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TECHNICAL REPORT

Risk assessment on HIV in Greece

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This report of the European Centre for Disease Prevention and Control (ECDC) was coordinated by Anastasia Pharris and Marita van de Laar, Programme for STIs, including HIV/AIDS and blood-borne infections.

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Contents

Abbreviations iv
Introduction 2
Background 2
Methods 2
Epidemiology of HIV in Greece 3
Surveillance of HIV and AIDS 3
Overview of HIV epidemic 3
People who inject drugs 5
Men who have sex with men 7
Migrant populations 8
Sex workers 8
Prisoners 9
General population and pregnant women 9
Health care system and economy 10
HIV testing, treatment and care 12
HIV testing 12
Antiretroviral treatment 13
Response to HIV 15
Coordination of the HIV response 15
Prevention among people who inject drugs 16
Prevention among other key populations 17
Discussion and risk assessment 20
HIV among PWID and other key populations 20
Data gaps and uncertainties 21
The economic crisis and HIV 21
Conclusions and recommendations 23
Conclusions 23
Recommendations 24
Annex 1. List of field visits 27
May 2012 27
September 2012 27
Annex 2. Number of new diagnoses of HIV reported in 2007 – August 2012 28
References 29

Abbreviations

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
EAHC	Executive Agency for Health and Consumers
ECDC	European Centre for Disease Prevention and Control
EEA	European economic area
ELISA	Enzyme linked immunosorbent assay
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMIS	European MSM internet service
EOPYY	National Organisation for the Provision of Health Care
EU	European Union
GDP	Gross domestic product
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
KEELPNO	Hellenic Centre for Disease Control and Prevention
KETHEA	Therapy centre for dependent individuals
LGBT	Lesbian, gay, bisexual, transgender
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NGO	Non-governmental organisation
NSP	Needle and syringe programmes
OECD	Organisation for Economic Cooperation and Development
OKANA	Organisation against drugs
OST	Opioid substitution treatment
PWID	People who inject drugs
PLHIV	People living with HIV
STI	Sexually transmitted infection
TAMPEP	The European network for HIV/STI prevention and health promotion among migrant sex workers
TB	Tuberculosis
UNAIDS	Joint UN Programme on HIV/AIDS
WHO	World Health Organization

Executive summary

Like many countries in the European Union, Greece has had a fairly stable, low-level human immunodeficiency virus (HIV) epidemic. Men who have sex with men have been the most affected population. Since 2011, Greece has been experiencing a significant outbreak of HIV among people who inject drugs in Athens. In the first eight months of 2012, for the first time the number of new cases reported among people who inject drugs exceeded the number of new cases reported among men who have sex with men. The outbreak among people who inject drugs is likely due to a combination of factors, the most important being low levels of preventive services prior to the outbreak.

In response to the outbreak, Greek authorities have immediately prioritised scaling up the most effective interventions to prevent HIV e.g. opioid substitution treatment and needle and syringe programmes. The Greek Organisation Against Drugs (OKANA) has quickly expanded the provision of opioid substitution treatment and, in partnership with non-governmental organisations (NGOs) and the Hellenic Centre for Disease Control and Prevention (KEELPNO), increased the provision of needle and syringe programmes to prevent further transmission of HIV. However, given the magnitude of the ongoing outbreak, further scale-up of these services (in particular needle and syringe programmes) will be required to reduce HIV incidence and prevent high long-term HIV prevalence. These efforts will require improved coordination of public authorities and NGOs at strategic and operational levels.

There is a strong need to establish an inter-sectoral acquired immunodeficiency syndrome (AIDS) coordination body with strong mandates and sufficient resources, at both strategic and technical levels to maximise the response to HIV in Greece overall, and specifically among people who inject drugs and men who have sex with men. These coordination bodies need to involve a number of ministries, local authorities, law enforcement, NGOs and other key stakeholders. Given the ongoing high transmission of HIV, it is imperative to develop a comprehensive HIV prevention strategy in partnership with community organisations and relevant actors.

At the technical level, task forces with a sufficient mandate for action and access to resources, are needed to coordinate the response to the current HIV outbreak among people who inject drugs in Athens, and to address continued transmission among men who have sex with men. These bodies would include all relevant stakeholders and would meet regularly to review the situation and redirect the response.

Without decisive action, the outbreak of HIV among people who inject drugs will not only continue but there is also the risk that it could spread beyond Athens. Immediate suggested actions are based on the best evidence available and include a further scale-up of both needle and syringe programmes and opioid substitution treatment to stop transmission. Examples and best practise are provided in this risk assessment.

Given the current epidemic situation and the potential for further spread, access to HIV testing must be increased. This will involve ensuring that HIV testing is provided free of charge in all testing facilities, based on the public health principles of informed consent and medical confidentiality.

Due to the increased number of HIV positive people who inject drugs, HIV treatment services have reached a ceiling with respect to resources. In addition, infectious disease clinics in Athens are confronted with new challenges in caring for HIV positive drug users with specific issues like co-morbidity and drug dependency. Integrating health services for HIV positive people who inject drugs, i.e. scaling-up HIV treatment services and providing more comprehensive care tailored to the specific needs of the drug users, in a 'one stop shop' model is suggested.

The ongoing HIV outbreak is occurring at a time when Greece is experiencing a severe financial crisis. Although the extent to which the financial crisis has contributed to the outbreak is unclear, it is evident that the crisis has a significant social and health impact on the population of Greece. In addition, the response to the HIV outbreak by public authorities and NGOs is being managed in the context of social uncertainty, with exceedingly scarce financial resources. However, by directing HIV prevention and care resources to those populations where most HIV infections are occurring, people who inject drugs and men who have sex with men, available resources will be maximised.

Finally, the current economic turmoil will continue to have adverse effects on HIV prevention not only in Greece, but also in other parts of Europe. A failure to break the chain of HIV transmission will inevitably lead to high long-term HIV prevalence. At the same time, evidence shows that early and decisive concerted action can be effective and reduce future health burden. There is a continuous need to keep public health and preventative services on the agenda even in challenging economic times so that long-term, high-cost burden to the health system can be averted.

Introduction

Background

In common with most countries of the European Union, Greece has had a low-level HIV epidemic concentrated in key populations, particularly in men who have sex with men (MSM). However, during the spring of 2011 a significant rise in the number of new HIV cases among people who inject drugs (PWID) in Athens was noticed, rising to 70 cases reported by May 2011 as compared to 10–15 cases annually in the years 2001 to 2010. The Greek government informed both the European Centre for Disease Prevention and control (ECDC) and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) of this outbreak, and a report of this was published in September 2011 [1].

In November 2011, a meeting was hosted by the Hellenic Centre for Disease Control and Prevention (KEELPNO) and the Organisation against Drugs (OKANA) in Athens to discuss the outbreak and response, in which ECDC, the EMCDDA, and several international experts participated. In November 2011, the European Commission requested that ECDC and the EMCDDA carry out a rapid risk assessment on the situation of HIV among people who inject drugs in the European Union/European Economic Area (EU/EEA) [2]. This risk assessment confirmed the significant increase in HIV case reports among PWID in Greece, and identified a close association with long-term low levels of opioid substitution treatment (OST) and needle and syringe programme (NSP) coverage. A follow up meeting was organised by ECDC and the EMCDDA in Tallinn in March 2012 with countries identified as at-risk for or experiencing HIV outbreaks among PWID. Again, it was confirmed that HIV had continued to increase among PWID in Greece during early 2012, and that a majority of the infections were likely to have occurred during the five months prior to testing, indicating recent infection and providing further evidence of an ongoing outbreak [3].

On 20 April 2012, the European Commission requested that ECDC perform a risk assessment on the HIV situation in Greece. According to the request, the assessment should 'focus on all priority groups affected by HIV/AIDS and draw a complete picture and trends of the HIV epidemics in Greece'.

Methods

To provide input into this risk assessment, two country visits were performed, a literature review was conducted, and an analysis of HIV surveillance data, Dublin response data, and published population, social and economic data was carried out.

The first country visit was carried out on 28–29 May 2012. This mission was performed jointly with the EMCDDA, the WHO Regional Office for Europe, and included experts from the ECDC Advisory Forum and the EU Civil Society Forum [4]. The European Fundamental Rights Agency participated in the mission as an observer. A second visit to Athens was carried out by ECDC on 10–12 September 2012. Both country visits included a series of meetings with participants from government agencies, academia, and non-governmental organisations (NGOs), and were facilitated by KEELPNO and OKANA, who provided open access to data and programmes.

Over the course of the two country missions, approximately twenty presentations were given by Greek counterparts and plenary discussion of the data presented was held with the participation of more than fifty individuals from infectious disease, public health and drugs services, including those from government and civil society organisations. During both missions, a series of field visits were carried out to a range of health services, HIV prevention and drug treatment organisations (see Annex 1 for list of field visits conducted).

A wide range of documents and data were provided to ECDC, including Greek HIV surveillance data from KEELPNO, data from OKANA on OST availability, data from the REITOX[1] Focal Point of the EMCDDA on sentinel surveillance among those entering drug treatment, data on the Greek response to the European MSM Internet Survey (EMIS), information on mobile health units and descriptions of HIV prevention activities being carried out by OKANA, KEELPNO and civil society organisations. Additionally, a large amount of data was presented during the country missions and these presentations were all made available to ECDC. Furthermore, the Greek response to the Dublin Declaration for 2012 was reviewed and analysed.

Finally, grey literature was collected on the internet, particularly reports of ongoing or recently completed Executive Agency for Health and Consumers (EAHC) projects such as TAMPEP[2], SIALON[3] and SUNFLOWER[4]. A review of published scientific literature was also conducted to ensure that we had captured all available data on the situation of HIV in Greece, as well as on proximal factors that might affect HIV risk and response, including the economic crisis currently being experienced in Greece.

[1] http://www.emcdda.europa.eu/about/partners/reitox-network
[2] http://tampep.eu/
[3] http://www.sialon.eu
[4] http://ec.europa.eu/eahc/projects/database.html?prjno=2007305

Epidemiology of HIV in Greece

Surveillance of HIV and AIDS

KEELPNO was founded in 1992 and its main activities include surveillance of communicable disease as well as prevention and response for HIV/AIDS in Greece. KEELPNO is the competent body for ECDC and reports surveillance and response data on behalf of Greece.

Biological surveillance

AIDS case reporting was implemented in Greece in 1984, and HIV case reporting in 1998. Case definitions for HIV and AIDS follow European case definitions[5]. The first two characters of the first name and the surname as well as the patient's date of birth are used as personal identifiers to achieve possible elimination of duplicate reports. AIDS deaths cases are monitored and reported into the national HIV/AIDS surveillance system [5].

Data are reported from all infectious diseases units, reference centres and hospitals to the office of HIV infection and sexually transmitted diseases of KEELPNO. A pre-specified standard form is used for all reports in order to achieve homogeneity of reported data. To determine route of transmission, the most likely risk factor is selected based on a presumed hierarchical order of probability according to the information given by the reporting physician. Reporting is available in real time, though the data are presented annually [5]. Starting in 2012, KEELPNO began reporting (retrospectively) CD4 cell count at time of diagnosis for approximately 3 500 cases. Tests of recent infection (RITA or avidity testing) are not performed routinely among new HIV infections.

Behavioural surveillance

Comprehensive behavioural surveillance is not well-established in Greece. In the ECDC behavioural surveillance report (2009), Greece reported behavioural surveillance among the general population, youth and PWID [6]. The last behavioural surveillance survey among the general population and among youth took place in 2009. Behavioural surveillance among PWID is carried out routinely among those entering drug treatment services and reported to the REITOX Focal Point for the EMCDDA. This includes information on ever-sharing syringes and condom use with last (casual/steady) sexual partner.

Cross-sectional studies have been carried out among other key populations, but these have not been repeated. In 2010, 2 944 Greek men responded to the online European MSM Internet Survey (EMIS), which included behavioural indicators. The TAMPEP mapping report (2010) includes some behavioural information on sex workers, including condom use and safe sex practices, although the sample size and representativeness of the surveyed population are not well-described [7]. There is no record of behavioural surveillance among migrants or prisoners.

Overview of HIV epidemic

The Greek HIV epidemic has been characterised by a pattern of a low-level, concentrated epidemic. Since HIV was first reported in Greece in the 1980s, the number of HIV infections has increased up to 2011 when an increase from 609 to 963 (57% increase) was noted (Annex 2). The number of HIV cases per 100 000 population has increased from 5.4 in 2010 to 7.3 in 2011 (Figure 1) [5].

