decision right (county councils). The National Board of Health and Welfare is responsible for national regulations, recommendations and guidance for the health care.

The Public Health Agency of Sweden follows and analysis the epidemiological development and coordinates and follow up the national strategy for HIV and associated infections that runs from 2006 to 2016 (Government bill 2005/06:60).

### 1.2. Epidemiological Trends with Respect to HIV, TB and AIs

HIV, TB and AIs prevalence in the country including: geographic breakdown, co-infections, trends (last 5 years) of HIV, TB and AIs prevalence and incidence, breakdown by age, gender and transmission routes

#### *HIV*

In total about 10 700 cases of HIV have been reported in Sweden since the early 1980's up to 2013, of whom ca. 6 300 people (670 per 1 million inhabitants) are currently living in Sweden with a known HIV infection. During the last 5 year-period (2009–2013) the number of reported new cases in the national surveillance system (SmiNet) has been quite stable with ca. 470 cases per year (variation 441–492). 461 new HIV cases were notified in 2013 (incidence: 5 cases/100 000 inhabitants). That reflects a slight higher incidence compared with the

previous 5 year-period (2004–2008) with about 440 reported cases per year.

Stockholm County together with the two other major city regions, Skåne and Västra Götaland, accounts for the majority of new reported HIV cases; during the last 5 year-period these three regions reported 62% of the HIV cases and Stockholm alone accounted for 41%. Also the prevalence of people currently living with HIV in Sweden are very much concentrated to the three major city regions where about 3/4 of all people living with a known HIV infection are living.

75% of all reported HIV cases during the last 5 year-period were infected abroad and only about 115 cases per year (variation 90–131) were infected in Sweden. Foreign born people accounted for ca. 70% of all reported HIV cases, of whom the majority were infected abroad before immigration to Sweden.

Of new reported HIV cases men accounts for 62% of the cases and women 38% (last 5 year-period). The age distribution doesn't show any significant variations over time; in 2012 the median age of HIV diagnosis for men was 40 years (variation 1–77 years) and for women 35 years (variation 4–56 years).

>90% of all reported HIV cases have a notified route of transmission. Heterosexual route of transmission accounts for about half of all reported cases during the last 5-year period, followed by men who have sex with men (MSM) with around 30% of the cases and intravenous drug users (IDU) with ca. 5% of all reported cases. Mother-to-child transmission accounts for ca. 3% of the reported cases, almost all of them infected abroad before immigration to Sweden. Mother-to-child transmission is nowadays very unusual in Sweden since the health care are obliged to offer all pregnant women screening tests for HIV and prophylaxis treatment can protect the unborn child from infection.

## TB

During the last 5 year-period the number of reported TB cases has been quite stable with ca. 640 reported cases per year in average (variation 595–683). 654 cases were reported in 2013 (incidence: 7 cases/100 000 inhabitants).

The three major city regions (Stockholm, Skåne and Västra Götaland) account for the majority of reported cases; in 2013 55% of all TB cases were reported from these three regions. The geographical variation in other counties in Sweden depends on where new arrived migrants from high incidence countries first settle down, or where they after their initial place of

stay in Sweden, since most of the TB cases among migrants are diagnosed during their first 5 years after arrival to Sweden, after falling ill in the infection.

About 85% of all reported TB cases are diagnosed in migrants, and about half of the migrants are from African countries, about 20% from Asia and 10% from Eastern Europe. Most of them are infected abroad before immigration to Sweden. In 2013 86% of all reported TB cases were infected abroad.

Women account for about 45% of the TB cases. The age distribution reflects country of birth with higher mean age if born in Sweden and lower for patients born abroad in high incidence countries. Most cases among foreign born people are reported in the age groups between 15 and 39 years, with more than 55% of all cases. 22 children younger than 10 years were diagnosed with TB in 2013, in most of the cases asymptomatic and diagnosed because of routine health screening in newly arrived asylum seekers or contact tracing from infectious cases in adult family members or other adults with close contact to the children.

## Hepatitis B and hepatitis C

In 2012 (2013 figures are not yet ready) 1 476 cases of chronic hepatitis B infections were reported in Sweden (incidence: 16 cases per 100 000 inh.). That is a slight higher incidence compared with the previous 5 year-period (mean 1350 cases per year). Chronic hepatitis B are very much related to migrants from countries where hepatitis B are more prevalent than in Sweden. > 80% of all chronic hepatitis B cases are infected abroad, mainly foreign born people infected before immigration to Sweden. In 2012 62% of all chronic cases was in men, and the mean age (despite sex) was 31 year (variation 0–88 year).

