HIV in Estonia

Situation, prevention, treatment, and care

Narrative report for Global AIDS Response Progress Reporting 2016

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Contents

Abbreviations

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral treatment
ARV	antiretroviral
DOTS	directly observed treatment, short course
EHIF	Estonian Health Insurance Fund
HB	Health Board
HBsAg	hepatitis B surface antibody
HBV	hepatitis B virus
HCT	HIV counselling and testing
HCV	hepatitis C virus
HIV	human immunodeficiency virus
MoJ	Ministry of Justice
MoSA	Ministry of Social Affairs
MSM	men who have sex with men
NGO	nongovernmental organization
NIHD	National Institute for Health Development
NHP	National Health Plan
NSP	needle and syringe exchange programme
OST	opioid substitution therapy
PLHIV	people living with HIV
PWID	people who inject drugs
PY	person-years
RDS	respondent driven sampling
RL	National HIV Reference Laboratory
STI	sexually transmitted infection
SW	sex worker
TB	tuberculosis
HCT	HIV counselling and testing
WHO	World Health Organization

Introduction

The first HIV case in Estonia was diagnosed in 1988, and since then a total of 9,263 HIV cases had been reported. The rate of newly diagnosed cases of HIV has decreased over the last decade (from 46.0 cases in 2005 to 20.5 cases per 100,000 in 2015), but has been quite stable in the last few years (25 cases per 100,000 in 2013 and 23 cases in 2014) (1). Hetero- and homosexual transmission has increased as well as the proportion of cases among people older than 34 years. The number of cases among children and youth has decreased considerably. The proportion of women is stable around 40%. Transmission among people who inject drugs has stabilized but prevalence rates are very high.

The following report provides an overview of HIV situation, prevention, treatment and care in Estonia, with a focus on 2015.

General country information

Estonia is situated in the Baltic region in northern Europe. It is bordered to the north by the Gulf of Finland, to the west by the Baltic Sea, to the south by Latvia, and to the east by Lake Peipsi and the Russian Federation. The territory of Estonia covers 45,227 km^2 and the population is 1.31 million (as of January 1st, 2016). The official language is Estonian. Country is divided into 15 counties. The capital and largest city is Tallinn, with a population of 414,000. The next most populous county is Ida-Virumaa (in the north-east) with 147,000 inhabitants.

HIV surveillance

In Estonia, HIV case data are collected through a passive surveillance system, web-based communicable diseases information system operated by the Health Board (HB). The basis is the Governmental regulation number 134 (Ref number RT I 2009, 41, 279) which lists 58 notifiable communicable diseases, including HIV (Z21), AIDS (B20-B24), viral hepatitis (B15–B19), and major STIs (syphilis, sexually transmitted Chlamydia, and gonorrhea). Both doctors who diagnose HIV infection and laboratories are required to report directly to the Health Board. Data on newly diagnosed HIV cases which must be reported by the doctors, include name, gender, date and place of birth, personal identification code (unique identifier for every person), place of living, nationality, education, occupation, reason for HIV testing, route of transmission, partner risk factors (in case of heterosexual transmission), possible time and place of infection (country). No CD4 count data are collected at the time of diagnosis.

Until the end of 2008 anonymously diagnosed HIV cases were also included in national reporting, which may have caused some double reporting. From 2000–2008 approximately 30% of new cases were diagnosed anonymously in anonymous HIV counselling and testing (HCT) sites (previously called anonymous AIDS counselling centres). Since January 2009 no preliminarily positive cases without personal data are confirmed or included in the total number of HIV cases.

Other key institutions responsible for surveillance include the National HIV Reference Laboratory (RL) (data on HIV testing), National Institute for Health Development (NIHD) (HIV bio-behavioural surveillance among HIV risk groups and general population, monitoring its National Health Plan (NHP) activities, national TB and mortality registries, etc.), Estonian Health Insurance Fund (EHIF) and Ministry of Social Affairs (MoSA) (health services for PLHIV), and the Ministry of Justice (MoJ) (HIV prevention and care in prisons).

HIV testing and screening

Biological surveillance of HIV in Estonia started in 1987. Surveillance is performed by primary diagnostic groups (33 regular screening measurement laboratories) that are located in all bigger health care institutions and national HIV-reference laboratory located in Tallinn.

HIV testing is voluntary and it may be performed only upon the person's informed consent (as in case of all health care services). No written informed consent is required. HIV testing has always been de-centralized. Any doctor in Estonia (either a general practitioner or a specialist) can recommend HIV testing based on clinical indications, risk assessment or the patient's request. The MoSA has developed guidance for provider initiated testing and counselling in 2012 (2). The main groups for whom HIV testing is recommended include pregnant women, prisoners, people with HIV indicator diseases and conditions (sexually transmitted infections (STI), tuberculosis (TB), viral hepatitis, lymphomas, etc), people who have had occupational exposure or a history of injecting drugs or engaging in risky sexual behaviour (including having sex partners who have had multiple sex partners or sex partners who have injected drugs, etc). In HIV epidemic regions (capital city Tallinn, surrounding Harju county and North-Eastern Estonia) HIV testing is recommended to all patients aged 16–49 years. The only groups for whom HIV screening is mandatory are blood and organ donors.

HIV testing is provided only in health care institutions (including family medical centres and prison health services). Non-medical personnel are not allowed to perform HIV testing, but they can be involved in counselling. Blood drawing and rapid testing can only be performed by medical personnel: nurses, midwives, laboratory specialists or doctors. Rapid tests are very rarely used in general health care institutions; they are available in the anonymous HCT sites and youth counselling centres. Community based testing (for example in needle and syringe exchange programs (NSP) and drop-in centres for sex workers (SW)) is provided in collaboration with local health care organization and rapid testing is mostly used in these settings.

Starting from 2016, HIV testing is free of charge for all people, including those who do not have health insurance (for them, costs are covered directly from the state budget). Those aged 19–24 years can take an HIV test free of charge at a youth counselling centre. Additionally, a network of anonymous HCT sites operates in eight cities; in HCT sites, anyone aged 16 or older can receive free and anonymous HIV, hepatitis B and C counselling and testing (costs covered by NIHD from the state budget (NHP)).

The number of people tested and the number of HIV tests has increased since the early 2000s in all regions as well as among routinely screened groups (e.g. pregnant women, TB patients, prisoners) and high-risk groups (people who inject drugs, sex workers) (Fig. 1). In 2015, almost 159,000 people were tested for HIV (12% of the total population; a total of

121 persons per 1,000 population; 60 persons per 1,000 population excluding tests for blood donors and pregnant women) and the total number of tests was more than 221,000. As can be seen of Figure 2, the number of people tested per 1,000 population has increased year-by-year but the positivity rate has decreased.

According to Health Behaviour study among Estonian Adult Population, 6% of males and 9% of females aged 16–64 had tested for HIV in the last 12 months (3). Testing rates were the highest among 25–34 years old — 8% for males and 21% for females. According to the study on Estonian men's attitudes and behaviours conducted in 2014, one third of men had tested for HIV in lifetime (4). Testing rates were the highest among 25–34 and 35–44 years old (37% and 39%, respectively). Testing rates were higher among Russian speaking men compared to Estonian speaking men.

According to Estonian youth study (aged 14–29 years), the proportion of young people ever tested for HIV has almost doubled in the last five years (5, 6). In 2015, 39% of the 19–24 years old and 59% of the 25–29-years old have ever tested for HIV (testing rates in the last 12 months were 19% and 22%, respectively) (6).

Fig. 1. Number of HIV-tests performed and number of people tested, 2000–2015 (n)
(Health Board, Statistics Estonia)