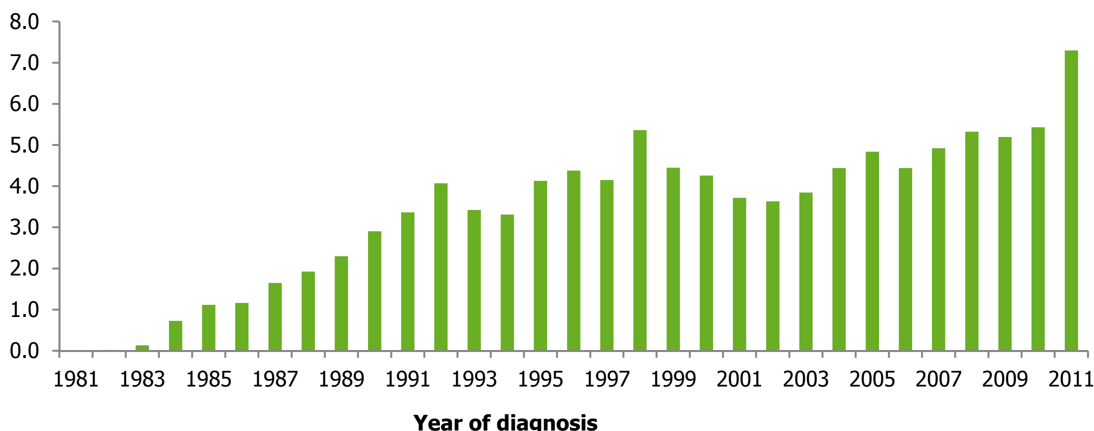
Table 1. Proportion of HIV infections by route of transmission, Greece and EU, 2010–2012

Route of transmission	Greece 2010 % of total HIV cases	Greece 2011 % of total HIV cases	Greece 2012 % of total HIV cases	EU overall* % of total HIV cases
MSM	58	38	27	38
PWID	3	27	41	4
Undetermined	21	19	21	18
Heterosexual**	14	12	9	24
Heterosexual from sub-Sahara Africa	6	4	3	14
Mother to child transmission	<1	<1	0	1
Blood transfusion	0	<1	0	<1

**[9] 2010 data; Greek data provided by KEELPNO August 2012*
***Excludes persons originating from sub-Sahara Africa*

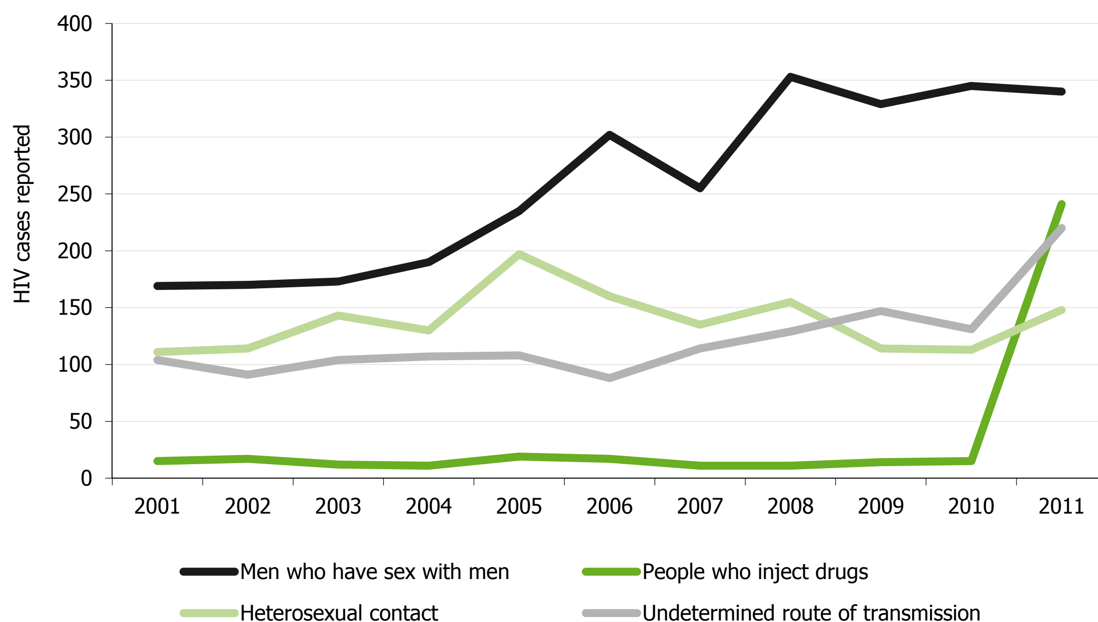
[5] Commission Decision 2002/253/EC (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002D0253:EN:NOT)

Figure 1. **Number of HIV infections per 100 000 population by year of diagnosis, Greece, 1981–2011**



Source: KEELPNO 2011 (5)

Figure 2. **Number of HIV infections by route of transmission and year of report, Greece, 2001–2011**



Source: KEELPNO 2011 [5]

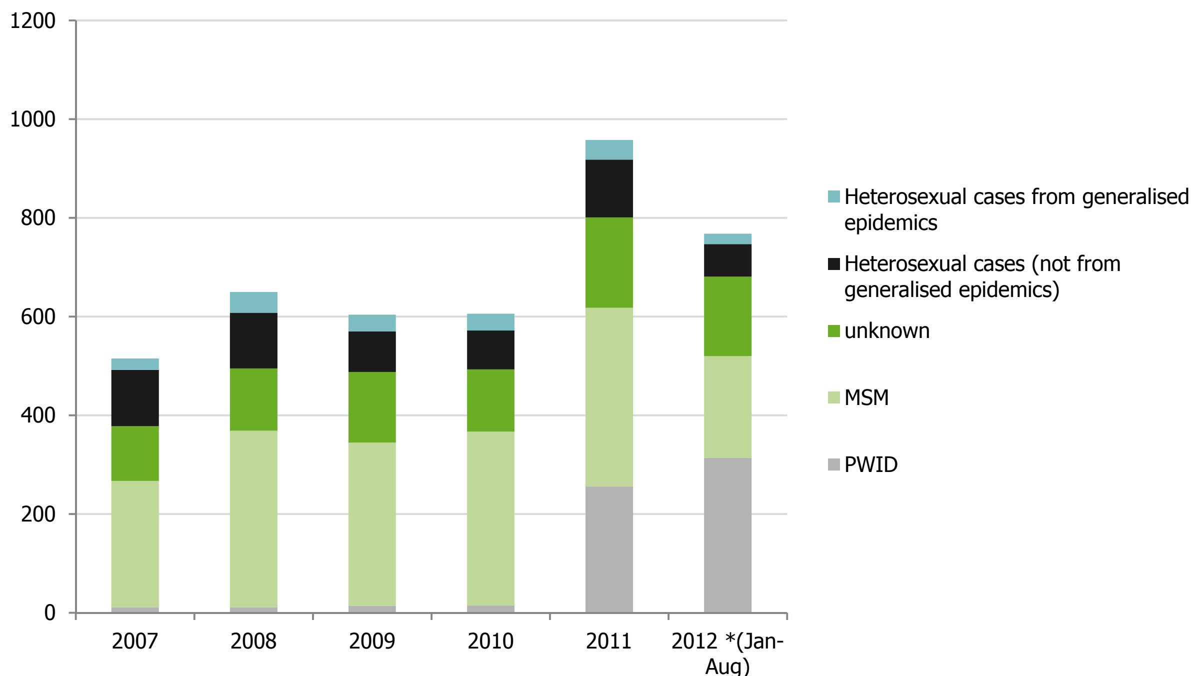
In 2011, a total of 963 cases of HIV were reported in Greece. Of these, MSM was the most affected group with 362 (38%) cases, followed by PWID with 256 cases (27%), undetermined route of transmission (183 cases; 19%) and heterosexual transmission excluding persons from sub-Sahara Africa (117 cases; 12%) (Table 1; Figure 2; Annex 2).

By August 2012, 768 cases of HIV have been reported in Greece; this represents a 21% increase from the 634 cases reported during January–August 2011 (Figure 3) [8]. In 2012, there were more cases reported among PWID (314 cases, 95% increase), and among undetermined/unknown route of transmission (161 cases, 27% increase) as compared to 2011. There were fewer cases reported during 2012 among MSM compared with the same period in 2011 (206 cases, 15% decrease), among heterosexuals from countries with generalised HIV epidemics (21 cases, 30% decrease) and among other heterosexual cases (66 cases, 15% decrease).

Most of the 2012 cases reported are residents of Athens and are among Greek nationals. Non-Greek nationals comprise 22% of cases in 2012, the proportion of cases among non-Greek nationals has ranged from 18 to 22% between 2007–12 [5, 8].

Overall, men comprise 83% of the cases of HIV reported in 2012. This has remained stable over time and is higher than the EU average which is 74% [9]. In 2012, 10% of all cases were reported among young people (<25 years; remained fairly stable since 2007); 44% of cases were among 25–34 year olds (slight increase since 2007) and 45% of cases were older than 35 years of age [8].

Figure 3. Number of HIV infections by route of transmission, Greece, 2007–2012



People who inject drugs

The REITOX Focal Point of the EMCDDA-Greece estimates that in 2011 there were about 20 500 problem drug users[6] in Greece, of which about 8 000 reported Athens as place of residence. Of all problem drug users, there were an estimated 7 800 people who inject drugs in Greece, 2 800 in Athens [10]. About half (52%) of PWID are between 25 and 34 years of age, and 29% are 35 or older [10]. Opioids are the most common drug of abuse, with 76% of those entering treatment and 90% of those out of treatment. Abuse of cocaine/crack appears to have increased during the last few years [11].

Among PWID out of treatment, 90% report opioids (i.e. heroin) as the primary substance of abuse. Although small, the proportion of PWID in Athens who report a stimulant as a drug of abuse has increased recently, as have reports of the use of a methamphetamine found in crystal form called 'SISA' which is mainly smoked, but which is also associated with risk injecting practices (personal communication; Fotiou October 2012). About 75% of drug users nationally report poly-drug use. Sniffing (42%) and injection (35%) are the main routes of drug administration reported by users nationally. There are reports of more adulterated heroin on the market in 2011, possibly indicative of a heroin shortage and also possibly leading to more injection as a route of administration over sniffing or smoking [11].

Between 10 and 15 cases of HIV with injecting drug use as the probable route of infection were reported annually in Greece from 2007–2010 and these represented 2–3 % of the total HIV cases reported. During 2011, HIV cases with injecting drug use as the probable route of transmission increased to 256 and represented 27% of total cases. Between January–August 2012, an additional 314 cases were reported with injecting drug use as probable route of transmission [5, 8]. Almost three quarters of HIV cases reported with injecting drug use as probable route of transmission in 2012 were among males (74%), 25–34 years of age (55%). Persons under 25 years comprise 8% of cases and persons 35 and older comprise 36% of cases [5, 8].

A preliminary analysis of the outbreak suggested a potential role of migrant populations [1]. In 2011, the majority of cases among PWID (76%) had Greek nationality and the proportion among non-Greek nationals decreased. This remained the same in the cases detected during 2012 (67/314, 21% non-Greek nationals) [5, 8].

While tests to determine recent infection are not routinely carried out in Greece, 62 avidity tests were performed on a subsample of the PWID cases detected in 2011 by KEELNPO. Of these, 57% were determined to have been infected with HIV during the five months prior to testing [3].

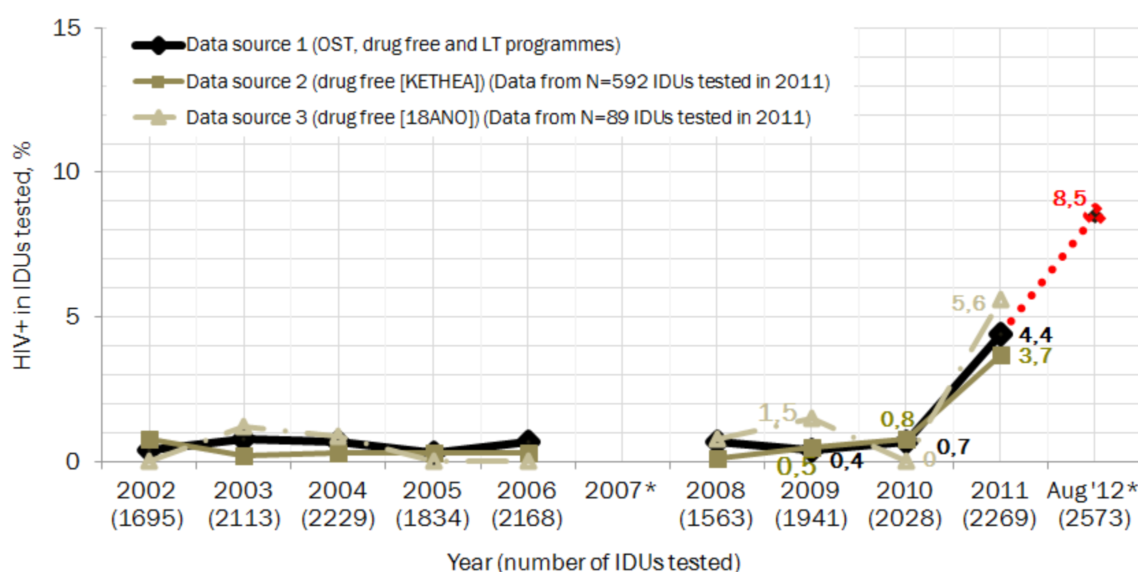
An ongoing project carried out by Athens University Medical School uses molecular epidemiology to perform phylodynamic analysis. This provides information about the time of infection, phylogeographic analysis and case

[6] The EMCDDA defines problem drug use as injecting drug use or long duration/regular use of opiates, cocaine, and/or amphetamines.

linking. Specimens from a sub-sample of HIV cases were analysed alongside sequences from the Hellenic HIV-1 Sequence Database of the National Retrovirus Reference Centre. Using these methods, a new HIV sequence was detected, which linked several cases in mid-2010 while the case notifications alerted an increase in March 2011. Analysis of additional cases indicated that 95% of the HIV sequences among PWID cases in 2011-2012 belong to four clusters, suggesting an ongoing outbreak in drug using networks. Only 5% of HIV cases reported among PWID between 1998 and 2009 was found to be clustered and 50% in 2010. Based on these findings, it was suggested that PWID cases reported prior to 2010 were often infected through sexual transmission, whereas the current outbreak is due to parenteral or injection transmission [3, 12]. The investigators pointed out that five of the eight PWID transmission networks or clusters founded during 1985–2012 were expanded during 2008–2012, including 97% of clustered cases [12].