Only 82 acute hepatitis B cases were reported in 2012 (incidence: 1 case per 100 000 inh.), the lowest incidence since the hepatitis B surveillance started in 1978. The incidence has decreased significant over the last

10 years and is mainly related to a decrease of cases among IDUs, but also sexual route of transmission has decreased. Since 2011 heterosexual route of transmission is the most common route of transmission accounting for 38% of the acute cases. MSM accounts for 7% and IDU for 16% while unknown/not reported route of transmission accounts for 16%. Ca. 40% of the acute cases infected via sexual contact were infected abroad. 72% of the acute cases were diagnosed in men and the mean age was 39 years for men (variation 16–71 year) and 24 years for women (variation 15–55 years). The majority of acute cases (56% in 2012) are reported from the three major city regions in Sweden. Variations in the geographical distribution between different regions and counties over the last decade is related to local outbreaks of hepatitis B among IDU.

During the last decade the number of reported hepatitis C cases has stabilized in about 2 000 reported cases annually in Sweden, which is a lower incidence than in the 1990's when between 2 500 and 4 500 cases were reported per year. A total of > 55 000 hepatitis C cases have been reported in Sweden since the surveillance started in 1990. In 2013 there were 2 078 cases reported (incidence: 22 cases per 100 000 inh.). The incidence varies between the counties from 10 cases to 34 cases per 100 000 inhabitants, probably mainly due to differences in testing volumes and in number of IDU. 67% the cases is reported in men and the mean age at diagnose was 35 years in men (variation 0–84 years) and 36 years in women (variation 0–92 years). The majority of cases (67%) is reported in the age groups 20–49 years. In 2013 there was about 300 cases (15% of all cases) reported among 15–24 year old men and women, indicating an ongoing recruiting of young people to injecting drug use and exposure risk for hepatitis C. More than 50% of the cases is reported to have been infected in Sweden. The dominating route of transmission is injecting drug use which accounts for about 50% of all reported cases. About 4% of the cases (2012) is reported as infected via blood transfusion, either abroad or in Sweden, most probably before 1991 when the blood donor screening for HCV started

in Sweden. However ca 40% of all reported cases lack information about the route of transmission.

### STI

Among STIs, chlamydia infection, gonorrhoea and syphilis are notified in the national epidemiological surveillance system.

**Chlamydia** is the far most reported bacterial STI in Sweden with 35 866 cases reported in 2013 (incidence 374 cases per 100 000 inh.), a decrease compared with the figures for the previous 5 years (mean 38 300 cases per year). The incidence over the country varies between the counties from 310 to 480 cases per 100 000 inhabitants which may reflect differences in testing volumes and prevention activities directed to young men and women. Women accounts for 57% of all cases and the mean age for chlamydia diagnosis in women is 21 years compared with 23 years in men and >85% of the cases in the age groups 15–29 years. Most cases (>80%) is reported to have contract the infection in Sweden. The main route of transmission is heterosexual contacts. Only 3% of the chlamydia cases are reported in MSM (ca 500 cases per year). 28 children (in 2012) got chlamydia conjunctivitis from their mothers at birth. Since 2004 also ca 10–15 cases per year of the severe chlamydia trachomatis subtypes (L1, L2 and L3) that causes Lymphogranuloma venereum (LGV) has been diagnosed in MSM in Sweden, mostly in HIV-positive MSM with a mean age of 39 years.

The **gonorrhoea** incidence has increased during the last decade. 1 114 cases of gonorrhoea were reported in 2013 (incidence 12 cases per 100 000 inh.) compared with a mean of ca. 840 cases per year during the previous 5 year-period. Most cases are reported from the three major city regions and Stockholm County alone accounted for 57% of all cases in 2013 (ca. 30 cases per 100 000 inhabitants). 69% of gonorrhoea cases are reported in men with a mean age of 28 years compared with 23 years in women. 58% of all

reported gonorrhoea cases are diagnosed in the age groups 15–29 years. Most of the cases are infected in Sweden – in 2013 67% of the cases had contracted the infection in Sweden. Heterosexual contact is the main route of transmission, but almost half of the men that was reported with gonorrhoea are MSM (47% of all men in 2012).