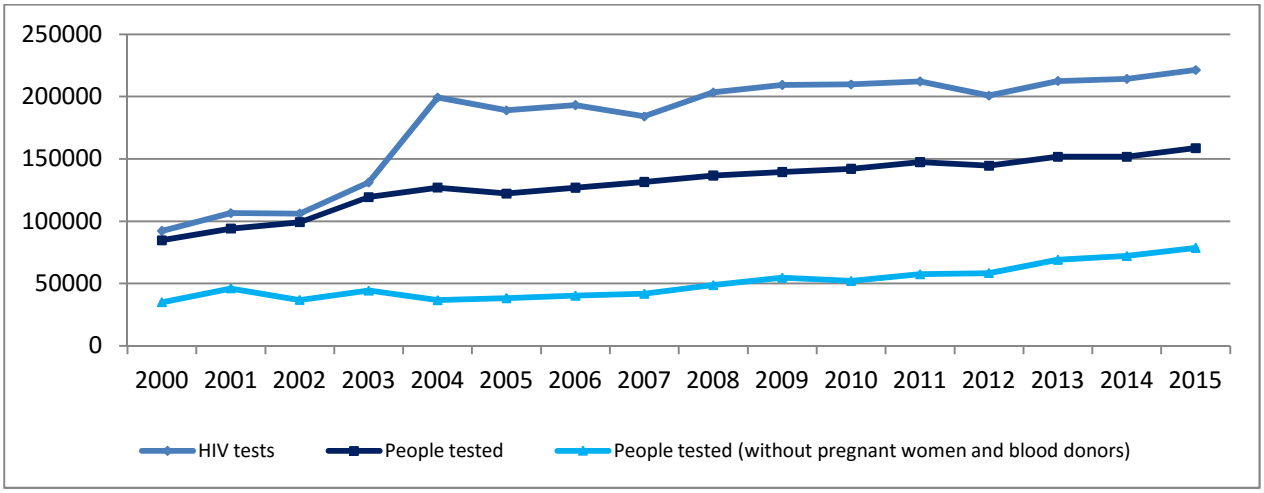
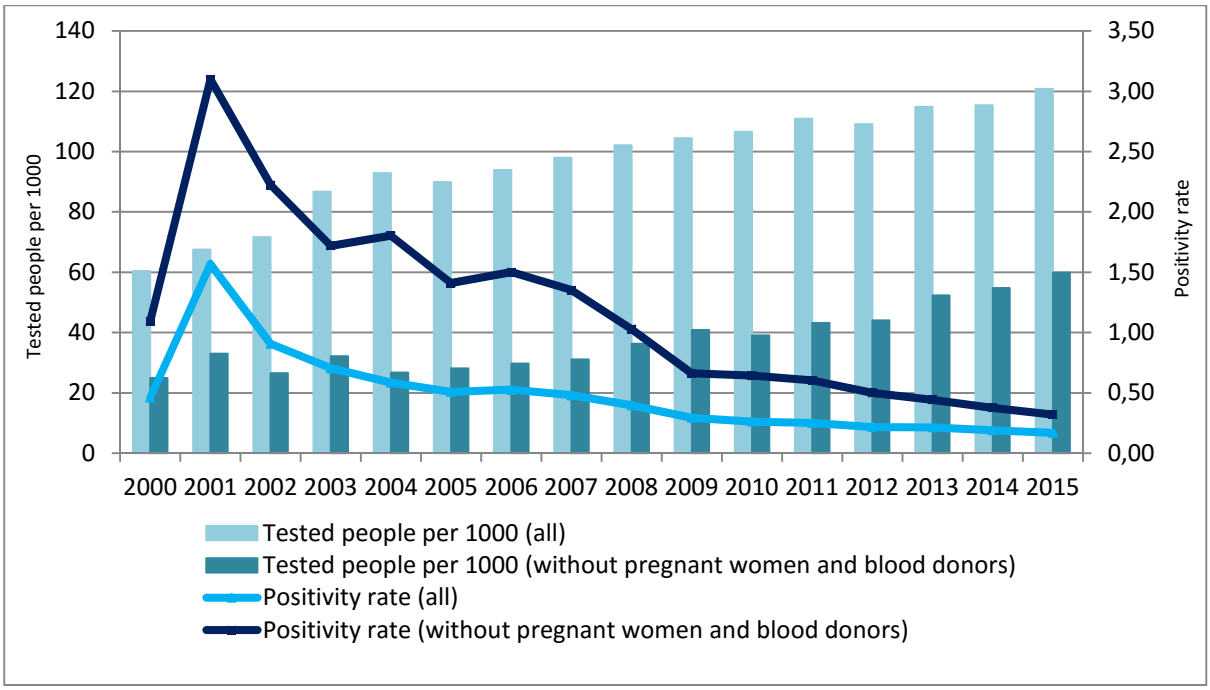


Fig. 2. Number of HIV-tests performed per 1,000 population (n) and positivity rate (%), 2000–2015 (Health Board, Statistics Estonia)



Among some risk groups HIV testing rates are quite high and have increased over the years, but among some, relatively low. For example, among people who inject drugs (PWID) up to 94% have tested for HIV ever during lifetime, and up to 93% of those who are HIV-infected are aware of this (Table 1). Among men who have sex with men (MSM) in 2010 60% had tested for HIV ever during lifetime and 32% during the last 12 months. In 2013, the respective percentages were 70% and 37% (7). In a study conducted among sex workers (SW) in capital city Tallinn in 2006, 66% had tested for HIV ever during lifetime and 57% during the last 12 months (8). In 2010, the respective percentages were 93% and 69% (9).

Table 1. HIV-testing and knowledge of the positive serostatus among people who inject drugs in three towns in Estonia

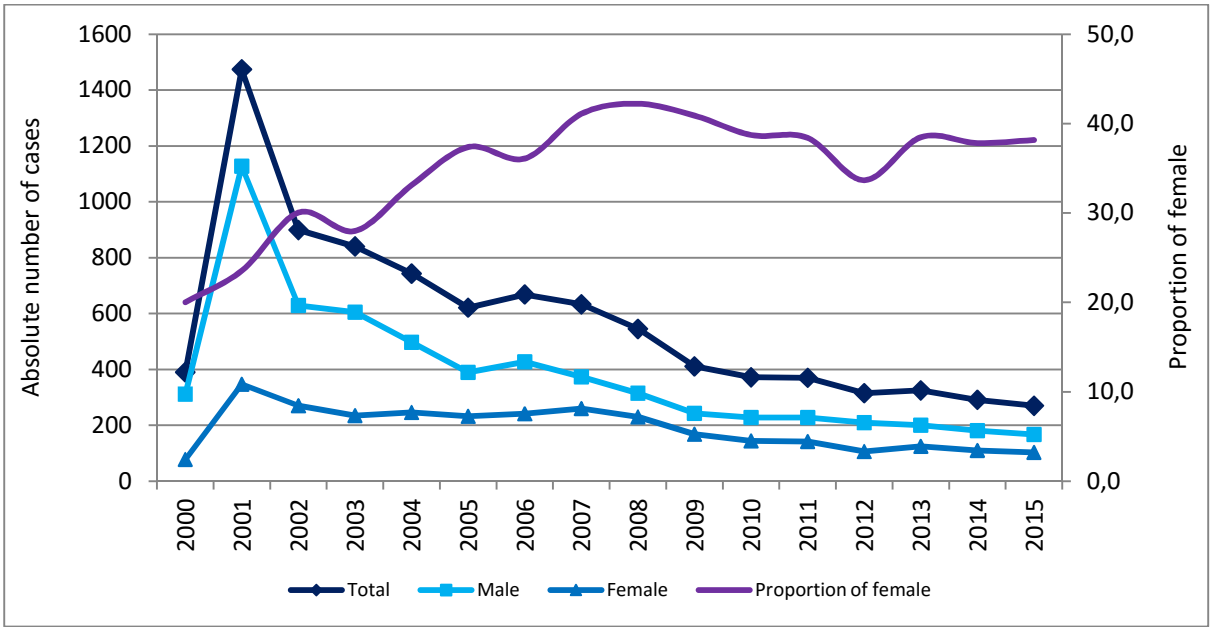
	Tallinn		**Kohtla-Järve***		**Narva***	
	2007 (10)	**2013** (11)	**2007** (10)	**2012** (12)	**2010** (13)	**2014** (14)
Percentage HIV-tested ever during lifetime	85%	94%	76%	90%	81%	87%
Percentage aware of their HIV-infection among those tested HIV-positive in the study	63%	88%	67%	84%	76%	93%

* Located in Ida-Virumaa county (north-east)

HIV and associated infections epidemiology

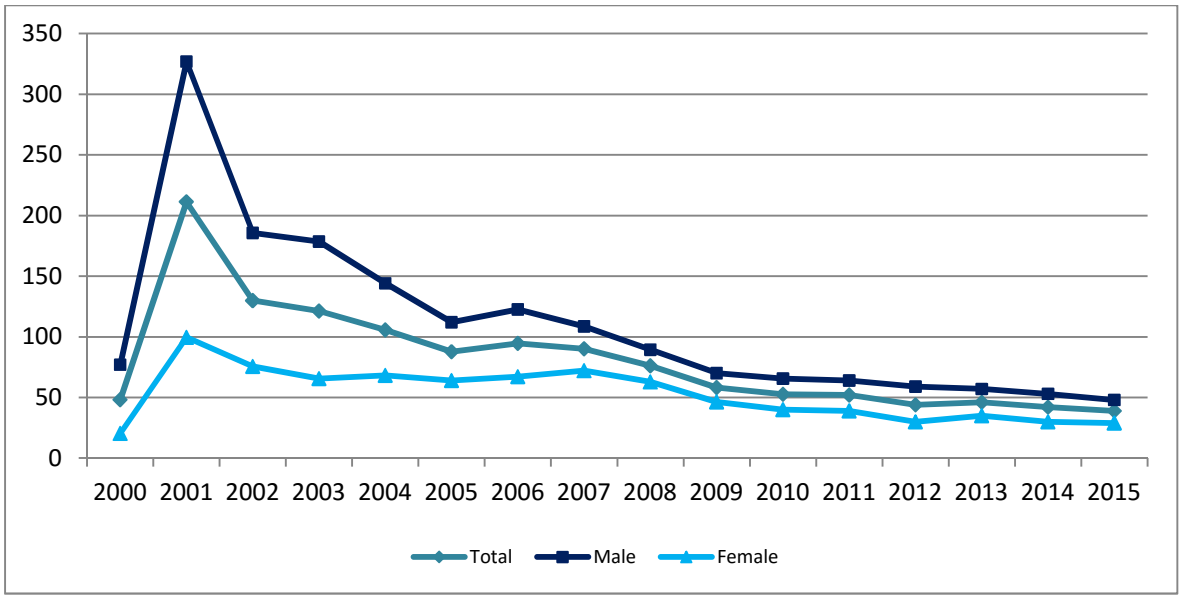
The first HIV case in Estonia was registered in 1988. At the end of 1999, a total of 96 HIV cases had been reported, most of them infected through homo- or heterosexual intercourse. In 2000, the number of newly diagnosed HIV cases began to increase sharply; there were 390 new cases in 2000 and 1,474 in 2001. The number of newly registered cases has been decreasing since 2002 — in 2015, 270 new cases were registered (Fig. 3). By the end of 2015, a total of 9,263 HIV cases had been reported (1).