Prevalence data on HIV, hepatitis B and C infection among PWID are being collected from three separate sentinel surveillance systems in drug treatment facilities screening clients upon entry. For the last decade, HIV prevalence in the sentinel surveillance system for PWID entering treatment has remained below 2%, a low level compared to other Western European Member States. However, in 2011, all data sources detected a steep increase, reaching 3–5% (Figure 4). Data from one low-threshold site in Athens suggests sustained HIV prevalence of 5% or more during the first eight months of 2012 [10].

Figure 4. Prevalence of HIV among PWID (in percentage tested positive) entering drug treatment, by sentinel surveillance system, Greece, 2002–2012



** 2007 data not available; 2012 data as of 31 August, only reports from MAVY-OKANA.*

Source: Focal Point of the EMCDDA-Greece [11]

Data on hepatitis C virus (HCV) transmission can be used as a proxy for injecting risk behaviour (i.e. injection equipment sharing), particularly among new injectors, as HCV is more easily transmitted than HIV and transmission among PWID often indicates needle and syringe sharing. Among persons entering drug treatment in Greece, HCV rates have been high and increasing, particularly among PWID in Athens (34–66% in 2002 and 67–76% in 2011) [11]. In Athens, HCV antibody prevalence increased significantly in new injectors (persons with an injecting history of less than two years) going from 34% in 2008 to 77% in 2011 (although the sample size is small). There also seems to be increasing HCV prevalence from 2010 to 2011 among persons who report injecting stimulants [11].

Data on risk behaviour among PWID are collected among those persons entering drug treatment. Reported risk behaviour appears to be stable overall between 2008 and 2011 with 57% of injectors reporting that they have 'ever' shared needles or syringes and nearly more than half of these (25%) having done so during the last 30 days. There has been an increase in reported sharing of syringes among new and young injectors in 2011.

About 22% of PWID in Athens report always using condoms with a steady partner, while 75% report always using condoms with casual partners [11].

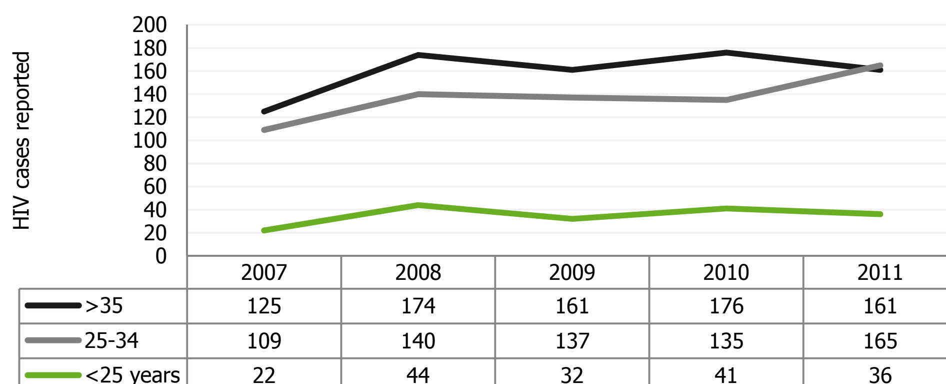
The majority of PWID in Greece (72%) are unemployed, with very high rates of unemployment in Athens. Similar to employment trends in Greece as a whole, the proportion of PWID that report being unemployed has increased significantly during the last four years [10].

The ARISTOTLE study, financed by European Cohesion Policy Funds, began in August 2012 as a respondent driven sampling recruitment method carried out in Athens by the University of Athens, OKANA and KEELPNO. As of October 2012, 1 000 PWID have been tested and 225 (22.5%) were found positive for HIV. As the study recruitment and analysis is still ongoing, it is unclear how many of these were newly detected HIV cases, but among the first 108 PWID to be tested, 60% were identified as new cases. Molecular phylogenetic analysis, behavioural surveillance and linkage to/retention in HIV care data will become available from this study [12].

Men who have sex with men

Since the beginning of HIV case reporting, more than 5 700 HIV cases among MSM have been reported. Surveillance data show a steady increase in HIV cases reported among MSM in Greece from 256 in 2007 to 362 in 2011. In 2011, 45% of cases reported were among men 25–34 years, 44% among men over 35 years and 10% among men less than 25 years. The proportion of MSM cases reported among non-Greek MSM ranged between 7-10% during the last five years.

Figure 5. Number of HIV infections reported among MSM by age group, Greece, 2007–2011



	2007	2008	2009	2010	2011
>35	125	174	161	176	161
25-34	109	140	137	135	165
<25 years	22	44	32	41	36

Data source: KEELPNO 2011 [5]

It is of note that of all HIV cases reported with an unknown or undetermined route of transmission, 75–85% are among men. It is likely that a proportion of these cases are MSM that did not disclose their sexual orientation. Modelling done by KEELPNO in 2009 estimated HIV prevalence to be 6.5% among MSM in Greece [13]. No more recent estimates have been calculated.

The 2010 European MSM Internet Survey (EMIS) provides some behavioural data on MSM in Greece. EMIS was an EAHC-funded survey among MSM across Europe which in Greece was carried out by the NGO Positive Voice, with support from KEELPNO. The sample consists of 2 944 valid responses from Greek MSM between June and August 2010[7]. Half of respondents were from Athens, similar to the distribution of the Greek population. About one-third (34%) of respondents reported that most people in contact with them know that they are attracted to men. This is less than the country median reported in EMIS, which is 39% and far lower than countries such as Spain, Norway, the Netherlands, Germany and the United Kingdom, where more than 65% of men report 'being out.' [14].

Additional data from the Greek EMIS responses indicates that:

- One-third of respondents report never having tested for HIV
- Ten percent reported that they personally could not get an HIV test for free in Greece; more than one third (37%) reported that they did not know if they could get an HIV test for free in Greece
- Of those tested for HIV, 12.8% reported being positive
- Of those reporting that they were HIV positive
  - around one in six reported presenting late (CD4 count <350 cells/µl)
  - more than two-thirds were tested in a healthcare setting
  - more than half were satisfied or very satisfied with the counselling they received

[7] EMIS was a convenience sample and may not be nationally representative. For example, HIV-positive men may be over-represented within the sample.

- Regarding safer sex
  - more than two-thirds (69%) reported using a condom during last anal sex
  - a quarter (25%) reported having had unprotected anal intercourse because they did not have a condom available
- About 53% of men under 25 reported having been reached by one or more HIV prevention programmes, while 63% of men over 25 reported having been reached
- More than three quarters (77%) had never visited a gay community centre, organisation or social group;
- Most men (90%) claimed never to have heard about the AIDS hotline
- Around 8% reported they had never heard anything about HIV.

Surveillance data on other sexually transmitted infections (STI) indicated that of the total of 241 cases of early syphilis reported in 2010, 87% were among men. In male cases where transmission category is known, 59% were MSM. Due to changes in the surveillance system, no time trends can be calculated for STI in Greece, however, reports of STI among men, and specifically among MSM, are indicative of ongoing sexual risk behaviour in this population [15].

Finally, evidence from qualitative interviews with twenty Greek MSM carried out within the SIALON project highlighted issues regarding the subjective nature of how many MSM defined 'safe' and 'risky' sex, with oral sex and sex with a steady partner defined as safe. Alcohol and drug use were highlighted as playing an important role in socialising, often leading to unprotected sex. Many MSM, particularly those who were HIV-positive, described heavy fear of stigma in relation to disclosure of their MSM or HIV-status [16].

Migrant populations

Official estimates from KEELPNO in co-operation with the Ministry of Interior and the Ministry of Citizen Protection and the Immigration Directorate indicate that nearly 1.5 million migrants (documented and undocumented) lived in Greece as of October 2011. Historically, migrants have mainly come from neighbouring Balkan countries and the former Soviet Union. Arrivals from Asia and Africa, including countries like Afghanistan, Iraq, Eritrea, Somalia, Pakistan and Bangladesh have gradually increased since the early 2000s. In 2010, arrivals into Greece accounted for 90% of total irregular border crossings into the European Union [17]. Data from the Greek authorities indicate that the largest groups of irregular migrants in 2011 were from Afghanistan, followed by Pakistan [18]. The vast majority of (documented and undocumented) migrants to Greece are from countries with low-level or concentrated HIV epidemics [19].

Migrant populations have been implicated in relation to HIV transmission in Athens [1, 20, 21]. A review of epidemiological data shows that:

- most of those reported to be HIV infected between 2006 and 2010 were Greek nationals. Of 2 848 people for whom nationality was known, 78% (2 226) were Greek nationals
- the proportion of foreign nationals among newly reported HIV cases has remained stable at 18–22% between 2006 and 2012, i.e. it did not change during the outbreak
- in 2012, non-Greek nationals comprise:
  - 21% of PWID cases reported (an increase from 16% in 2011),
  - 7% of MSM cases
  - 24% of cases with unknown route of transmission (increase from 15% in 2011)
  - 50% of cases classified as heterosexual transmission. Of the heterosexual cases, 24% are from countries with a generalised HIV epidemic in 2012 (an increase from 17% in 2007).
- Of 1 271 HIV tests in non-Greek nationals in the centre of Athens, conducted in mobile units, during 2011 and 2012, 30 individuals (2.4%) were found positive as compared to 83/1 041 (8%) of Greek nationals tested. The majority of individuals tested for HIV were from Afghanistan, Pakistan, Egypt, Morocco and other African countries (mostly from Nigeria, Somalia, Mali and Ivory Coast).

Sex workers

According to a report of the TAMPEP project, an EAHC-funded project in 27 countries run by the NGO ACT-UP Hellas in Greece, in 2008 there were an estimated 10 000 sex workers in Greece (70% female, 10% male, 20% transgender). An estimated 60% of them were based in outdoor settings (street-based) while the remainder worked in settings like brothels (25%) and escort services (10%). Migrant sex workers are thought to comprise almost 75% of the overall sex worker population in Greece, with the majority coming from Eastern Europe (non-EU-48%), Central Europe (EU-22%), Africa (15%) and Balkan countries (11%). More than 90% of migrant sex workers worked in another country before Greece (Germany, Italy, Ukraine, Russia, Bulgaria, Romania, Albania and Nigeria). Of the migrant sex workers, 65% worked in another city in Greece previously, compared to 35% among Greek sex workers, indicating a high mobility [7, 22]

In Greece, sex work is not considered a profession but it is a legal 'activity'. Health screenings each 15 days for HIV and other STI's are mandatory in order to obtain a license to work as a sex worker. Greece is one of four EU countries which legally mandate health check-ups for sex workers. In Greece, sex work is only legal in brothels, although street-based sex work is very common. Those without legal status in Greece are not permitted to work as a sex worker [22].

Sex workers with legal permits are described as having relatively good control of their working conditions and safe sex practices. Those who are working outside of the licensing system are operating illegally and are more vulnerable to exploitation and have a harder time accessing services. This is especially the case for migrant sex workers operating illegally, and these are normally controlled by third parties (or 'pimps') and have difficulty negotiating safe sex with clients (66% of migrant sex workers are estimated to share their income with a third party, 34% of Greek sex workers). A high number of those Greek sex workers operating illegally are documented by TAMPEP to have drug dependency issues and this may also be a growing factor among migrant sex workers. Drug dependency is increasing and some persons turn to (mostly illegal) sex work to support the dependency [7].

Due to heightened focus on migrants in Greece, sex workers are affected by police raids and this has resulted in increased mobility and more vulnerability generally in working conditions. TAMPEP has documented instances of violent policing of migrant sex workers and has linked this to frequent migration of migrant sex workers (who shift location every two or three weeks to avoid police detection) [7].