The **syphilis** incidence has increased during the last decade from very low numbers in the 1990's. In 2013 there was an increase in reported cases, when 283 cases (incidence 3 cases per 100 000 inh.) were reported compared with a mean of ca. 190 cases per year during the previous 5 year-period. The majority

of cases are reported from the three major city regions (66% of cases in 2013) were most of the endemic cases have contracted the infection, while the other counties accounted for 0–26 cases, mainly depending on up take of testing in the health screening offered to asylum seekers and other groups of immigrants. 80% of all cases are reported in men, with a mean age of 39 years compared with 36 years in women. About 75% of all cases are reported in the age groups 20–49 years. Sexual transmission between men (MSM) is the most common route of transmission and accounts for about 67% of the cases in men (2012), but an increase in heterosexual transmitted syphilis has also been seen during the last years.

### 1.3. Most-at-risk populations for HIV, TB and AIs

#### *Trends (last 5 years)*

The trend in TB and HIV incidence in Sweden has been quite stable during the last 5 years. However the proportion of migrants among reported TB cases has increased of the last 5 years while the proportion of TB patients born in Sweden has decreased to less than 100 cases per year. Also among reported HIV cases the proportion of migrants has increased, not only among heterosexual cases, but also among MSM and among IDU, and migrants accounts now for the majority of cases in all the major transmission groups. No significant increase of HIV cases in MSM has been noted, but a significant increase of foreign born MSM has been seen and migrants accounts for 57% of the all new reported HIV cases in MSM in 2013. Also among MSM infected in Sweden the proportion of migrants has increased during the last 5 year-period to almost 50% of the cases. In IDU the incidence has decreased during the last 5 years. Most of the cases has been in Swedish born IDU but during the last few years the proportion has changed and foreign born IDU accounts now for the majority of cases.

In acute hepatitis B the trend has been decreasing for IDU during the last 5 years, the main risk group for hepatitis B in Sweden. Sexual transmission now accounts for the majority of acute cases of whom many have contracted the infection abroad. In hepatitis C the incidence has been stable over the last 5 years with IDU as the dominating route of transmission. However, while a decrease has been noted in the age groups from 35 years and older, the incidence in the younger age groups between 15–34 years hasn't been noted indicating an undiminished ongoing transmission of hepatitis C among young IDU in Sweden.

For chlamydia infection the trend is slight decreasing over the last 5 years, however from a high level, and young men and women in the age groups 15–24 accounts for the majority of the cases. Gonorrhoea and syphilis has on the other hand increased during the same period, with MSM as the main risk group but also with increasing incidence in heterosexual men and women, especially for gonorrhoea that has been more visible among young heterosexuals in the three major city regions during the last years compared with the previous decade.

### *Factors promoting HIV, TB and AIs transmission among most-at-risk groups*

The trends for HIV, TB and chronic hepatitis B is very much influenced by migration to Sweden from countries with high incidence of these infections, while hepatitis C incidence is depending on risk behavior and the high prevalence of hepatitis C in active injecting drug users. Also endemic spread in Sweden of HIV and TB is today more common among migrants in Sweden than in the rest of the general population, a trend that can be expected also for the next 5 year period.

Sex between men (MSM) is the main risk factor for the endemic spread of syphilis and gonorrhoea in Sweden, or when it comes to heterosexual transmission, sex with a partner who has contracted the infection abroad. However endemic spread of gonorrhoea has increased among young heterosexuals in Stockholm and the other two major city regions in Sweden even if the incidence is much lower than for chlamydia infection that dominates among young heterosexuals in the late teenage and early 20's in all parts of the country, not only in the big cities.

## 1.4. HIV, TB and AIs situation among General Population

The TB incidence among Swedish born people is very low and has decrease during the last decade. Most TB cases are diagnosed in migrants from high endemic countries. Small outbreaks of TB in migrants from such countries has been reported during the last few years. The situation is similar when it comes to HIV, most endemic cases of HIV have been transmitted in MSM group or among IDU, or when it comes to heterosexual transmission either in migrants from high endemic countries or from a person infected abroad to a partner in Sweden. The prevalence of HIV in the Swedish population is very low (<0,07%).