Fig. 3. Newly diagnosed HIV cases by gender and proportion of women, 2000–2015 (n) (Health Board)



Since 2002 the number of newly diagnosed HIV cases has decreased both among men and women. The incidence rate among 15–49 year olds per 100,000 population has also decreased, especially among men (Fig. 4). The trend is also supported by low numbers of HIV cases among blood donors. Since 2004, approximately 10 HIV cases per year have been diagnosed among blood donors (two cases in 2014 and four cases in 2015), which is approximately 0.02% of all blood donors. Thus HIV prevalence among blood donors in the same regions in 1997–2015 has been stable and low.

Fig. 4. Newly diagnosed HIV-cases according to gender among 15–49 year old people, per 100,000 population, 2000–2015 (n) (Health Board, Statistics Estonia)



Majority of HIV cases in Estonia have been diagnosed in capital city Tallinn and North-Eastern Estonia (Ida-Virumaa county), two regions with the highest prevalence of injecting drug use (15, 16). In 2015, 32 HIV cases per 100,000 population were diagnosed in Tallinn, 76 cases per 100,000 in Ida-Virumaa county (Fig. 5).

More than two thirds of all HIV cases have been diagnosed among men. The proportion of men was especially high in 2000–2001, but in recent years, the proportion of women has increased (in all age groups) and has been stable around 40% since 2013 (Fig. 3). The absolute number of HIV cases among men has been stable since 2012 (Fig. 6). The absolute number of HIV cases among women was quite stable in 2002–2008, decreased in 2009–2012 and has been stable since 2013 (especially among women aged 30-years and older) (Fig. 7).

Fig. 5. Newly diagnosed HIV cases per 100,000 population according to regions, 2000–2015 (n) (Health Board, Statistics Estonia)

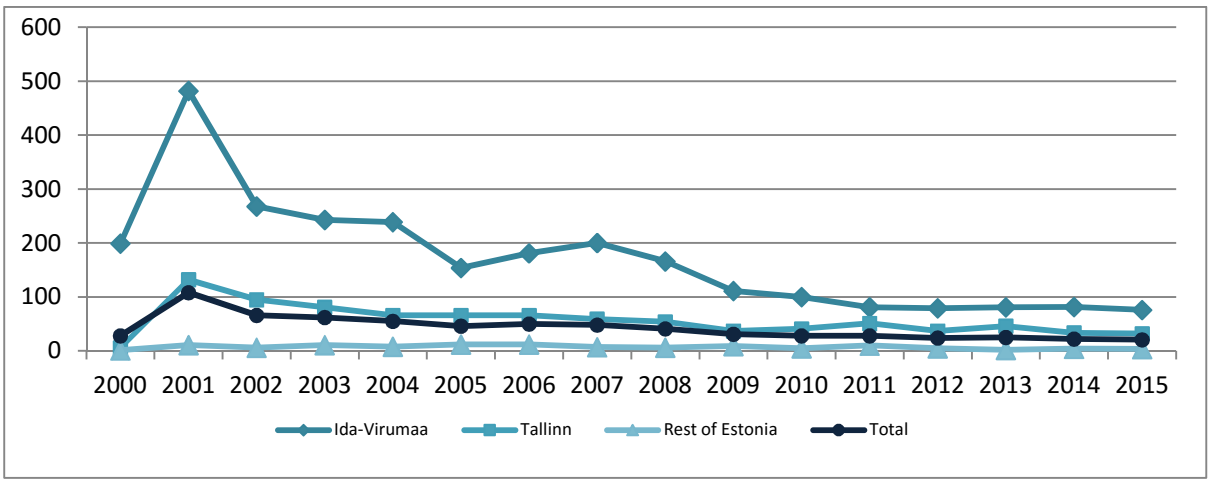


Fig. 6. Registered new HIV cases by age groups among men, 2000–2015 (n) (Health Board)

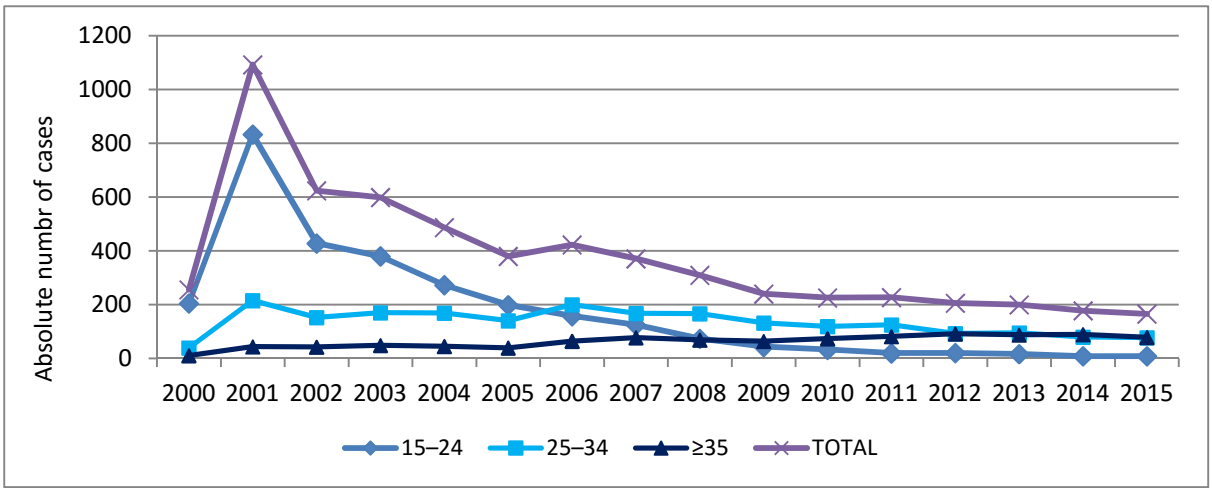
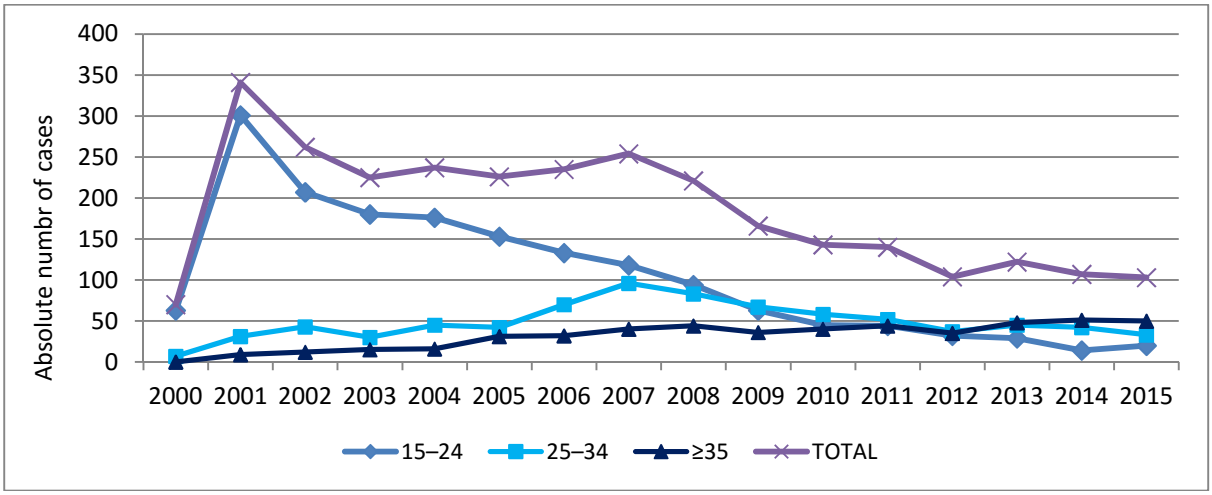


Fig. 7. Registered new HIV cases by age groups among women, 2000–2015 (n) (Health Board)



The mean age of newly diagnosed HIV cases has increased (31.6 years in 2010, 35.9 years in 2014). The proportion of cases older than 34-years has increased among men and women (Fig. 8&9), but the absolute numbers have been quite stable in 2006–2015 (Fig. 6&7). In the early years of the epidemic (2000–2001), 78% of the new cases were diagnosed among 15–24-years old, but in 2015 the percentage of cases in this age group was 11% (n=29) (1).