There are no official HIV or STI prevalence estimates among sex workers. Reports of sex workers tested positive for HIV in 2012 indicate that nearly all of them were concurrently injecting drugs and were selling sex to support their drug dependence. One study in the scientific literature reports on HIV prevalence among sex workers in Greece (240 Greek nationals and 59 immigrants) who were applying for licences to work as legal sex workers in 2005. Of the non-Greek nationals, most were from Ukraine, Russia, Georgia, Romania, Bulgaria and Albania. Of all sex workers screened, no HIV cases were recorded. The prevalence of gonorrhoea was 6%, chlamydia 5%, syphilis 18%, HCV 2%, and HBV 1% with no difference between migrant and non-migrant sex workers [23].

There is no record of behavioural surveys among sex workers in Greece. Estimates from TAMPEP's report state that the demand for unprotected sex is on the rise. This is also the case for male sex workers in Greece, where there is an increased demand for sexual services with growing numbers of male migrants participating in the sex selling industry [7]. KEELPNO's outreach staff indicate that the majority of street-based male sex workers are: under 18 years of age, migrants, and are selling sex for three to five Euros to a mostly Greek clientele [24].

Prisoners

In Greece there are 32 prisons with an estimated 11 550 prisoners in custody, of which 39% are imprisoned on drug-related charges [25]. A survey conducted in two Greek prisons in 2011 by OKANA found that 27% of those imprisoned on drug-related charges were Greek nationals [26].

HIV testing is only performed at the detainee's request, if the person belongs to a high risk group or in the presence of symptoms, and no information on HIV case reports among those tested in prison is available. Studies from before 2000 document high levels of heroin use and drug injecting inside prisons [27]. In 1998 and 2000, 34% and 69% prevalence of injecting drug use was reported among prisoners surveyed; of these, 35–60% had injected while in prison. In the 1998 study, serology showed that only one respondent was HIV-positive, while nearly 60% of drug users in prison tested positive for anti-HCV. Upwards of 80 percent of the drug users injecting in prison shared needles, indicating that they inject less but share more during incarceration [28, 29]. In a small sample (n=70) of injecting drug users surveyed in a prison in Greece, very few report using new syringes (10%) or avoiding sharing syringes (20%) to reduce infection risk after imprisonment [30].

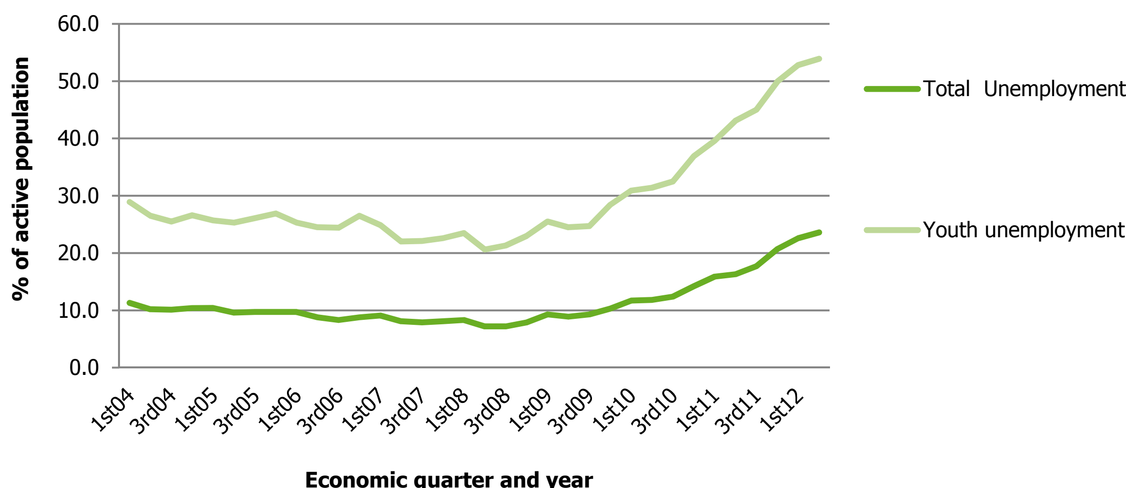
General population and pregnant women

There is no evidence of HIV transmission or HIV case reports among the general population. One recent seroprevalence survey of 1 694 orthopaedic patients in a tertiary hospital in Athens found only two (0.01%) positive for HIV [31]. There are reports of four or fewer cases of mother to child transmission annually since 2007. There have been no cases reported so far in 2012.

Health care system and economy

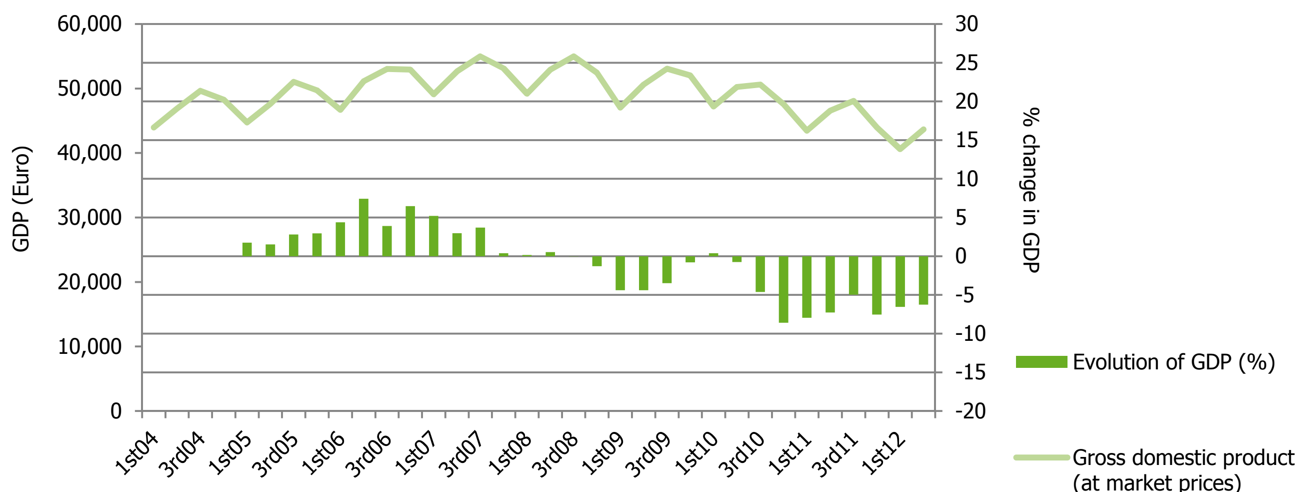
In May 2010, a three-year agreement was reached between Greece, the International Monetary Fund, the European Commission and the European Central Bank to restore market confidence, to become more competitive and to safeguard financial stability. This agreement is referred to as the 'memorandum' [32]. The austerity policies adopted in Greece following the memorandum have brought drastic changes to the Greek economy. For instance, based on the financial data for state-owned enterprises, in January 2011 compared with January 2010, payroll costs have decreased by 31% and the number of employees has decreased by 14% in the same period. At a more macroeconomic level, the impacts of the economic crisis are very strong. Youth unemployment has more than doubled between 2008 and the first quarter of 2012, and the economy is in recession (Figures 6 and 7).

Figure 6. Quarterly unemployment, 2004–2012, Greece



Source: International Labour Organisation and Hellenic Statistical Authority (EL.STAT) 2012

Figure 7. Changes in gross domestic product, Greece, 2004–2012



Source: Hellenic Statistical Authority (EL.STAT) 2012

As a major part of public sector expenditure, the memorandum has major implications for the health sector in Greece. It specifies that public health expenditure should not exceed 6% of the gross domestic product (GDP). Actions taken so far include:

- cost containment measures in the pharmaceutical and hospital sectors[8]
- restructuring and reduction of human, technological and financial resources
- merging the four largest health insurance schemes

Prior to the memorandum, overall spending on health accounted for 9.7% of GDP, which was above the average of 9.0% for countries of the Organisation for Economic Cooperation and Development (OECD). However, 40% of this came from private sources as compared to an average of 28% for all OECD countries. In 2007, pharmaceutical expenditure accounted for 2.4% of GDP, which was very high compared to other countries. Many post-memorandum efforts have been focused on reducing and rationalising pharmaceutical expenditure. It is expected that Greece should save EUR 2 billion on pharmaceuticals, EUR 1.5 billion through procurement controls, and EUR 1 billion through reduced insurance expenditure.

Changes in the health system since the adoption of the memorandum have been reported to have resulted in:

- increase in public hospital utilisation (24%) and a reduction in private hospital utilisation (30%)
- reduction in private practice consultations (35%)
- increased prevalence of mental health disorders

It is expected that public hospitals and social insurance funds will face rising deficits. The private sector is expected to face similar problems. There is likely to be a growing demand for health services and rising socio-economic inequalities in terms of access to health care.

The National Organisation for the Provision of Healthcare (EOPYY) is a new national health insurance fund in Greece. It was launched in September 2011 and formed from the merger of four funds. Its main function is as a purchaser of health services although it also has a small provider function. Its funds come from insurance payments by/for employed people, the state budget, rebates from pharmaceutical companies and other sources. EOPYY is now facing a major funding challenge. Reasons include declining contributions from insurance as a result of rising unemployment and ongoing administrative restructuring processes. Other relevant changes include:

- merging of 132 public hospitals into 82 integrated public hospitals
- salary reductions in the health sector
- reform of administration and financial management including hospital budgets, double entry accounting, publication of balance sheets
- increasing use of generic medicines
- introduction of patient fees for outpatient visits. This is applied by some, but not all, hospitals

Compared to other OECD countries, Greece has the second highest co-payment for health, 38.4% in 2010, compared to the OECD average of 20.5%. A bill adopted in 2010 has increased the admission fee paid by regular outpatients to public hospitals to five Euros (instead of three Euros). Between 2007 and 2009 and based on governmental estimates, unpaid bills to suppliers of hospitals amount to 5.4 billion Euros; this has, in some cases, hindered the supply of additional drugs to hospitals. At the same time, as fewer persons are insured under employment-based insurance schemes as they become unemployed, their healthcare costs increase.

[8] Including for example the adoption of e-prescribing; negative and positive lists of drugs; a reference price system; enhanced purchasing and procurement mechanisms; and centralised purchasing.

HIV testing, treatment and care

HIV testing

In the area of HIV testing and therapeutics, KEELPNO supports the national HIV laboratory reference centres, as well as the infectious disease units across major tertiary care centres all over the country with funding and staff. These units provide antiretroviral treatment to HIV and AIDS patients as well as specialised infectious disease care.

According to Greek legislation, adopted in 1990, HIV testing should:

- be voluntary, confidential and anonymous
- be free of charge in every public hospital and AIDS reference centre
- be accompanied by written informed consent
- be accompanied by pre-and post-test counselling

In some cases, e.g. in unconscious persons or where the diagnosis is deemed of critical importance to save the patient's life, HIV testing can be initiated by a healthcare provider without the person's informed consent. Also, in some cases, HIV testing is required, e.g. for health screening of licensed sex workers and for those entering drug treatment. HIV testing in prisons and places of detention is reported to be voluntary and not mandatory.

Guidelines in Greece recommend targeted HIV testing to a wide range of people including: MSM, PWID, sex workers (every 15 days compulsory by law), all sexual partners of men and women known to be HIV positive, men and women who report sexual contacts with individuals from countries of high HIV prevalence, blood donors, sperm, organs (by law), blood-transfused patients (by law), individuals who report exposure to blood or other infectious biological specimens, pregnant women who are known to be injecting drug users, sex workers and victims of sexual assault, and persons diagnosed with another STI.

Health facilities providing HIV testing include eight AIDS reference centres (four in Athens; one each in Thessaloniki, Patra, Crete and Alexandroupolis); public hospitals and private sector medical facilities. Community-based testing is available from some NGOs and, from November 2010, through KEELPNO mobile medical units. In addition, HIV testing is available in a range of different settings in Greece, including:

- STI clinics
- harm reduction services (for intake screening)
- antenatal clinics (opt-in)
- correctional facilities (upon request)
- primary health care facilities
- specialised clinics, such as tuberculosis clinics

Testing is conducted using enzyme linked immunosorbent assay (ELISA) tests with confirmatory tests being conducted in AIDS reference centres. Rapid testing kits are reported to be used in pregnancy, in emergency settings and after occupational exposure. Tests using capillary blood or oral mucosal transudate are not widely available. For example, they are not available in KEELPNO mobile units or for use in outreach work among male sex workers. However, they are used in some outreach work performed by NGOs, e.g. by PRAKSIS. HIV home sampling or testing kits are not publicly available and HIV home testing is illegal in Greece. In 1994, guidelines were developed for the laboratory diagnosis of HIV infection. These guidelines are currently being revised.