While chronic hepatitis B mainly is diagnosed among migrants, acute hepatitis B and hepatitis C mainly is connected to IDU. The spread of chlamydia is concentrated to teenagers and young adults, with the highest incidence in 15–24 years old women (ca. 2700 cases per 100 000 women) and 20–24 years old men (ca. 2100 cases per 100 000 men). Gonorrhoea and syphilis is not common in Sweden today and mostly concentrated to MSM in the big cities or contracted abroad or from a partner infected abroad.

## 1.5. Providing treatment care and support for PLW H, TB and AIs patients (including to- be-addressed issues)

All patients in need of treatment according to the national treatment guidelines for HIV and TB are offered treatment. >90% of all PLWH in Sweden have now antiretroviral therapy. When it comes to TB treatment it happens that paperless migrants or asylum seekers that are rejected from Sweden can be rejected even when the treatment is not finished, which is problematic with regards to risk of relapse and antibiotic resistance development.

Hepatitis B treatment is offered to chronic cases and hepatitis C treatment is offered to acute cases and chronic cases in accordance with national guidelines, but rarely to people who still are active injecting drug users.

All diagnosed cases of chlamydia, gonorrhoea and syphilis get antibiotic treatment for free according to the Act of communicable disease prevention and

control, as well as control tests for gonorrhoea and syphilis in accordance with treatment guidelines.

The spread of multi resistant gonorrhoea is an increasing problem and demands that all gonorrhoea

cases get a follow up test after treatment and that resistant typing is carried out by the laboratories so the accurate treatment can be chosen.

## 2. Analysis of National HIV, TB and AIs Response

### 2.1. Description of government coordination, management and financial support for HIV, TB and AIs response

The Swedish Government bill of the National strategy for prevention of HIV and associated infections was adopted by the parliament in 2006 and runs up to 2016 (Government bill 2005/06:60). The strategy mainly focus on to limit the spread of HIV and other STIs and the consequences for society and the individual. The strategy emphasis an integrated response from all relevant sectors, including health care, education, social welfare, prison and probation services and migration services. It requires cooperation and coordination between sectors, governmental agencies and Non Governmental Organisations (NGOs). The Government annually grants funding (about 146 million SEK or 16 million Euro) for preventive efforts at national and regional levels.

The Public Health Agency of Sweden is responsible for the coordination of the national preventive work in Sweden, including allocation governmental funding to support HIV preventive work at national and

regional level. The 20 County councils have responsibility for the health care and the infectious disease prevention including HIV and STI prevention at regional and local levels, and for the allocation of the governmental grant for HIV prevention to local and regional NGOs, while the national Public Health Agency allocates funding to national NGOs and to preventive projects of national interest.

For the preventive activities regarding TB and hepatitis there are no special funding from the government, except when hepatitis spread is associated with the spread of HIV such in IDUs. Testing, treatment and contact tracing etc is funded by the County Council and the County Medical Officer is responsible for the infectious disease control and prevention in the regions in accordance with the Act of Communicable Disease Control and Prevention.

### 2.2. Description of normative framework

See 2.1 and 2.3

## 2.3. Legal environment

The Act of Communicable Disease Prevention and Control regulates control measures for ca. 65 different infectious diseases that are included in the Act, for example, free testing and treatment, contact tracing and mandatory notification of diagnosed cases from laboratories and clinicians to the Public Health Agency of Sweden and to the County Medical Officers. The Act includes HIV, TB, hepatitis B and C, chlamydia, gonorrhoea and syphilis.

A new law from July 2013 gives undocumented migrants who are living in Sweden access to subsidised medical health care that cannot be postponed, including maternity care, contraception advice, and health care connected with abortion. Treatment for HIV, TB and hepatitis as well as STIs included in the Communicable Disease Act is free of charge also for undocumented migrants.

The National Board of Health and Welfare has published regulations complementing the Act of Communicable Disease Prevention and Control, such as a regulation about contact tracing and handbook about partner notification in HIV and STI. There are also a law and complementary regulations from the National Board that obligates the County Councils to offer all asylum seekers and their after coming relatives free health check ups including HIV and TB testing. National guidance for the health care regarding management of TB cases and recommendations about preventive activities for TB has also been published by the National Board of Health and Welfare as well as risk group vaccination for hepatitis B.