Fig. 8. The proportion of new HIV cases by age groups among men, 2000–2015 (%) (Health Board)

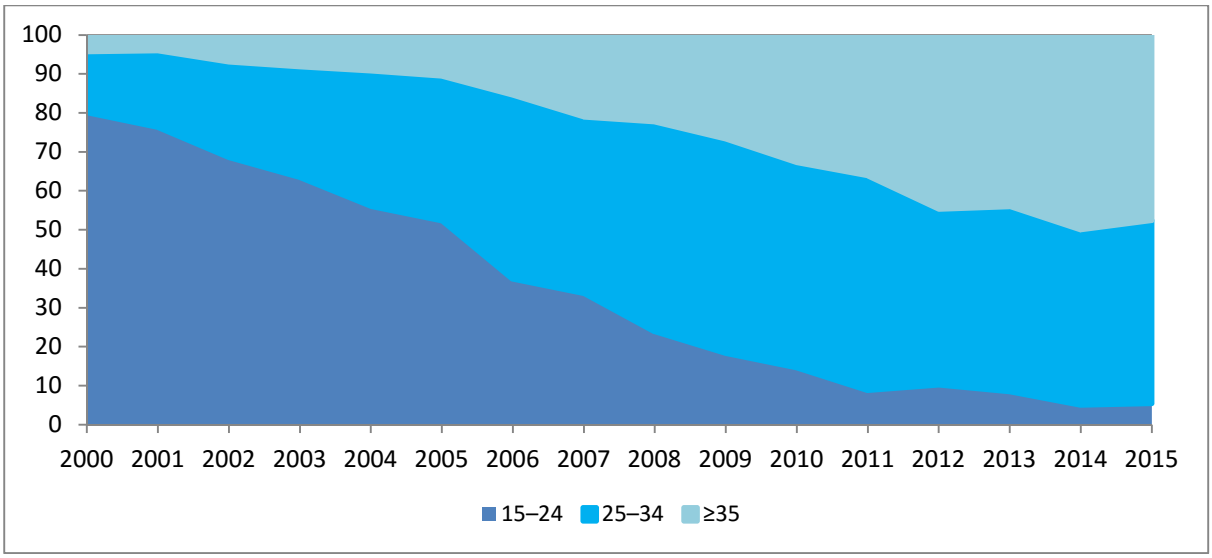
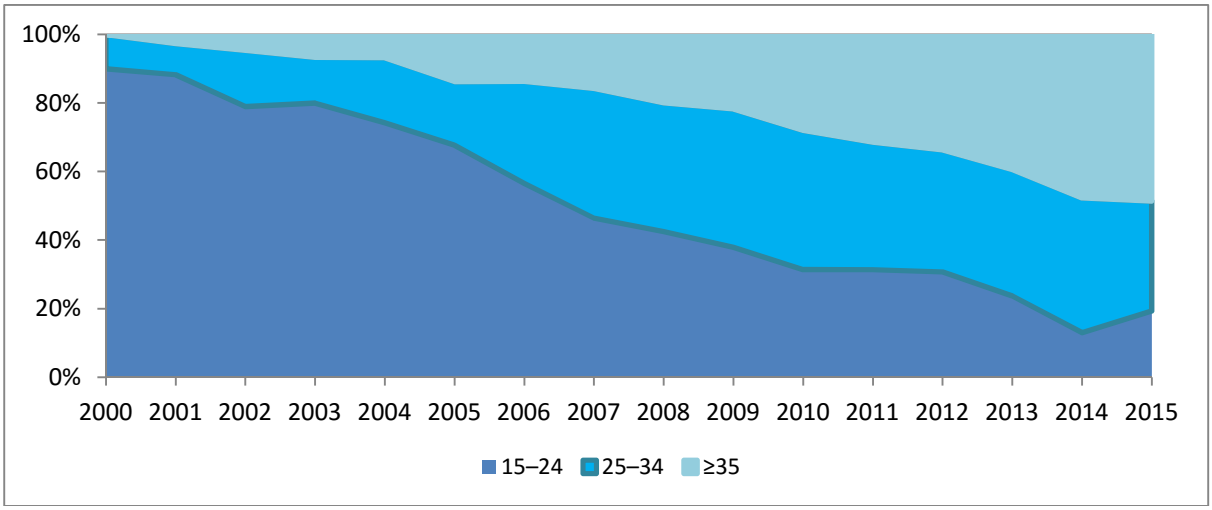


Fig. 9. The proportion of new HIV cases by age groups among women, 2000–2015 (%) (Health Board)

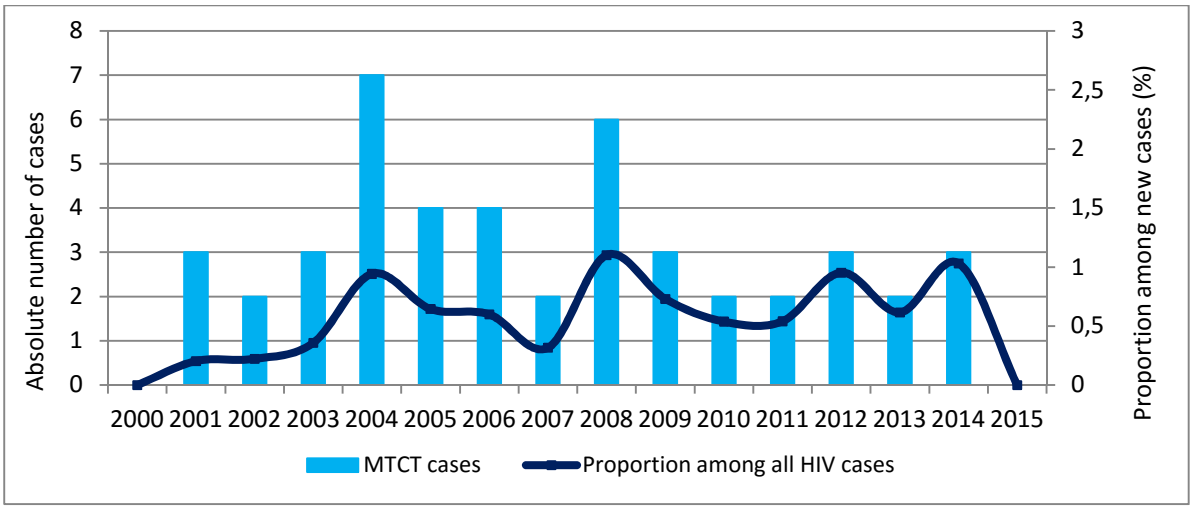


In a study conducted in 2012 among defence force conscripts (n=584, comprising 18.6% of the total 2012 conscripted forces) none was infected with HIV. Even though it was a convenience sample of young men who had undergone thorough health check-up, the findings from this study support the declining HIV trend among 18–24-year old men (17).

Especially positive is the decrease of cases among children and youth. In 2014, two cases and in 2015 five cases were diagnosed among 15–19 year olds (in comparison — in 2001, 560 cases were diagnosed in this age group).

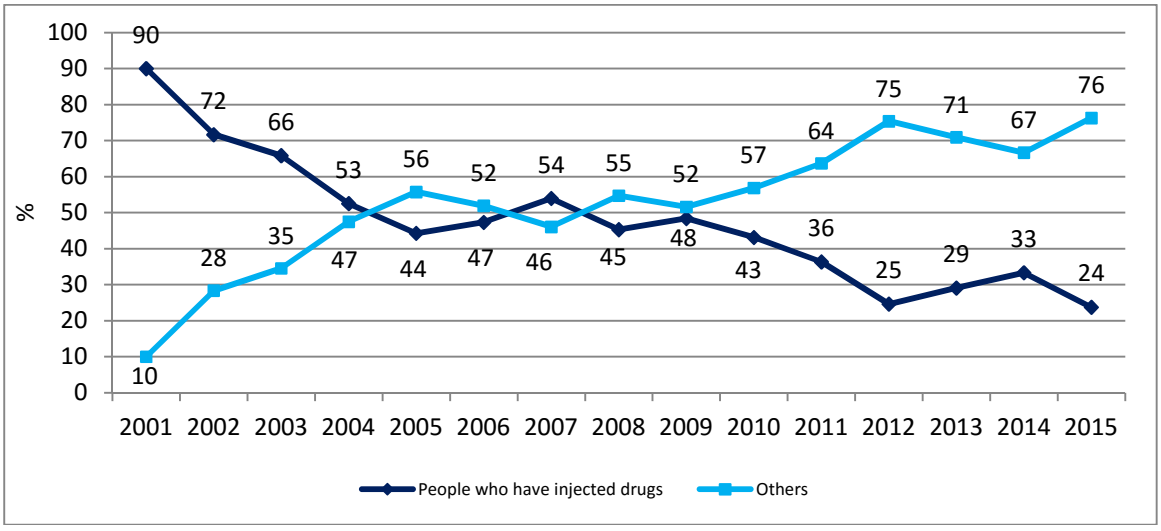
The rate of mother-to-child transmission (MTCT) of HIV and proportion of MTCT cases among all HIV cases has been low over the years (Fig. 10). Altogether 48 children have been infected through MTCT (none in 2015) — 0.5% of all HIV cases (1).