Despite the national policy on HIV testing and recommendations for annual testing for some key populations, a national overview of the number of HIV tests performed is not available overall or by key population.

Recent changes in HIV testing policy and practice include:

- strategies to increase HIV testing, including leaflet distribution and media campaigns
- utilisation of new HIV testing technologies
- development and publication of guidelines for the management of occupational and non-occupational exposure
- guidelines for the diagnosis of HIV infection
- efforts to remove legal and financial obstacles for undocumented migrants and people who inject drugs by using mobile units
- the introduction of HIV testing fees in some public hospitals follow recent legislation which introduces fees of two Euro HIV testing for persons with insurance and nine Euro for persons who are uninsured.

KEELPNO surveyed public hospitals in mid 2012 following the introduction of HIV testing fees and found that 35% of hospitals still provide HIV testing free of charge while 34% have applied the legislation and are charging fees. The remaining hospitals do not perform HIV testing (due to small size and/or inappropriate laboratory equipment). The introduction of HIV testing fees is of concern because key sub-populations that most need HIV testing, such as people who inject drugs, are also more likely to lack insurance and to be unable to pay the higher fee. HIV testing continues to be available free of charge in AIDS reference centres, KEELPNO mobile medical units, and NGO polyclinics [33].

CD4 count at diagnosis is available for a portion of those tested positive for HIV and, for those cases tested in 2012, more than half tested for HIV are classified as late presenter and already in need of antiretroviral treatment. Median CD4 was lowest among cases classified as drug-injecting transmission as well as heterosexual and undetermined transmission (Table 2).

Table 2. Median CD4 count when tested positive for HIV by transmission group and year, Greece (2009–2012)*

Transmission group	2009	2010	2011	2012 (Jan–Aug)
PWID	93 (22-472) (n=3)	573 (449-658) (n=6)	351 (185-633) (n=163)	215 (98-427) (n=112)
MSM	374 (252-554) (n=115)	415 (224-586) (n=121)	364 (190-563) (n=221)	386 (184-580) (n=147)
Heterosexual	199 (59-402) (n=34)	272 (54-417) (n=43)	211 (77-351) (n=102)	185 (45-301) (n=65)
Undetermined	502 (293-653) (n=12)	565 (436-759) (n=16)	402 (209-661) (n=30)	80 (19-291) (n=20)
All	361 (141-541) (n=165)	398 (196-583) (n=186)	323 (165-561) (n=517)	265 (101-471) (n=344)

**CD4 count is not available for all HIV cases reported*

Source: KEELPNO 2012

Antiretroviral treatment

Initial assessment of a person with HIV includes medical history, examination, and laboratory and immunologic testing, including viral load. Guidelines for antiretroviral therapy (ART) were revised in 2012. Currently, treatment is recommended for those with a CD4 count <350 cells/μl. It is also recommended that treatment be considered for those with a CD4 count between 350 and 500 cells/μl. Treatment is strongly recommended regardless of CD4 count for pregnant women, those with an AIDS-defining illness, those with HIV-associated nephropathy, and those with co-infection with hepatitis B or C.

Antiretroviral treatment in Greece is administered by 17 infectious disease clinics and nine outpatient clinics spread throughout Greece (12 and seven, respectively in the Athens area). Twenty seven different antiretroviral drugs are used falling within six classes. The drug supply is provided through the Institute of Pharmaceutical Research and Technology. The procedure of recording and monitoring ART administration is performed by KEELPNO through the national HIV/AIDS registry which records CD4, viral load, genotype resistance, and clinical stage at ART initiation, ART regimen, and subsequent changes to the ART regimen [34].

Greece has clear treatment protocols. In September 2012, it was reported that 6 064 patients in Greece were receiving antiretroviral treatment (15% of these were non-Greek nationals). This was an increase from the reported numbers of persons on ART in December 2010 (5 114) in 2008 (4 236). Most persons receiving ART have been men (80%), which were mostly MSM. During 2012, 440 persons initiated antiretroviral treatment; MSM (42%), PWID (29%), and heterosexuals (20%) (Table 3) [34].

Table 3. Persons initiating antiretroviral treatment by transmission group, Greece, 2008–2012

Transmission group	2008	2009	2010	2011	2012 (Jan-Aug)
PWID	8 (2%)	8 (2%)	14 (3%)	71 (11%)	128 (29%)
MSM	261 (57%)	272 (58%)	364 (68%)	360 (58%)	183 (42%)
Heterosexual	143 (31%)	118 (25%)	108 (20%)	141 (23%)	90 (20%)
Undetermined	45 (10%)	70 (15%)	50 (9%)	54 (9%)	39 (9%)
Total	457	468	536	626	440

Source: KEELPNO [34]

In the seven largest infectious disease units, the number of people on ART varies from around 400 to 1 000. Treatment costs are covered by health insurance for insured people. All drugs are provided through the system of public hospital pharmacies with central procurement and registry. For Greek citizens who are uninsured[9], the costs are reported to be covered by social welfare or hospital budgets. EU citizens and legally-resident citizens of other countries should be covered by their own insurance. If they are not insured, social welfare or hospital budgets may cover the cost of treatment. Third country nationals without legal documents are reportedly able to access emergency treatment free of charge. There are reports that hospitals may provide free-of-charge access to 'urgent' ART, paid either through social welfare or from the hospital's own budget. There are also reports that undocumented migrants may be provided with ART only when this is 'not available' in the country of origin.

While data on linkage to and retention in care following an HIV positive test is not actively monitored, KEELPNO does report that of the PWID who tested positive for HIV during 2011 and 2012, 323 (57%) have visited an infectious disease centre and 196 (35%) have started on ART [34].

In September 2012, KEELPNO and OKANA both reported recent difficulties in finding treatment slots at infectious disease clinics for newly diagnosed HIV patients in Athens and expressed concern that "treatment ceilings" were being reached and that it would become difficult to provide care and follow-up to the increasing numbers of HIV patients. Clinicians from one infectious disease clinic and KEELPNO authorities also expressed concerns that the influx of HIV positive people who inject drugs into infectious disease clinics presented new challenges for clinical care staff who were accustomed to different patient populations and who may require more training and support to care for patients with co-morbidity, drug dependency issues and increased needs for economic and psychosocial support.

[9] In 2010, more than 500,000 employees were estimated to have no medical insurance. Most uninsured employees were found in the greater Athens region.

Response to HIV

Coordination of the HIV response

National HIV and drugs strategies

In 2008, in Greece, the National Action Plan against HIV/AIDS was developed to focus on:

- up-to-date policies for combating HIV/AIDS
- prevention
- combating social stigma
- development of up-to-date educational policies, while emphasising the need for co-operation with international organisations and civil society.

The Ministry of Health and Social Solidarity is responsible for the coordination of the 'National Action Plan against HIV/AIDS'. KEELPNO is identified as having a particularly important role in the planning, implementation, and evaluation of the actions as identified in the action plan. The planned budget for the action plan was outlined in the original document (reaching over 11 million EUR for the years 2009–2012), however it was not possible to get an overview of how money was actually allocated or spent during these years. The action plan is set to expire after 2012 and KEELPNO has identified a need to renew it.

The current Greek drug policy document is the 'National Action Plan against Dependence 2011–2012'. There are two priorities in the action plan: the development of more treatment places in OST units to eliminate waiting lists; and to improve the coordination of drug policy through changes at the institution level.

At an inter-ministerial level, the coordination of Greek drug policy is carried out by the Inter-ministerial Committee on the Drugs Action Plan. Chaired by the Prime Minister, it includes the Ministers for Health and Social Solidarity, Interior, Finance, Foreign Affairs, Defence, Education, Employment and Social Solidarity, Justice, Citizen's Protection, Culture and Tourism. Directly below the inter-ministerial committee, is the national committee for the Coordination and Planning of Drugs Responses. Comprised of representatives from ten ministries the national committee is tasked with drafting the new action plan, overseeing its coordination, implementation and monitoring, as well as developing international cooperation. The work of the national committee is coordinated by OKANA.

Founded in 1993, OKANA is responsible for:

- promoting, coordinating and implementing national policy on prevention, treatment and rehabilitation
- addressing the drug problem at a national level, providing scientific information and raising public awareness
- establishing and managing prevention centres, treatment units and social and professional reintegration centres.

The President of OKANA is the National Drugs Coordinator.

Coordination and interaction between government and non-governmental organisations

Coordination of activities and planning could be improved both within KEELPNO (for example between the Department of Community Interventions and the Office of HIV and STI) as well as between KEELPNO and other actors, such as OKANA, the REITOX focal point and NGOs. There is no current mechanism for routine meetings for planning or response between all actors, even in the context of the outbreak of HIV among PWID.

KEELPNO hosts the social dialogue committee for HIV/AIDS, which consists of 11 representatives of various KEELPNO departments and 14 NGOs, some dealing with HIV/AIDS issues and/or key populations. The committee deals with medical, social, psychological as well as welfare matters related to HIV and has collaborated in the planning and implementation of campaigns targeting young people, MSM, migrants, sex workers, PWID and people with disabilities, such as making and distributing a guide for STI and HIV prevention for a popular gay festival in Mykonos with the participation of volunteer MSM from NGOs. Workshops relating to HIV issues are planned in collaboration.

Monitoring international commitments

Greece reports every two years to the Joint UN Programme on HIV/AIDS (UNAIDS) and the Dublin Declaration using indicators provided. KEELPNO is responsible for collecting the indicator data, collating information and developing the narrative report and policy instrument supplements. Indicators about HIV among PWID are derived from data collected by the REITOX Focal Point of the EMCDDA-Greece. Data on HIV epidemiology is derived from the national HIV surveillance system. The need to establish a strong national functional monitoring and evaluation mechanism to oversee the national response was identified by the Greek authorities as a necessary prerequisite to better monitor the national response to HIV in Greece in their Dublin 2012 narrative response.

Prevention among people who inject drugs

Drugs services

Opioid substitution treatment was introduced in 1996 in Greece and medications used include methadone and buprenorphine/suboxone. Substitution treatment can only be initiated in specialist centres and the drugs can only be dispensed at specialised centres [35]. Prior to 2010, there was low coverage of both OST and NSP. In August 2010, more than 5 300 people were on a waiting list for OST, and waiting times in Athens were more than seven years [3].

Since the start of the HIV outbreak, OKANA has focused its efforts on rapidly increasing access to OST through establishing 27 new treatment centres in Athens (as of August 2012) and with plans to open several more during 2012. In late 2011, four OST units in the centre of Athens closed because of opposition from local residents and, according to OKANA, this resulted in the loss of 1 400 treatment slots. As of August 2012, there were 7 620 clients in OST in 52 treatment units throughout Greece (35% increase); of these, 2 848 patients were located in Athens [10]. As a result, waiting times have been reduced to 44 months in Athens and to only one month in Thessaloniki. HIV-positive people are given priority in accessing drug treatment.

Estimates of coverage of services for people who inject drugs are available from the REITOX Focal Point of the EMCDDA-Greece. OST coverage has reportedly increased from 21% in 2010 to 35% in 2012 [10].

There are five NSP in Athens: three by OKANA, one by the NGO Medecins Du Monde and one by KEELPNO. NSP provide either free distribution of needle and syringe kits or exchange. Exchange of syringes constitutes about 75% of syringes distributed (using a 3:1 principle) [10]. NSP programmes currently only exist in Athens (four sites and outreach work), although there are plans to begin one NSP in Thessaloniki. This means that geographical coverage of NSP is fairly poor [36]. There are 11 500 pharmacies in Greece, but there is no pharmacy-based provision of free syringes and injecting equipment [35].

Needles and syringes are distributed mainly through outreach workers who provide 'kits' containing needles, syringes, and other drug preparation equipment such as sterile wipes, citric acid and sterile water, along with condoms, to users free of charge. OKANA collaborates with KEELPNO and Centre for Life, Positive Voice, Medecins du Monde and PRAKSIS to distribute the kits. Needles and syringes are also freely available via KEELPNO's mobile units (more than 100 000 syringes were distributed between December 2011 and July 2012).

In 2010, the estimated syringes distributed per PWID per year was low (nearly seven) [37]. OKANA, together with KEELPNO and NGOs, has expanded NSP since the start of the outbreak. There has been a switch to the distribution of low dead space syringes. In 2011, around 120 000 syringes were distributed in Athens. This represents a two-fold increase compared to 2010. However, this was still only approximately 15 syringes per PWID per year in 2011 (Table 4, Figure 8). OKANA reported the further purchase of syringes and has made kits available to KEELPNO and NGOs for distribution. Syringe distribution as of August 2012 had already surpassed that of 2011. Given the rapid expansion in NSP, there is a need to assess the quality of the NSP services and to review the coordination and collaboration across different organisations and NGOs.