There are also regulations about screening of pregnant women that obligates the health care to offer screening tests for HIV, syphilis and hepatitis B.

## 2.4. Implementing HIV, TB and AIs prevention strategies (including to-be-addressed issues)

The national strategy for HIV prevention has pointed out three main objectives for 2006–2016:

- » The incidence of HIV infections transmitted within Sweden should be reduced by half.
- » People who seek asylum and newly arrived close relatives of previously arrived asylum seekers should be offered testing and counselling within two months of arrival. The same services should be offered within six months to other groups of people who have stayed in countries with a generalized HIV epidemic.
- » Knowledge about HIV and what it is like to live with the infection should be improved in the public sector, in working life and in society as a whole.

At regional level action plans for HIV and STI prevention has been developed and collaboration groups at

national level (National HIV Council) and regional levels has been established, consisting of key stakeholders from health care, governmental agencies and NGOs.

## 2.5. Treatment, care and support for PLWH, TB and AIs Patients

Treatment and care for PLWH, TB and AIs are free of charge in accordance with the Act of communicable disease prevention and control. According to the same law the health care also is obliged to give medical and practical information and advice to the patient about how to avoid further transmission, and to offer psychological and social support to patients in need of such support to be able to handle his or her life with regard to the disease.

For PLWH there are also NGO:s and self-help groups all in different parts of Sweden, offering support etc, most of them members of the umbrella organisation HIV-Sweden or the Noaks Ark foundation. Also there are a national Hepatitis C organisation with local member organisations. Also the Swedish Drug Users Union works active with hepatitis C and support to infected drug users or ex-drug users. The Swedish Heart and Lung Association is a NGO that unites people with heart and lung diseases including TB.

## 3. Challenges (issues to be addressed) and conclusions

To reach migrants early with offer of free health check ups is essential for the prevention spread and for the consequences for the individual when it comes to HIV, TB and chronic hepatitis B in Sweden. Today less than half of all asylum seekers are reached and get such health check ups and among other groups of immigrants even fewer are reached. The health care together with the migration authorities must find more effective ways to coordinate the offer of health check ups to these groups.

To reduce the endemic spread of HIV in Sweden MSM is the key population since this group accounts for more than half of the HIV transmission that take place in Sweden today. Also among MSM that are diagnosed with HIV today, migrants are over represented and need to be included in the preventive efforts that are directed to MSM. Also to limit the endemic spread of gonorrhoea and syphilis MSM is a key population and the spread of these infections in the MSM group are maintained by importation due of travelling and sexual contacts between MSM in the big European cities.

MDR-TB and XDR-TB is not common in Sweden – in 2012 ca. 3% of all culture verified TB cases was

MDR-TB and two of these cases were XDR-TB. However this is an increasing problem in the world around and will therefore also be a visible problem among Swedish TB cases because of the high proportion of migrants among TB cases from all over the world.

The spread of multi resistant gonorrhoea is an increasing problem and demands that all gonorrhoea cases get a follow up test after treatment and that resistant typing is carried out by the laboratories so the accurate treatment can be chosen.

To reduce the spread of hepatitis C in IDU is a major challenge. This demands accurate information directed to the IDU group about risks, the transmission routes and how to prevent the infection. Prevention programs, such as low threshold units including needle and syringe exchange programs (NEPs), need to be available all over Sweden. Today NEPs is running in only 3 of 20 counties. Further, such programs need to address hepatitis C, not only HIV, which means that also other paraphernalia that can promote transmission of hepatitis C (not only sterile needles and syringes) must be available and offered to IDUs.



## 4. Recommendations

To improve the methods and coordination to reach migrants and offer health check ups for HIV and TB etc is probably a common issue for most countries in the NDPHS area.

Also to improve and develop low threshold services for key populations like MSM and IDUs to improve the uptake of HIV and STI testing in MSM respectively hepatitis and HIV testing in IDUs and to offer treatment to them who needs treatment, is essential for the limitation of the spread of these infections.

Since > 90% of all know PLWH in Sweden have effective antiretroviral treatment (ART) the endemic spread of HIV is mainly due to transmission from people who don't know about their HIV infection. The majority of new diagnosed HIV cases in Sweden are "late testers", people who have been infected for several years, both among foreign born and Swedish born people. It is essential to reach these people as soon as possible to prevent further spread of HIV and to offer treatment.