Fig. 10. The number of mother-to-child transmission cases (n) and proportion (%) among all new HIV cases, 2000–2015 (Health Board)



Data on HIV transmission routes have improved over the years. Since 2009 these data are collected centrally by Health Board. Historical data are based on anonymous HCT sites. According to HCT sites' data, HIV spread mainly sexually (both hetero- and homosexually) until 1999, and mostly through sharing infected injecting equipment since 2000. There has been an increase of heterosexual transmission in the last years, but there are no data on the risk factors of partners of people who have been infected sexually (thus it is not known how many of them are sexual partners of PWID, for example). HCT sites' data are presented in Fig. 11 (18-22).

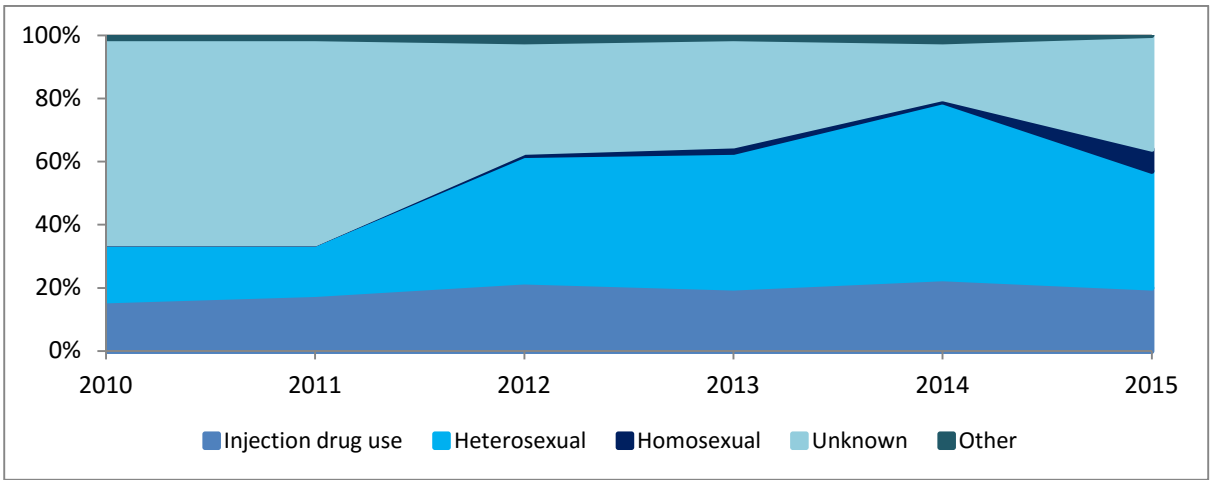
Fig. 11. Proportion of newly diagnosed HIV cases in anonymous HCT sites by injection drug use status, 2001–2015 (%) (NIHD)



Since 2009, data on HIV transmission routes is also collected by the Health Board. The Percentage of cases with unknown transmission route has decreased from 65% to 36%. The

percentage of PWID among new HIV cases was 20% in 2015, being quite stable (around 17–23%) in 2010–2014 (Fig. 12). Till 2014, the proportion of homosexual transmission was around 1%. In 2015, it was 7% (n=18). Due to small absolute numbers and no information on possible time of infection, it is difficult to say whether this is just an improvement in reporting of transmission routes or an actual increase in cases among MSM.

Fig. 12. Proportion of newly diagnosed HIV cases according to transmission route, 2010–2015 (%) (Health Board)



Sexually transmitted infections

In general, the rate of major STIs in Estonia has decreased in recent years (Fig. 13). No LGV cases have been diagnosed in Estonia. The incidence of STIs has been highest among 20–29 years old, and higher among women compared to men (23, 24). Unfortunately, no risk-factor information are collected about STI cases, thus the proportion among MSM is not known. The number of congenital syphilis cases has been very low, since 2010 only nine cases have been diagnosed, the last one in 2010 (Fig. 14). All pregnant women are screened for syphilis twice during the pregnancy.

Viral hepatitis

The overall rates of acute hepatitis B and C have been relatively stable. The incidence rate of acute hepatitis B has decreased from 1.2 per 100,000 population (n=16) in 2011 to 0.5 per 100,000 population (n=6) in 2015. The incidence rate of acute hepatitis C has decreased from 1.3 per 100,000 population (n=17) in 2011 to 0.8 per 100,000 population (n=10) in 2015 (1). HCV antibody prevalence among PWID ranges from 61 to 94% and HBsAg prevalence from 3 to 22% (10-14).

Fig. 13. Incidence rates of selected STIs per 100,000 population, 2000–2015 (n) (Health Board)

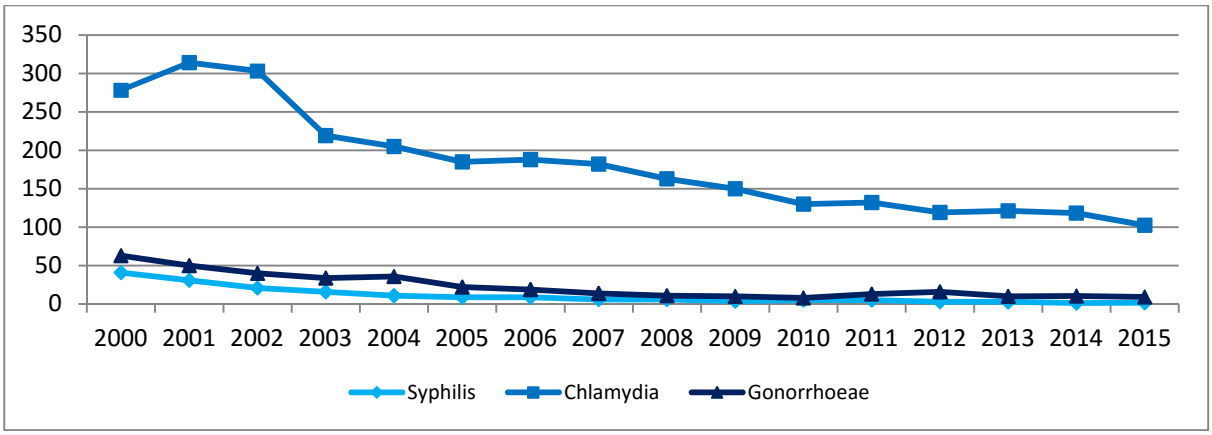
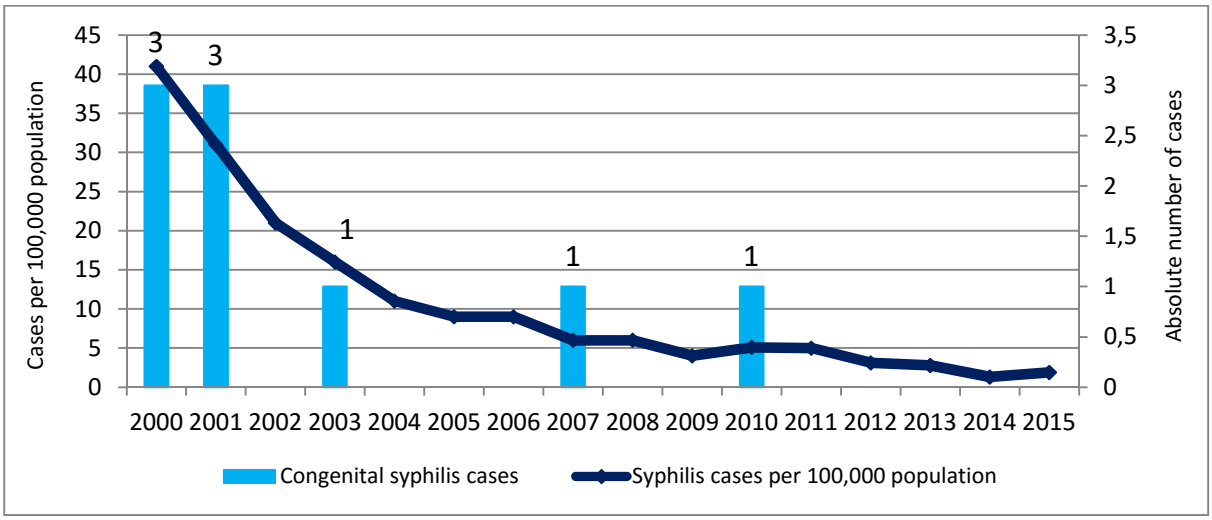