Table 4. Estimated number of syringes and condoms through NSP in Greece, 2005–2012

Year	Number of syringes	Number of condoms
2005	29 792	
2007	64 958	
2008	55 109	
2009	68 579	18 703
2010	61 516	14 239
2011	119 397	24 184
Jan–August 2012*	127 313	43 410

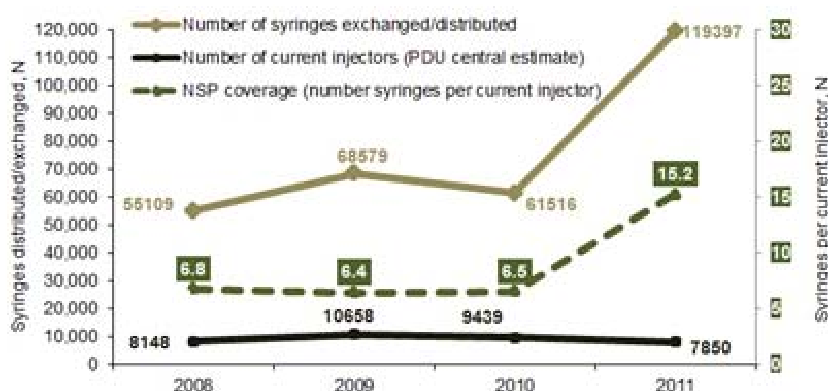
**Data includes only OKANA needles and syringes distributed and for Jan–August 2012; Source: [11, 26]*

OKANA also has a drop-in centre for drug users in Athens which provides services to those who attend and also serves as a base for outreach services. As of 2012, more than 8 000 people had visited the centre. More than 550 have been referred to other services. Services provided include psychosocial counselling, group counselling, leisure time activities and practical assistance, such as showers and laundry facilities [26].

Additional components of the response to the outbreak include encouraging HIV testing of all PWID entering treatment and mobilising active users to undergo voluntary testing in low threshold or outreach settings and raising the awareness of health care professionals and PWID as well as the general public about the outbreak. In addition, there are a number of other organisations working with people who inject drugs in Greece for example, the Therapy Centre for Dependent Individuals (KETHEA) is the Greek partner on the SUNFLOWER project, funded by EAHC, which is focused on preventing HIV among young people and which provides drug-free treatment.

KETHEA has 20 units spread throughout Greece which provide psychosocial support, counselling, street work and services for incarcerated people. Another organisation, 18 ANO, offers prevention and rehabilitation services through ten departments working through Daphni State Hospital, including a hotline.

Figure 8. Number of syringes distributed, number of current injectors (PWID estimate), and NSP coverage, 2008–2011



Source: REITOX Focal Point presentation 28 May 2012, Athens

The ARISTOTLE study (as described above) will continue during 2012 and 2013 to recruit PWID to test them for HIV and to link them to harm reduction services as well as HIV treatment. The goal of the study is to recruit 7 000 PWID and this would result in an almost complete coverage of the estimated PWID population of Greece.

Other OKANA projects in progress are financed by the European Cohesion Policy Fund (NSRF 2007–2013) including:

- education and promotion of health of the active drug users
- public awareness
- police staff training in drug related issues, pilot project for measures alternative to imprisonment.

An additional empirical study entitled 'Immigrant drug users in Greece' was carried out in 2011 under the European Integration Fund: Action 2.4/09 in collaboration with the National Centre for Social Research.

Prevention among other key populations

Men who have sex with men

While there are some activities focused on prevention of HIV among MSM, there are a significant proportion of MSM in Greece who have never had an HIV test and who have never accessed services through a gay community centre, organisation or social group. Some services are available to MSM in Greece and the majority of these are provided through NGOs. For example, Positive Voice is an organisation for people living with HIV, many of whom are MSM. Positive Voice was a key partner for EMIS and has organised several focused prevention activities among MSM including campaigns to promote HIV testing among gay men and lesbian, gay, bisexual, transgender (LGBT) youth, for example condom promotion at gay events (Athens Pride, film festivals, events in Mikonos, Thessaloniki and Athens). Positive Voice has planned to start an MSM Checkpoint for rapid HIV testing and counselling in Athens (in collaboration with KEELPNO; private funding) in October 2012 and plans to publish EMIS findings through gay events in Greece.

PRAKSIS offers prevention information and rapid HIV testing through their polyclinics in Athens and Thessaloniki as well as through mobile units which visit night spots including gay bars. A special 'Get Tested' campaign was held, together with other NGOs such as Positive Voice in 2011–2012 which targeted MSM in gay bars and saunas on a weekly basis. By November 2011, 1 332 tests had been performed. Of these, 43 were positive, including 17 MSM.

Centre for Life has promoted HIV prevention materials online, e.g. through MSM blogs, web sites and chat rooms and has distributed the magazine 'Positive' in gay cafes, bars, clubs and saunas. They also conduct HIV prevention activities at the Athens Pride festival.

KEELPNO reports of participating in and sponsoring events targeting MSM with the presence of trained staff to promote sexual health and correct condom use. KEELPNO also engages in street work programmes that approach MSM, mainly at cultural events or activities in pubs, clubs, and other venues. During street work, information materials, condoms, and other items are distributed by trained outreach workers (18 000 printed materials and condoms as of June 2012). KEELPNO also runs a counselling centre and a hotline for HIV/AIDS and STI and

provides technical and financial support to NGOs for HIV prevention programmes among MSM (such as to Positive Voice for taking part in EMIS).

Migrants

Since July 2011 KEELPNO has operated mobile medical units with robust medical equipment and staffed with doctors, nurses, psychologists and cultural mediators targeted to provide primary and preventative care to vulnerable and uninsured populations (migrants, sex workers, PWID, etc.). The mobile units also provide HIV testing and counselling. In August 2012, five of the six mobile units were diverted to other parts of Greece to respond to increased malaria reports as well as to serve migrants in detention centres on border areas, and are no longer serving the Athens population. The mobile units received 26 000 visits during July 2011–July 2012 and mainly dealt with skin diseases, respiratory tract infections, gastro-intestinal diseases, STI, and urinary tract infections.

Since 2011 KEELPNO has worked through street outreach teams and mobile units to deliver health education to migrant communities on how to protect themselves from HIV, STI, hepatitis and scabies. Written materials are distributed in Greek, English, French, Farsi, Urdu, Bulgarian and other languages. The street outreach teams have approached about 7 200 shops belonging to migrants in Athens and 582 in Piraeus (as of June 2012), handing out leaflets and condoms, and promoting condom use. The teams also refer individuals to the mobile units, where free HIV tests, general health exams as well as vaccination are available.

PRAKSIS serves migrant and other vulnerable populations with mobile units in Athens and Thessaloniki. These mobile units perform rapid HIV testing. Other NGOs such as Centre for Life target migrant communities for awareness-raising and information regarding HIV as well, having produced TV spots in 12 languages to prevent HIV transmission and stigma. The NGO Medicins du Monde runs two polyclinics which target migrants and vulnerable populations (in Athens and Thessaloniki) and mobile units in Patras, Igoumenitsam and Athens for migrants and homeless people.

Sex workers

According to Greek regulations, legal (licensed) female sex workers should be screened for STI and HIV every 15 days. They are eligible for psychological support and drug treatment services [22]. Since October 2011 KEELPNO has implemented outreach programs for female sex workers and by February 2012 more than 450 brothels in Athens and Piraeus had been reached. Condoms and materials (in Greek, English, Farsi, Urdu, Arabic and Bulgarian) with information on HIV, STI and health and welfare services were provided. Individuals in need are referred to the mobile units to access primary health care, psychosocial support and HIV testing.

During May and June 2012, sex workers were targeted by police forces and allegedly mandatorily tested for HIV[10] [11] [12]. Names and photos of a number of sex workers who tested positive for HIV were published on the police website, with the rationale that male clients needed to be informed to get tested. At least 36 HIV positive sex workers were arrested and 19 remained in detention as of October 2012 (personal communication; KEELPNO). Although the publication of the names and photos of HIV positive sex workers had ceased, the practice of testing sex workers for HIV, with unclear informed consent procedures, appears to have continued up to October 2012 by police. Staff from the Department of Community Interventions at KEELPNO state that street outreach to sex workers has become impossible because of the lack of trust. NGOs have also stated that sex workers have become hard to reach for prevention services.

NGOs including Centre for Life conduct street outreach targeting transsexual sex workers as well as education activities at the official sex workers union, and the promotion of a telephone hotline for sex worker support.

Since January 2012, street work activities have been carried out by KEELPNO for male sex workers and their clients (health promotion, condom use promotion and condom distribution, promotion of HIV testing etc). These have targeted venues where sex is sold including saunas, bars, hotels and outdoor environments. The team works together with 14 male sex work peer mediators who facilitate access to the target group. Up to 1 075 men have been approached, some of which declare openly that they are sex workers or clients. Materials are available in many languages to target the estimated 90–95% of male sex workers who are non-Greek nationals.

Prisoners

The principle of equivalence of health care in prison to that of the community exists officially under Greek regulations. However, in practice, drug treatment within prison consists solely of psychosocial interventions and there are only two public programme with limited capacity. KETHEA implements counselling services in prisons aiming mainly at preparing inmates for joining drug-free treatment programmes after release. Opioid substitution

[10] http://greece.greekreporter.com/2012/04/29/panic-in-athens-after-russian-prostitute-found-to-be-hiv-carrier/
[11] http://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2012/may/20120510psgreece/
[12] http://newsinfo.inquirer.net/186595/greece-arrests-17-hiv-positive-women-in-brothels

treatment and NSP are currently not allowed inside prisons, although a regulation allowing for a ten day detoxification period exists (for persons already receiving OST prior to imprisonment) [25]. A new law that was introduced in 2011 may decriminalise or reduce some drug-related offences and is envisioned to safeguard the right to drug treatment within prison [25]. OKANA is carrying out two pilot projects (with European Cohesion Policy Funding) which target prisoners on measures alternative to imprisonment, and on piloting two OST units in prison settings.

The prison health system itself employs a total of 20 trained therapists for counselling-based drug treatment programmes, but they are deployed in only three prisons (in the Attica/Athens region and in Thessaloniki). All drug-related services for prisoners are provided by NGOs through in-reach [25]. A program for the health promotion of HIV positive prisoners is currently being designed by the Department of Community Interventions at KEELNPO in collaboration with Positive Voice. A programme for health promotion for prisoners who enter the KETHEA programme and for the staff of the prison is being carried out by KETHEA and the NGO ACT UP HELLAS.

HIV care is delivered to those prisoners known to be or found to be HIV positive through the prison health system. Known HIV positive prisoners are concentrated in one central prison in Athens in order to receive treatment there.

General population

There is a policy of routine antenatal screening of pregnant women for syphilis, hepatitis B and HIV (opt-in) in antenatal care clinics [33]. In 2011, 21 HIV positive pregnant women received prophylaxis and four cases of perinatal infection were detected. New guidelines regarding prevention of mother to child transmission are being developed [38].

The KEELPNO Department of Community Interventions implements numerous activities for HIV and STI prevention which target the general population. These include:

- awareness campaigns focused on communication of HIV prevention through leaflets, newspapers, magazines, online campaigns or TV broadcasting; promoting condom use and HIV testing
- targeted youth (15–24 years) information provision, condom promotion at venues and cultural events
- targeted outreach in bars, metro stations, central squares and at cultural events to provide HIV and STI information as well as condom distribution
- provision of educational material in an interactive DVD for distribution at libraries, schools, the internet
- educational speeches to parents and students' associations throughout Greece

In addition to this, KEELPNO provides technical and financial support to NGOs for prevention programmes in the general population. An AIDS telephone 'Helpline' is run by KEELPNO with professional staff and available from 9 am–9 pm from Monday to Friday. In 2011 the hotline received 2 130 calls, mostly from people concerned about possible HIV exposure or risk behaviour. Programmes for students, teachers and military recruits are organised through KEELPNO focused on skills-based sexuality education, HIV prevention, condom use, and safe sex. In 2010–2011, approximately 11 000 students and young soldiers were reached. NGOs also provide HIV prevention and awareness-raising to the general population at workplaces, schools, universities, as well as through TV spots and other mass media. These target awareness raising and stigma prevention.

People living with HIV

KEELPNO runs a guesthouse which provides support for people living with HIV in Piraeus where housing, medical services, recreational and psychosocial support services are provided. A counselling centre run by KEELPNO is staffed by psychologists, a social worker and a psychiatrist, and it serves HIV-positive individuals, partners or relatives. Since the launch of the centre in 1992, 3 157 persons have been seen there.

KEELNPO and Positive Voice collaborate on research regarding stigma and discrimination against people living with HIV. In February 2012, PRAKSIS began a programme of holistic support to people living with HIV and their families including medical services, housing, financial aid, psychosocial support, and work or legal counselling. Centre for Life seeks to provide services to people living with HIV. Services include psychological support, social support, emergency financial aid, legal support, human rights, drop-in centre, home and hospital visits, 'Positive' magazine, and an HIV positive detainees programme in Koridalos prison.

Discussion and risk assessment

HIV among PWID and other key populations

There is an ongoing outbreak of HIV among people who inject drugs in Athens. The outbreak has until now increased the overall number of HIV cases in Greece by approximately 58%. Evidence from avidity testing and the low genetic variability among newly identified cases suggest that most infections were recently acquired and molecular typing data indicate that transmission is taking place within drug-injecting networks in Athens. If the current HIV case reporting continues, it would be expected that around 500 new HIV cases among PWID will be reported and 1 100 HIV cases would be reported overall by the end of 2012. Due to the ARISTOTLE study, which began in August 2012, employing active case finding among PWID in Athens, the number of cases detected in 2012 could be even higher.

The outbreak was likely caused by a combination of factors, one of the most important being long-term low levels of prevention (OST and NSP) coverage among people who inject drugs in Greece, combined with the introduction of HIV into drug-using networks in Athens; patterns of injection and risk as well as the size of the injecting user populations may have been affected by the purity of the heroin on the market and increased use of stimulants, combined with deteriorating socio-economic conditions [1, 2, 10]. The outbreak was recognised quickly by Greek authorities and a scale up of evidence-based prevention services was prioritised.

The number of needles and syringes distributed per PWID per year has increased substantially, from seven prior to the outbreak, to 15 in 2011 and an expected 45 in 2012. However, this is still below international standards for adequate NSP coverage where 200 needles and syringes per PWID per year would be recommended for continuous prevention and, in an outbreak situation, the recommended number would be even higher [2, 39, 40]. The vast majority of NSP is provided through outreach services and increased (possibly integrated) services to scale up NSP could be provided in additional fixed sites to boost the number of needles and syringes and other injection equipment distributed [41]. Pharmacy syringe distribution has been a useful additional mechanism in other European settings to scale-up services. There are currently no NSP services provided outside of Athens.

OST services have scaled up significantly since the start of the outbreak, and waiting times have been halved in Athens and nearly eliminated in Thessaloniki. Waiting time in Athens is 44 months (as of August 2012) and a greater scale-up would be required to make an impact on the reduction of HIV transmission. OKANA has developed a model of scale-up of OST services that appears to be efficient and effective. However, OKANA has reported that a ceiling has been reached in terms of human and financial resources so that further scale-up will be inhibited. In many other EU countries, high coverage of OST has been achieved through the use of general practitioners in the provision of OST to patients who have been stabilised. As this would necessitate changes in rules of medical practice and changes in medical curriculum in Greece it is likely an issue for longer term consideration [42].

If further scale up of OST and NSP is not achieved, it is likely that HIV transmission among PWID will continue, and could accelerate in Athens, and even spread to PWID networks outside of Athens. Experience from other EU countries with similar drug-injecting related HIV outbreaks, such as Estonia, where scale up of prevention lagged behind the outbreak, demonstrate that the impact on HIV prevalence and cost of treatment can be very high. Experience from Helsinki, where an outbreak among PWID occurred in 1998, shows that a quick response and establishment of low threshold health service centres contributed to the reduction of HIV transmission and counteracted the outbreak. HCV rates among new injectors outside of Athens are high and indicate that risk behaviour is ongoing and that HIV could spread quickly there in the absence of scale up of NSP services and high coverage of OST. Greece has the possibility now to invest in the prevention of HIV among PWID. The cost of prevention to avert HIV infections will be less than the provision of treatment to those who become infected.

In comparison with other EU countries, Greece has very limited availability of specific HIV prevention measures in prison settings. Until 2011, Greece was among the five EU countries where OST was not available to drug users in prisons. No NSP is provided in prisons in Greece. Due to the high prevalence reported in older studies of PWID in Greek prisons, combined with the movement of people who use and inject drugs in and out of prisons, HIV prevention as well as testing and treatment are key to reducing incidence in PWID both within and outside of the prison setting [28, 29, 42].

Besides the HIV outbreak in PWID, there is ongoing transmission of HIV among MSM in Greece. MSM represent the majority of cumulative HIV cases in Greece. Behavioural evidence from the national EMIS survey indicate that MSM in Greece have continued high risk behaviour and that social stigma and non-disclosure of MSM status are common [14]. There is little comprehensive HIV prevention which targets MSM in Greece and the vast majority of prevention services are delivered by NGOs. The first MSM checkpoint was opened in Athens in October 2012 and this will provide an opportunity to tailor HIV prevention services to the needs of MSM.

While there is evidence that a new HIV strain may have been introduced to Greece by one or several migrants, the majority of HIV infections among PWID have been among Greek nationals. The majority of HIV infections among MSM and other key populations are also among Greek nationals. There is no evidence that migrants are driving the HIV epidemic in Greece but migrants who engage in drug use, sex between men or commercial sex work may be more vulnerable and at higher risk for HIV.

At present, the situation for many migrants in Greece is insecure as police actions to detain irregular migrants are ongoing. Mobile medical units in Athens have provided primary health care to this population, including HIV testing, and this was a positive example of primary and preventative health care to meet the needs of a socially vulnerable population. However, since July 2012, the number of mobile units has been reduced from six to only one unit that now serves the population in Athens. The use of mobile units was seen as very successful in Athens (and in other countries) but needs further assessment with respect to efficiency and effectiveness. Mobile units could potentially detect early warnings of ongoing or increased HIV transmission in migrant and other vulnerable populations.

There are currently concerns that the HIV clinical care capacity in Athens has already reached a ceiling due to the increased number of HIV cases detected in 2012. In addition, the changing composition of the HIV patient population (with more PWID) will bring complex challenges with respect to co-morbidity, drug-dependence, adherence, attitudes and skills. To ensure that treatment is secured for all patients in need, a 'one stop shop' model of integrated services for HIV positive PWID could be explored. There are examples of integrating drug and medical services into one programme (in a partnership of collaborating institutions and clinics), which facilitates treatment adherence and completion [43-46]. Many countries have found that integrating services with a low threshold service is a more cost-effective and an efficient way of delivering services, and moreover that service integration is appreciated by clients [47-49]. An example of a highly integrated, service setting would be a fixed site that provides OST, infectious disease treatment, general health information about hygiene and overdose prevention, general health, social services, and referrals to (nearby) NSP for those who are actively using.

Data gaps and uncertainties

There are gaps and uncertainties in reviewing the situation of HIV in Greece. First, few bio-behavioural surveys among key populations have taken place and there appears to be very limited surveillance data relating to HIV among sex workers. There are no data on the overlap between key populations or on the undiagnosed fraction. There is a need for more qualitative data on risk behaviour and determinants to better inform the response. In addition, as HIV reports are driven by testing practices, no overview could be obtained with respect to current HIV testing practices, the number of HIV tests carried out in clinical and outreach settings, or recent changes in these practices. The clinical quality of NSP and OST provision services could not be assessed, nor could the quality of HIV testing or ART care provision services.

The economic crisis and HIV

Greece

As noted earlier, the economic crisis has been particularly severe in Greece, leading to a steep increase in unemployment rates and austerity measures that impact public spending. With respect to the current HIV outbreak in Athens, the economic crisis, leading to reduced funding of public health programmes, will affect prevention targeted toward populations at-risk. Worsened economic conditions tend to increase both the size and the vulnerability of some at-risk populations, such as PWID and sex workers. Increased levels of unemployment are documented to lead to higher levels of homelessness and, in turn, homelessness tends to increase the risk of PWID [51]. It is also known that homeless drug users are more likely to pursue high risk sexual activities [52]. Indeed the evidence from past economic downturns demonstrates an increase in HIV incidence as well as risk-taking behaviour [53, 54]. The majority of PWID in Greece (72%) reported being unemployed, with even higher rates of unemployment in Athens; the proportion of unemployment has increased significantly in the last four years [10].

As concerns public spending, the economic situation in Greece affects the health care system in general and HIV prevention and care in particular. For instance, fees have been introduced for HIV testing in some public hospitals in Greece. Although free HIV testing may be available in other locations, this could act as a barrier to HIV testing and is moreover contrary to guidance which states that HIV testing should be freely available [50]. Related to the economic crisis and cost containment measures it was noted that hospitals are inhibited to recruit new medical staff. This affects both the infectious disease units and the OST units and hinders the ability to scale up services to deliver medical care in the context of this outbreak.

European level

It is noteworthy that there are some parallels between the situation in Greece and other EU Member States. It is important to stress that the Athens outbreak does not pose a significant threat to other countries directly. However, given reported high risk behaviour and low prevention coverage in a number of countries, as well as the similar

economic challenges leading to further cuts in HIV prevention programmes, it might be possible that similar outbreaks may happen in other countries, in the absence of mediating factors [2].

At the European level, overall government financing for global HIV/AIDS programmes has dropped by 10% in 2010 compared to 2009 with respect to the provision of public health programmes [55]. Services targeting vulnerable populations such as PWID in Europe, for example, have been cancelled or downscaled [56][57]. In Romania, a major Global Fund for AIDS, TB and Malaria (GFATM) grant focused on providing HIV prevention, testing and counselling services to PWID ended in mid-2010[13]. The closure of this grant coincides with the five-fold increase of HIV among PWID in 2011 over 2010 (indicating that the increase started before the closure of the grant), and evidence suggests that there has been an overall decline in prevention programmes in Romania. Similarly, in Bulgaria the GFATM grant is due to finish in 2014 and it is likely that funding will decrease subsequently. Similar to the aforementioned factors in Romania [2] and possibly Bulgaria, reports from Latvia, Poland and Portugal note that national HIV prevention programme funding for key populations has declined [14]. The PWID outbreak in Romania seems to have continued in 2012, according to recent data [61]. Other risk factors for acceleration of HIV transmission among PWID have been identified in a number of countries [2].

The current economic turmoil will continue to have adverse effects on HIV prevention programmes in Europe [59]. The combination of an increased population at-risk and the phasing out of funding programmes or reductions in public health prevention budgets will be a challenge for HIV prevention across Europe. As the EMCDDA noted in its 2011 annual report, the current economic crisis is expected to increase the risk of localised HIV epidemics among drug injectors [60].

For Greece, as well as other countries with similar situations, it is important to ensure that the current economic situation does not impact on measures to maintain or increase the availability of prevention services for PWID.

[13] More information available at: http://portfolio.theglobalfund.org/en/Grant/Index/ROM-607-G03-H
[14] ECDC (in press). Implementing the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia: 2012 Progress Report.

Conclusions and recommendations

Conclusions

- Until 2011, Greece had a low-level HIV epidemic with most cases diagnosed among MSM. Since then, the number of HIV cases among people who inject drugs in Athens has increased rapidly (based on case reports and HIV prevalence data). Evidence from avidity testing and molecular typing suggests that most infections have been recently acquired and that transmission is taking place within drug-injecting networks. This transmission has the characteristics of a rapidly expanding outbreak concentrated in Athens.
- The outbreak among people who inject drugs may be due to a combination of factors, one of the most important being long-term low levels of preventive services prior to the outbreak. In response to the outbreak, Greek authorities have immediately prioritised the correct interventions, e.g. scaling up the coverage of opioid substitution treatment (OST) and needle and syringe programmes (NSP).
- Opioid substitution treatment has been prioritised and services have been increased tremendously since September 2011 throughout Greece. A further increase in OST treatment services in Athens is needed (based on average waiting time being 44 months). However, this may be hampered due to limited resources presently available at OKANA.
- Needle and syringe distribution has been increased in Athens (based on the estimated number of needles distributed), mainly through outreach work but is not yet at the level that would be required to have an impact on the epidemic situation in Athens. There is no needle and syringe provision outside of Athens. There is no needle and syringe distribution through pharmacies. The quality of current NSP services is unknown.
- There have been no primary prevention or awareness campaigns among the people who inject drugs to specifically inform them about the ongoing HIV outbreak and to advise them on safe injection and prevention behaviours in the context of the outbreak.
- The response to the outbreak of HIV among people who inject drugs has been impressive, however, there is no comprehensive overview of HIV prevention interventions in Greece. There is no national authority actively coordinating the overall response to HIV and the outbreak among PWID in particular. Inter-agency coordination (at strategic or implementation levels) has improved during the outbreak but could be strengthened further.
- Due to the increased number of HIV positive people who inject drugs, HIV treatment services have reached a ceiling with respect to staffing resources. In addition, infectious disease clinics in Athens are confronted with complex new challenges in caring for HIV positive people who inject drugs with other co-morbidities.
- There is evidence for ongoing high transmission of HIV among MSM and yet there is no comprehensive plan for HIV prevention in this key population, which has contributed most of the cumulative HIV infections reported in Greece over the last decade.
- The proportion of HIV cases with unknown mode of transmission is increasing. Understanding if this unknown proportion is comprised of men who have sex with men, male PWID cases or heterosexual cases who have been infected through, for example, a PWID sexual partner is of critical importance for guiding the response.
- Due to the health reforms as agreed in the Greek memorandum, access to HIV testing may be reduced due to the introduction of co-payment in a number of public hospitals. This conflicts with overall guidance that, especially in epidemic situations, HIV testing should be easily accessible to ensure early diagnosis and access provided to treatment and care.
- There is no evidence that the HIV epidemic is driven by cases reported among migrants. However, if migrants are less likely or able to access HIV testing services, they might be under-represented in the cases reported and may have difficulty in accessing HIV treatment.
- There is a lack of behavioural surveillance for all key populations although there are many opportunities to collect this information at no additional cost and ongoing initiatives are expected to provide more data on, for example, PWID.
- To better understand the HIV epidemiology and assess the extent to which those infected have access to early treatment and care, information on late diagnosis and linkage to care needs to be improved for all key populations.
- Due to media attention in May 2012 to the HIV testing of sex workers and publication of their pictures on Greek police websites, public confidence in HIV testing procedures, particularly among key vulnerable groups, may be low and the uptake of HIV testing may be reduced.
- There is a continuous need to keep public health and preventative services on the agenda even in challenging economic times so that long-term, high-cost burden to the health system can be averted..