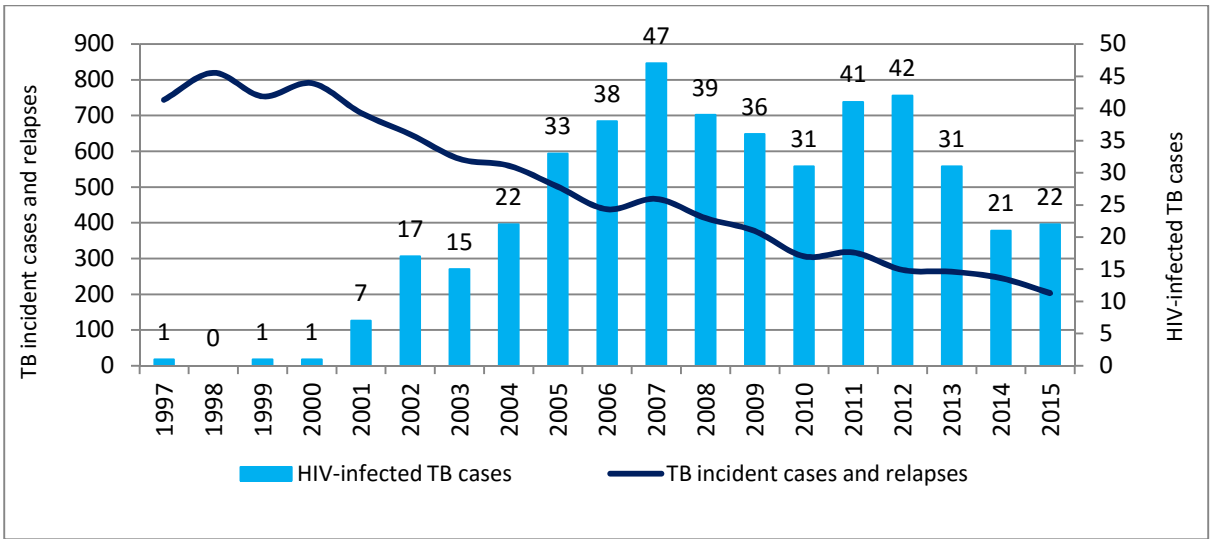
Fig. 14. Incidence rate of syphilis per 100,000 population and absolute number of congenital syphilis cases, 2000–2015 (n) (Health Board)



Tuberculosis

The incidence of TB was 14 cases per 100,000 population in 2015 (preliminary data as of March 15, 2016) (Fig. 15). A total of 218 TB cases were reported in 2015: 169 incident cases, 38 relapses and 11 other re-treatment cases. The percentage of HIV-infected TB patients was 12% in 2015 (n=23). In total, 446 HIV-infected TB cases have been diagnosed since the first case in 1997 (25).

Fig. 15. TB incident cases and relapses, and HIV-infected TB cases, 1997–2015 (n) (National Tuberculosis Registry)



Structures and strategies related to HIV prevention, treatment and care

HIV-prevention activities in Estonia started more than 20 years ago. At the end of 1980s, biological surveillance of HIV-infection started and the first anonymous AIDS counselling centres were opened. On the basis of the prevention strategy developed by the Estonian Association ”Anti AIDS”, the first National Programme for AIDS Prevention for 1992–1996 was developed and adopted in 1992. The second National Programme for HIV/AIDS Prevention — ”National Action Plan for HIV/AIDS and other Sexually Transmitted Diseases Prevention” was implemented in 1997–2001. The third national programme was adopted for 2002–2006. All these three programmes were financed from the state budget and coordinated by MoSA. In 2006–2015 the main development document was national HIV and AIDS Strategy and now the National Health Plan 2009–2020. NHP sets 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, including the National HIV and AIDS Strategy, National Drug Prevention Strategy, and National Tuberculosis Prevention Strategy. New action plan for the years 2017–2021 is under development whihch will cover all interventions for HIV prevention, testing, treatment and care (including ARV treatment for all).

Financing and organization of health care

In Estonia, health care and social affairs are coordinated by MoSA. The core purchaser of health care services is EHIF, which operates under the MoSA and purchases most of the services for insured people (94% of the total population). The main exceptions are emergency care, which is covered directly by the MoSA (from the state budget), and health care in prisons, which is coordinated and financed by the Ministry of Justice (from the state budget).

The EHIF pools funds transferred from the Estonian Tax and Customs Board (earmarked payroll social tax). Estonian health insurance is a social insurance, which relies on the principle of solidarity: the EHIF covers the cost of health services required in case of illness, regardless of the amount of social tax paid for the person concerned. The vast majority of the population, including children and the elderly, are covered by the compulsory health insurance scheme. Uninsured people, who represent about 6% of the population, mainly include low-income men who have either been unemployed for a long time or work in the informal sector. Private health insurance is very limited in Estonia.

Primary care services are provided to everyone insured by EHIF through general practitioners. Specialist care is provided by local and regional hospitals, which offer both inpatient and outpatient specialist services. A family physician’s referral is required to visit a medical specialist. However, a referral is not needed to visit a psychiatrist, gynaecologist, dermatovenerologist, ophthalmologist, pulmonologist (for TB treatment), infectious disease specialist (for HIV treatment) or in case of trauma.

Health services related to TB and HIV treatment (including TB and ARV medicines) are free of charge for all. ARV and TB medicines are procured and purchased directly by

MoSA. EHIF covers health care costs for those who have health insurance. Health care services for those who do not have health insurance are covered from the state budget (NHP under MoSA). For example, TB directly observed treatment, anonymous HIV testing and counselling, substitution treatment and STI services for vulnerable populations are paid by NIHD from the state budget (NHP).

HIV prevention among risk groups and general population

HIV prevention among people who inject drugs

Injecting drug use began to increase during the 1990s (26). The first reports describing an outbreak and the size of the PWID population came from field reports and expert opinions. In 2005, it was estimated (using the capture-recapture method in three different national databases) that there were almost 14,000 PWID in Estonia, with a prevalence of 2.4% among 15–44-year-olds (15). In 2005–2009 there appears to be a decline in the number of PWID (16) and the population size is estimated to be around 9,000. PWID are mostly confined to two regions — capital city Tallinn (including its surrounding county Harjumaa), and North-Easter Estonia (Ida-Virumaa county) (15, 16).

According to cross-sectional bio-behavioural studies and data from needle and syringe exchange programs (NSP) conducted since 2005 most PWID in Tallinn and North-Eastern Estonia were young Russian-speaking men. The mean age of PWID and the mean duration of injecting drugs has increased (10-14). The data from the most recent studies are presented in Table 2. Risk behaviours (sharing of syringes and other injecting equipment) have decreased. For example, among the first time visitors of syringe exchange programs 85% had not shared syringes/needles in the last 4 weeks (Fig. 16).

The high HIV prevalence among PWID has remained stable at high level (around 50% in Tallinn and 60% in North-Eastern Estonia). Prevalence rates among men and women are not statistically different, and have increased in correlation with the duration of injecting drug use. HIV prevalence among the PWID with lower injection career are significantly lower than among the ones with longer career (Table 2). The same applies to hepatitis C antibody prevalence. The prevalence of the markers of acute/chronic HBV infection does not depend on injection duration.

Fig. 16. SEP visitors who did not share syringes/needles with others during last 4 weeks, 2003–2015 (%) (NIHD, programmatic data)

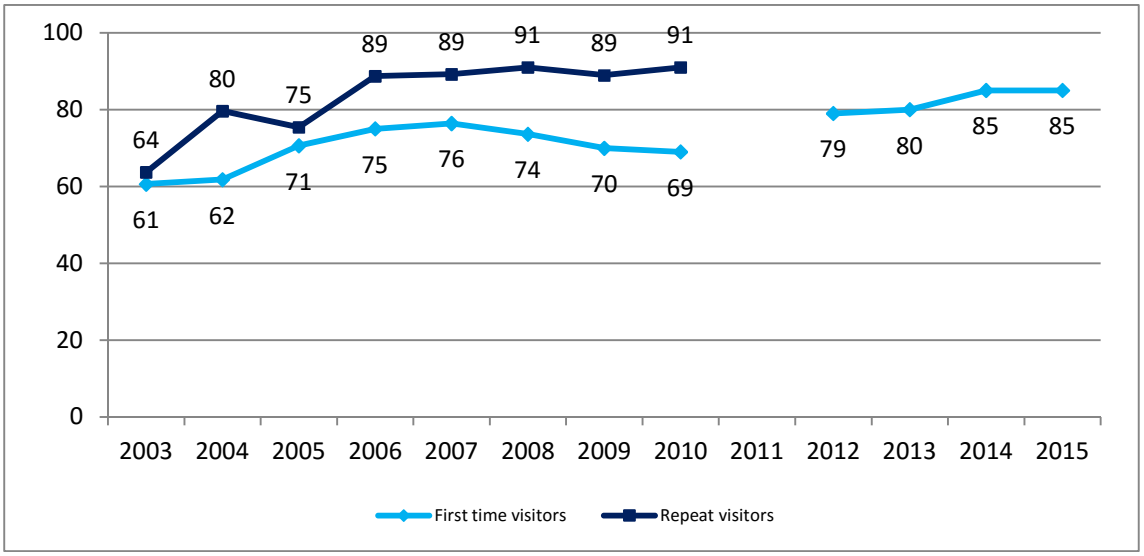


Table 2. Mean age of people who inject drugs and prevalence of blood borne infections according to the study sites

	Narva 2010 (13) N=350		**Narva 2014 (14)** N=350		**Tallinn 2013 (11)** N=350		**Kohtla-Järve 2012 (12)** N=600	
Mean age								
IDU duration ≤3 years	25.8 (median 23, range 18–49)		31.3 (median 31.5, range 18–47)		28.7 (median 26, range 18–52)		23.0 (median 22, range 18–36)	
IDU duration ≥4 years	30.8 (median 30, range 21–60)		34.5 (median 33, range 20–61)		32.3 (median 32, range 21–57)		30.1 (median 30, range 20–54)	
HIV antibody/antigen prevalence								
IDU duration ≤3 years	15.1%	p<0.001	8.3%	p<0.001	22.6%	p<0.001	37.0%	p<0.001
IDU duration ≥4 years	59.1%		51.2%		61.4%		63.8%	
HCV antibody prevalence								
IDU duration ≤3 years	37.7%	p<0.001	12.5%	p<0.001	48.4%	p<0.001	50.0%	p<0.001
IDU duration ≥4 years	82.8%		64.9%		94.5%		76.6%	
HBsAg prevalence								
IDU duration ≤3 years	1.9%		20.8%		0%		4.4%	
IDU duration ≥4 years	6.4%		21.5%		4.4%		4.2%	
HIV incidence among new injectors*	8 per 100 PY		6 per 100 PY		19 per 100 PY		22 per 100 PY	

*Methodology based on Uusküla et al 2011 (27, 28).

Harm reduction programs, testing and substitution treatment for PWID

Needle and syringe exchange programmes in Estonia were launched in 1997. Services are mostly provided in Tallinn and its surrounding areas and in North-Eastern Estonia (nine organizations). Altogether there are 14 stationary and 23 out-reach NSPs. In 2015, about 6,0 00 clients visited NSPs. NSPs distributed almost 2.1 million free syringes (approximately 230 syringes per PWID per year) and more than 290,000 free condoms in 2015 (NIHD, programmatic data). HIV testing is not routinely offered in NSPs, clients are referred to anonymous HCT sites.

In addition to needle and syringe exchange, opioid substitution therapy (OST) is provided to PWID (seven organizations in nine locations, mostly in capital city Tallinn and North-Eastern Estonia). OST services were first initiated in 1999. In 2015, the number of clients on OST was 1,166 (NIHD, programmatic data).

Naloxone program

In September 2013, the take home naloxone pilot program was launched in Estonia by NIHD. The main purpose of the program is to reduce the number of fatal drug related overdoses among PWID in Estonia. The program educates PWID and people close to them to recognize the overdose and administer naloxone to the person who has overdosed, and give first aid until the ambulance arrives.

The provision of the service is carried out in cooperation with the health care providers and organizations providing harm reduction services. Naloxone programs are implemented in Harju and Ida-Virumaa Counties, where the problem of injecting drug use is most acute.

In total, 514 participants received training and 513 naloxone syringe kits were disseminated in 2015. 115 repeated prescriptions were reported. Most of the syringes were distributed to people who use drugs. In 2015, the program was also introduced in the prisons. Prisoners with injection drug use history are trained before the release (NIHD, programmatic data).

All the above mentioned interventions (including naloxone program) are supported from the National Health Plan.

HIV prevention among young people and general population

The research indicates that young persons (aged 14–29) have relatively good knowledge of various topics related to HIV and the level of tolerant attitudes towards people living with HIV (PLHIV) has generally increased over the last 10 years. The level of using a condom during first sexual intercourse has substantially increased over the years. The number of sexual partners among youth has decreased over the years. The proportion of young persons with casual sexual partners has generally remained the same during the study years, only among those aged 16–18 it has decreased by one tenth. The use of condoms with casual partners has not changed during the last ten years and the number of those not using a condom with a causal partner continues to be high. The 2015 data also revealed that the proportion of young people who had tested for HIV had almost doubled compared to 2010 (6).

Ministry of Education and Research is responsible for information and education for young people in schools. Topics of HIV and safe sex are included in the school curriculum. There have been continuous trainings for teachers and study materials have been prepared on sexual education. NIHD is responsible for methodological materials for teachers and youth workers, programs for young people with special needs and high-risk youth. In collaboration with several NGOs education programs are implemented.

Estonian Association of Sexual Health coordinates the work of youth counselling centres (financed by EHIF and through the state budget). These centres provide STI and HIV counselling, diagnostics, and treatment, also counselling on safe sex, family planning issues for young people up to 24 years of age. There are 18 youth counselling centres in Estonia, at least one in every county. Services are free of charge for all clients.

Every year in past four years at least one media campaign targeting young people and general population has been launched. There have been two main focuses – promotion of condom use and HIV testing. Awareness raising events are organised annually on the Remembrance Day of AIDS Victims on the third Sunday in May, and the World AIDS Day on December 1.

HIV prevention among sex workers

Sex workers in Estonia work mainly in the capital city Tallinn. They work in apartments, brothels, in the streets, night clubs, etc. It is difficult to estimate how many women are involved in prostitution in Estonia. Based on expert opinions, their number may reach up to 3000. In the 2006 study in Tallinn HIV-prevalence among a group of SW (n=191) was 7%, in the 2011 study (n=227) — 6% (8, 9).

One NGO provides counselling and social support for SWs (including syringe exchange for those who inject drugs) in three cities (capital city Tallinn, Jõhvi and Tartu). One sexual health clinic provides anonymous and free of charge STI and HIV counselling and testing. In 2015, close to 55 SW received STI and HIV testing. In the last three years, the number of STI cases diagnosed among SW visiting this clinic has decreased. No syphilis cases have been detected (NIHD, programmatic data).

HIV prevention in prisons

The Ministry of Justice is responsible for administrating health care and social services in prisons. Since 2002, voluntary HIV counselling and testing has routinely been offered to all prisoners and has been part of the new prisoners health check. Testing is free of charge for prisoners. In 2012, 4,387 HIV tests (including retests) were performed in Estonian prisons. Among 1,756 initially HIV-negative prisoners who were in prison for more than one year and therefore tested for HIV twice within 12 months (at entry and annual testing), one new HIV infection was detected, an incidence of 0.067 per 100 person-years (95% CI: 0.025–5.572). This analysis indicates low risk of HIV transmission in Estonian prisons (29).

HIV-positive prisoners are in a prison pursuant to the general procedure. Depending on the state of his/her health he/she will be assigned further examinations and treatment. Prisons have the responsibility to organize regular trainings for detainees and prison staff regarding the prevention of the HIV infection spread. Condoms are also distributed to prisoners in prison health units and long-term meeting rooms (free of charge). Substitution treatment with methadone is available in all prisons and it is also possible to start the treatment in prisons.

HIV prevention among men who have sex with men

It is estimated that there are up to 9,000 homo- and bisexual men in Estonia (30). Sexual risk behaviours are common, for example half of the MSM do not use condom consistently in casual relationships, and this has not changed in the last 10 years (31). HIV prevalence among MSM is estimated to be 2–4% and it has been stable in the last years (32).

In 2012–2015, STI and blood-borne infections testing for MSM (free of charge and anonymous) was available in six larger cities across the country. Men who wanted to test only for STIs which can be detected from urine, rectal and pharyngeal samples (gonorrhoea, trichomoniasis, mycoplasmosis, Chlamydia and LGV), could do so by ordering and receiving the sample collection kit by regular mail and receiving the results through the Internet (special web-site called "Test at home" — www.testikodus.ee). In 2014–2015, 330 men were tested. For example, *C.trachomatis* was positive in the urine sample among 2.8%, in anal sample in 4.5% and throat sample in 0.7% of tested men. No *Lymphogranuloma venerum* or syphilis cases were detected. Only one new HIV cases was detected nad the prevalence of HBsAg ja HCV-positivity was low (32, 33). This project was supported by NIHD through Estonian Research Council grant, but unfortunately the funding stopped.

The publication of information materials and distribution of condoms in gay-oriented bars and clubs has also been supported from the National Health Plan. Estonian Network of People Living with HIV (EHPV) and NIHD organize HIV rapid testing events in gay-oriented bars and clubs. Approximately 10% of MSM report that the last place they got tested for HIV was a gay-oriented bar and club, so this approach has turned out to be quite successful in recent years (7).

HIV prevention in defence forces

There is no obligation to test persons eligible to be drafted in the Estonian Defence Forces for HIV. It is possible for all members of the Defence Forces to take a voluntary test in AIDS counselling rooms. Data on how many have taken the test are not collected. There is also no obligation in the Estonian Defence Forces to test members of the Defence Forces who go on international military missions for HIV-infection. HIV-test is taken only when members of the Defence Forces are going to study abroad.