Recommendations

Strengthening national coordination

It is suggested to establish a strategic and inter-ministerial coordinating body at national level to maximise the HIV response. The inclusion of international advisors in the body could be considered as a measure to bring in experience from similar situations. Since the start of the outbreak inter-agency coordination has improved considerably, but it is highly recommended to foster multi-agency partnerships involving national/local government and civil society both at strategic and operational levels, and to promote the involvement of people living with HIV and affected populations.

- The production of a national, integrated HIV prevention strategy and action plan would guide actions from 2013
- Evidence suggests that drawing up specific plans and convening task forces for the prevention of infections among people who inject drugs and MSM are effective ways of addressing the response
- Evidence suggests that a strong monitoring and evaluation system can provide data to inform and direct the response. Documenting current actions, tasks and services will enable Greek authorities to obtain an accurate picture of the HIV epidemic and the response, and help inform future actions
- To make best use of resources in pressing financial times, it is suggested that prevention planning and funding should very closely match the burden of the HIV epidemic in key populations, that is prioritisation of prevention among PWID and MSM
- Improved collaboration with police staff at city and local levels will allow harm reduction services to be maximally effective
- Developing the necessary administrative capacity to absorb and distribute all available EU and national funds on time will greatly assist to maximise the public health response to the HIV outbreak

Response to the outbreak among people who inject drugs

Based on European standards and scientific evidence, the best results for the reduction of HIV (and HCV) prevalence will be achieved by:

- Expanding current needle and syringe distribution programmes to provide at least 200 syringes per PWID per year
- Scaling up of opioid substitution treatment in Athens so that coverage of 50% will be reached as comparable to current EU average with a waiting time of less than two months

To stop further transmission and prevent permanently high prevalence among users, immediate action is needed to expand NSP in Athens, and then in the rest of the country. Expansion of NSP can be achieved without requiring many additional resources:

- The delivery of needles and syringes through fixed sites should be scaled up; the current site is not very user-friendly and NSP could be better integrated in OKANA low-threshold and intake services throughout Athens, in particular in (or near) the drop-in centre in the centre of Athens
- Make best use of all opportunities to deliver NSP kits: through NGOs such as the PRAXIS polyclinics, the HIV testing mobile units, and the MSM Checkpoint; through the ARISTOTLE study site and KEELPNO mobile medical units. It is highly recommended that OKANA, KEELPNO and NGOs join forces to maximise the available resources and achieve high coverage across relevant geographical regions in Athens
- Increasing the number of syringes provided per kit to (at least) 20 (and ensuring that the correct type of syringes, i.e. low dead space syringes, and equipment are distributed)
- Consider involving pharmacies in the distribution of free syringes or kits (proven to be very useful in other countries)
- Assess and improve the quality of needle and syringe programme services

Based on recent observations, further scale up of OST will be difficult unless additional staff and facilities become available at OKANA. According to experience in other countries, significant scaling up is possible by involving existing health infrastructures and/or general practitioners. Treatment of drug users must be included in medical curricula so that future doctors can take part. In the short term, bottlenecks to scale up treatment should be addressed by rolling out OST to other facilities and by allowing follow-up of patients who are stabilised by general practitioners, wherever possible.

Suggestions to strengthen the response to the outbreak among PWID include:

- A targeted communication campaign would be needed to inform PWID about the ongoing HIV outbreak. Immediate messages could be disseminated in certain neighbourhoods in Athens (posters, leaflets), through street outreach workers and through other media. Information should target PWID in Athens to inform them about the outbreak, to warn about the risks of sharing needles and to direct them to NSP and OST services.
- To respond to the ongoing outbreak of HIV among PWID, a task force could be established which meets on a regular basis to coordinate the response within and across KEELPNO, OKANA, REITOX Focal Point, NGOs, and academia. This task force could coordinate communication messages and coverage of NSP, review the effectiveness of outreach work and plan the next steps in a coherent way.
- The ARISTOTLE study provides an opportunity to employ active case-finding through the use of respondent driven sampling to recruit PWID in Athens to test for HIV as well as to assess risk behaviours and link patients to HIV and drug treatment. Such studies are critical in finding new cases and ensuring that cases are linked into care; mechanisms for follow-up beyond the study period should be secured.

Response to HIV among key populations

- For the best results in preventing HIV among MSM in Greece, a coherent plan involving all stakeholders, including community organisations, would be needed to enhance HIV prevention, testing and care for MSM to maximise synergy of services.
- A mapping of current activities and actors carrying out services for MSM in Greece would provide a clearer picture of the scale of response. Prevention activities should be evaluated alongside existing behavioural data to determine and scale up effective services.
- The intervention by Positive Voice, in collaboration with KEELPNO, to open a checkpoint for MSM in October 2012 to provide free of charge HIV testing facilities in Athens is welcomed. In addition to this, further services would be needed to address HIV prevention in this key population.
- Given evidence of high numbers of persons imprisoned for drug-related offenses and the high rates of injecting drug use reported in prisons in Greece, evidence points to the need for the continuation and initiation of OST programmes while in prison, as well as for mechanisms to provide confidential testing and treatment for HIV in Greek prisons.
- HIV prevention targeting key populations, for example sex workers, MSM and PWID should include, in a culturally appropriate manner, persons born in other countries regardless of legal status.
- There are a number of opportunities to carry out behavioural surveillance among PWID (who are not yet in treatment), MSM, sex workers, and migrants as part of ongoing (or planned) surveys or studies. It is of importance that these initiatives are coordinated as they will help to understand the HIV and health-seeking behaviour in these populations. The action plan on behavioural surveillance being drafted by KEELPNO in consultation with all stakeholders is an opportunity to streamline behavioural surveillance activities. This surveillance should focus both on HIV and health-seeking behaviour.
- Further emphasis is needed to increase the overall effectiveness of HIV prevention programmes for affected populations incorporating tools for 'quality improvement of HIV prevention'. Effectiveness includes a wide spectrum of prevention: combining testing and treatment; condoms and sterile injecting equipment; safe sex and safe injecting; human rights and reducing stigma; discrimination; poverty and criminalisation. Greece will be participating in the 'Joint Action for quality improvement of HIV prevention' and this will promote the implementation of evidence-based programmes tailored to the epidemiological situation of the country.

Strengthening HIV testing and access to treatment

Given the current epidemic situation and the potential for further spread, HIV testing should be freely available and access would need to be improved, based on international guidelines and the public health principles of informed consent and medical confidentiality. Based on available evidence, the best way to engage sex workers and other high-risk individuals in HIV testing is to provide the testing on non-coercive and non-mandatory terms.

- KEELPNO could consider increasing HIV testing, prevention and care services delivered through the NGO sector in order to continue and scale-up services to key populations. Community delivery of services has proven to be highly effective in several EU countries.
- The availability of rapid HIV testing would need to be increased for key populations at increased risk of HIV transmission through, for example, introducing these in the mobile medical units.
- Data collection on numbers of persons being tested and risk factors would be needed to cover all testing facilities to be able to illuminate patterns of HIV testing.

Based on scientific evidence regarding the efficacy of early antiretroviral treatment in reducing infectiousness and onward HIV transmission, the health system capacity to meet the increased demand for infectious disease care for increasing number of HIV patients should be carefully assessed.

There is a need to focus on addressing the critical issue of late diagnosis of HIV infection as this is resulting in delays in starting ART for a significant number of PLHIV. This could include rigorously tracking the proportion of PLHIV with late diagnosis, i.e. a CD4 count < 350 cells/mm^3 at the time of diagnosis and introducing measures aimed at reducing the proportion of PLHIV with late HIV diagnosis.

To address current and future potential shortages of HIV treatment slots at infectious disease clinics in Athens, the option of whether HIV treatment could be provided via integrated health services by specialists from infectious disease clinics within, for example, OKANA OST units or low-threshold sites could be explored. This would help to scale up HIV treatment and care services and to provide more comprehensive care tailored to the specific needs of the PWID population. This 'one stop shop' model could include hepatitis B and C, TB, and other infectious disease care as well as drug dependence treatment, psychosocial and social services support.

Annex 1. List of field visits

May 2012

- Office for Psychosocial Support, KEELPNO (briefing with team preparing street work with male sex workers)
- Mobile Medical Units stationed in Athens (Vathis Square)
- OKANA Injecting Drug User Care Facility, Athens
- OKANA street work activities in open drug scenes of Athens
- Amygdaleza Detention Centre, Athens
- OKANA OST Unit at ATTIKON University Hospital
- Praksis Medical Polyclinic
- Internal Medicine and Infectious Disease Unit, Red Cross Hospital, Athens

September 2012

- OKANA admission, information and orientation centre
- OKANA Injecting Drug User care facility
- ARISTOTLE Research and intervention study site
- OKANA OST Unit at General Hospital of Athens 'G. Gennimatas'
- OKANA OST Unit at General Hospital of Athens 'Korgialenio Benakio'
- OKANA Variti OST Unit
- Positive Voice NGO
- Praksis NGO

Annex 2. Number of new diagnoses of HIV reported in 2007 – August 2012

	2007	2008	2009	2010	2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012
New HIV cases among PWID[15]	11	11	14	15	256	43	24	34	22	30	26	37	98
Men	8	9	12	12	208	36	22	29	20	26	18	32	66
Women	3	2	2	3	48	7	2	5	2	4	8	5	32
<25 yrs	1	0	3	1	26	4	2	2	1	2	0	2	13
25–34 yrs	4	6	4	10	134	25	11	19	12	17	17	20	52
>35 yrs	6	5	7	4	96	14	11	12	9	10	8	15	33
non-Greek nationals	4	4	5	6	42	7	6	7	6	5	3	7	26
New HIV cases among MSM[15]	**256**	**358**	**331**	**352**	**362**	**26**	**22**	**33**	**13**	**36**	**39**	**26**	**11**
<25 yrs	22	44	32	41	36	3	0	1	4	6	2	5	2
25–34 yrs	109	140	137	135	165	9	11	12	5	13	16	11	6
>35 yrs	125	174	161	176	161	14	11	20	4	17	21	10	3
non-Greek nationals	23	35	35	28	24	2	0	3	0	4	4	2	0
New HIV cases among[15] heterosexuals	**137**	**155**	**116**	**113**	**157**	**11**	**9**	**15**	**7**	**12**	**11**	**11**	**11**
Men	63	80	64	54	92	7	5	7	3	6	5	7	4
Women	73	75	52	59	65	4	4	8	4	6	6	4	7
<25 yrs	6	8	11	7	10	0	2	3	0	0	1	2	2
25–34 yrs	48	48	32	37	42	2	1	3	3	3	2	1	2
>35 yrs	83	96	71	69	105	9	6	9	4	9	8	8	7
Non-Greek nationals	57	63	59	58	79	6	6	6	4	4	8	7	6
Persons from country with a generalised HIV epidemic	23	42	34	34	40	3	3	4	1	2	3	5	0
New undetermined HIV cases [15]	**111**	**126**	**143**	**126**	**183**	**29**	**6**	**19**	**11**	**20**	**18**	**20**	**38**
Men	95	100	104	111	160	25	5	19	9	15	14	18	32
Women	16	26	39	15	23	4	1	0	2	5	4	2	6
<25 yrs	8	10	12	11	29	6	0	2	1	0	2	1	5
25–34 yrs	38	41	43	44	70	9	1	9	2	12	6	8	19
>35 yrs	55	66	81	70	82	13	5	7	8	7	9	11	14
Non-Greek nationals	23	21	40	30	31	9	3	2	2	5	2	2	14
New MTCT cases	**1**	**3**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Transfusion cases	**1**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
New HIV cases (total)[15]	**517**	**655**	**606**	**609**	**963**	**109**	**61**	**101**	**53**	**98**	**94**	**94**	**158**

[15] Data Source: HIV Office, KEELPNO contact point: G. Nikolopoulos

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