A conscript who has been found to be infected with HIV is released from compulsory military service. When HIV-infection is discovered in a regular member of the Defence Forces, his/her further military service is decided on an individual basis. Further medical examination and treatment of a person with HIV-infection/AIDS will take place in civil network. There is no corresponding plan for their treatment in the Defence Forces.

Health care and social support for people living with HIV

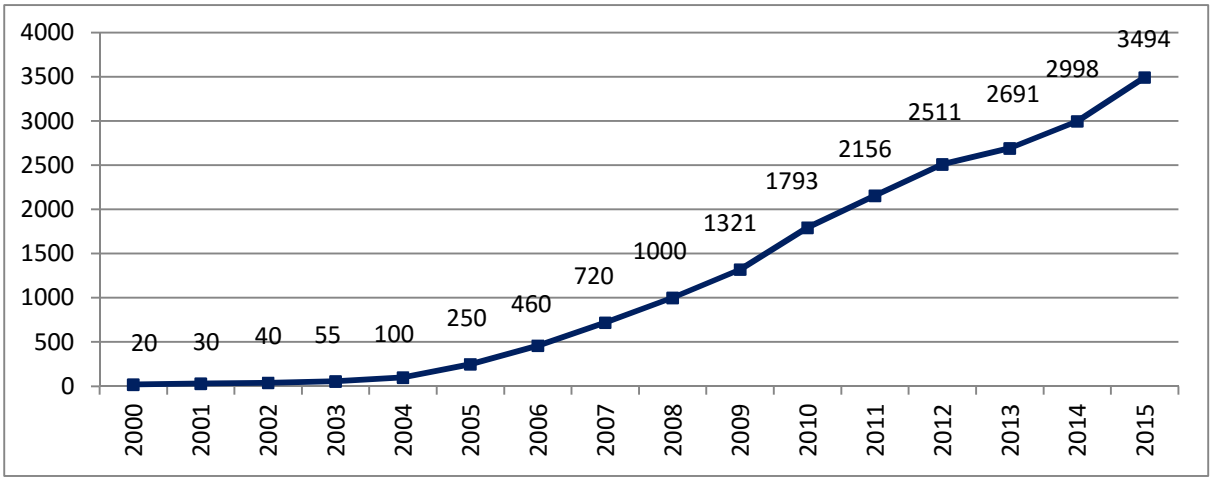
Health care services

Health services related to HIV infection, including antiretroviral treatment (ART), are provided in the specialised departments of both inpatient and outpatient infectious disease (including HIV) facilities. TB and STI services are provided by separate specialists (pulmonologists and dermatovenerologists, respectively). Infectious disease departments are part of the general, central and regional hospitals located in five larger cities. All these services are also available in all prisons through cooperation with local hospitals.

Patients who test positive for HIV are referred to an infectious disease doctor for health monitoring, treatment, counselling and contact tracing. No official referral is required (as opposed to appointments with other specialists, for which a general practitioner's referral is necessary). HIV-related health care services including ART are free of charge for all patients. Patients on ART usually have to visit the hospital once a month to get a month's supply of ARV medication. Patients who are not receiving ART yet usually visit the hospital once or twice a year for regular medical check-ups. The Estonian Society for Infectious Diseases has developed guidance for HIV patient management and antiretroviral treatment monitoring. In the hospitals there are social workers who provide social counselling for PLHIV. In the largest infectious disease department in capital city Tallinn, there is also a combined directly observed substitution treatment and ART program for PWID, where patients receive daily their ARV medicines and methadone.

By December 31, 2015, the total number of PLHIV in HIV care was 5,626. The proportion on ART at the end of 2015 was 62% (n=3,494). The number of people who started ART, was 464, and the number of those who quit, was 377. No data are available on the proportion of those who are virally suppressed (MoSA, programmatic data).

Fig.17. Number of PLHIV on ARV treatment at the end of calendar year, 2000–2015 (n) (Ministry of Social Affairs)



Psychosocial support

Several NGOs provide counselling for PLHIV and their close ones (social, psychological and legal issues, adherence to treatment, HIV prevention, etc). All these services are provided anonymously and free of charge, and are supported through NIHD. Besides that condoms and informational materials free of charge are distributed.
The social benefits and social support services provided by the national and local governments are meant for all people in need of assistance and there are no special terms or benefits for PLHIV.

Prevention of mother to child transmission of HIV

The number of HIV-positive pregnant women in Estonia has remained stable in past years (around 120–150 cases per year) and the number of mother-to-child transmission cases is low.

All women who register their pregnancies are recommended already during their first visit to take the HIV-infection test in addition to other tests, also a second test is taken during the 30th week of pregnancy. The corresponding test is also recommended to all women who decide to have an abortion. Regulation of the Ministry of Social Affairs No 118 from 31 October 2003 establishes that each pregnant woman shall be tested for syphilis and HIV-infection in course of registering the pregnancy.

All pregnant women in Estonia are covered by health insurance from the 12th pregnancy week and thus are guaranteed all health services free of charge (including prophylactic ART form women and newborns). Besides that, women receive free of charge breast milk substitute until the child is one year old.

Recent study among HIV-infected women in Tallinn revealed that in general, women were content with HIV related services as well as with the health and social services related to pregnancy, childbirth, and childhood. The main problem areas were considered to be the fee for a doctor's visit, the availability of ART only in one location in every town, and long queues to gynaecologist's reception. Reasons for delay in starting with ART were doubts concerning the efficiency of the therapy and fear of side effects. Some women do not consistently use contraceptives for different reasons. Above all, lack of psychological help free of charge, both during and after pregnancy was missed (34).

Prevention and treatment of tuberculosis

Health services related to TB diagnostics and treatment are financed from the EHIF and the state budget and are free of charge for all patients, including those who do not have health insurance. Pulmonologists see patients with suspected TB in outpatient settings in 11 cities. A general practitioner's referral is not needed if a person suspects he or she has TB. TB treatment (inpatient) services are provided in five cities. One site also has a special department for involuntary treatment. DOTS is mostly provided in collaboration with county pulmonologists and general practitioners, and is financed from the state budget. DOTS has been implemented in Estonia since 2000, offering 100% coverage.

All TB patients are routinely offered HIV testing (opt-out approach, recommendations from the professional society of pulmonologists). HIV tests are often performed early in the diagnostic process, even before a TB diagnosis has been confirmed. Data from the TB Registry reveal a high coverage of HIV testing for TB patients: in 2015, the HIV test result was known for more than 96% of the patients (25).

TB diagnosis and treatment services for PLHIV are provided similarly to the services intended for all other patients. PLHIV are recommended to undergo TB screening (chest X-ray) once a year, in case of symptoms indicating TB, or contact with a person known to have TB. No data are routinely collected on the TB screening of PLHIV.

Overall progress and challenges for the future

Overall progress:

- The coverage of needle and syringe exchange programs has increased considerably and is considered quite high. Geographical coverage with the services has improved, the number of people attending the services and the number of syringes distributed has constantly increased since 2003. The percentage of PWID who share syringes has decreased. Sharing other injecting equipment is still more problematic.
- Take-home naloxone programme was launched in 2013 and in prisons in 2015.
- OST is provided in all prisons and there is a possibility to start OST in prison. OST is also provided in two major detention centres which allows to ensure continuity of care in community and prison setting.
- HIV-testing has been scaled up. The number of sites providing anonymous HIV testing has increased and the geographical coverage has been improved. HIV testing coverage and knowledge of serostatus among PWID has increased.
- The number of people tested in health care settings has more than doubled since 2005. Testing rates among pregnant women, TB patients and prisoners are very high.
- The number of people on ART has increased and government support for HIV-related health care services for all PLHIV has been continuous.
- MTCT and congenital syphilis rates are very low. All related health services for pregnant women are free of charge for all.
- TB treatment is free of charge for all eligible patients.
- The largest clinic providing ART also provides methadone substitution treatment as a directly observed treatment.

Immediate key issues include:

- Integration of harm reduction, health and social care services for PWID and other vulnerable groups; linking the services with the prison and detention system, ensuring the full continuum of care.
- Increasing the adherence to clinical treatment programs among PLHIV, especially those who inject drugs.
- Providing sexual health, and family planning services and health related counselling (e.g. nutrition) for PLHIV.
- Ensuring an appropriate range of easily accessible services for PWID and their sexual partners (for example appropriate injecting-related equipment, other than needles and syringes; sexual health services; HIV-, STI and hepatitis testing) and improving the geographical coverage of services.
- Lack of proper prevention activities in all prisons (limited access to condoms and no access to clean injection equipment).
- Lack of appropriate prevention activities for MSM (there are very limited interventions targeting MSM).
- Developing special programs and systematic approach for HIV prevention for out-of school youth.

- Developing systematic approach for HIV prevention for adult population (especially those aged 30 years and more).
- Providing HIV prevention and STI services for SW in other regions besides the capital city.
- Further scaling up of HIV testing for hard to reach populations and general population, especially in health care settings (provider initiated testing, especially in primary care).
- More targeted HIV testing, including proper partner notification and testing services, are needed.
- Strengthening data collection, especially on monitoring of health services, including ART.

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