

*Infectious diseases*

# **EuroHIV 2006 survey on HIV and AIDS surveillance in the WHO European Region**



# Contents

<b>Summary / Résumé / Pezyme</b>	<b>2</b>	References	18
<b>1. Introduction</b>	<b>3</b>	Annex 1: Survey questionnaire on HIV and AIDS surveillance in the countries of the WHO European Region, April 2006	20
<b>2. Methods</b>	<b>4</b>	Annex 2.1: HIV case reporting	31
		Annex 2.2: AIDS case reporting	32
<b>3. Results</b>	<b>5</b>	Annex 3: Case identification and detection of duplicate reports	33
3.1 Participation	5	Annex 4: AIDS case definition currently used by countries	34
3.2 HIV and AIDS case reporting	5	Annex 5: Rapid tests	35
3.2.1 Data collection system	5	Annex 6.1: Variables collected for HIV case reports	36
3.2.2 Case identification and detection of duplicate reports	6	Annex 6.2: Variables collected for AIDS case reports	37
3.2.3 HIV and AIDS case definitions and testing algorithms for the diagnosis of HIV cases	6	Annex 6.3: Specific variables collected: HIV molecular epidemiology	38
3.2.4 Variables collected with HIV and AIDS reports	8	Annex 6.4: Specific variables collected: resistance and clinical stage	39
3.2.5 National evaluations of HIV and AIDS case surveillance systems	9	Annex 7.1: Evaluation (under-reporting and validity)	40
3.3 HIV testing	9	Annex 7.2: Evaluation (completeness and timeliness)	41
3.3.1 HIV testing practices	9	Annex 8.1: HIV testing – Routine HIV testing	42
3.3.2 Policies on home testing and home sampling	10	Annex 8.2: HIV testing – Voluntary HIV testing	43
3.3.3 Pre- and post-test counselling	10	Annex 8.3: HIV testing – Mandatory HIV testing	44
3.3.4 Partner notification	11	Annex 9: Pre- and Post-test counselling	45
3.4 Assessment of recent HIV infection and HIV incidence	11	Annex 10: Partner notification	46
3.5 HIV prevalence data	12	Annex 11: Assessment of recent HIV infection	47
3.5.1 Monitoring HIV prevalence	12	Annex 12: HIV prevalence	48
3.5.2 Estimation of the number of people living with HIV and AIDS (PLWHA)	12	Annex 13: Linkage of HIV/AIDS databases to mortality data	49
3.6 Mortality	12	Annex 14.1: Monitoring HIV related death information	50
3.6.1 Linkage of mortality data	12	Annex 14.2: Monitoring AIDS related death information	51
3.6.2 Monitoring HIV and AIDS related death information	13	Annex 14.3: Coding systems and mortality indicators	52
<b>4. Discussion</b>	<b>14</b>	Annex 14.4: Mortality estimates	53
<b>5. Recommendations</b>	<b>17</b>		

# EuroHIV 2006 survey on HIV and AIDS surveillance in the WHO European Region

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## Summary

Introduction: the aim of the survey was to assess national systems for HIV/AIDS surveillance in Europe to provide baseline data with which to improve comparability of HIV/AIDS data.

Method: a standardised questionnaire was sent to the 53 EuroHIV national correspondents. This questionnaire comprised four sections (HIV/AIDS case reporting, HIV testing, HIV prevalence and incidence, HIV/AIDS death surveillance) and applied to surveillance data collected in 2006. It was returned by correspondents from 44 countries (83%).

Results: individually-based data collection systems were implemented in 43/44 European countries for HIV case reports and all the countries for AIDS case reports. For HIV case reports, a coded identifier was used in 28 countries and full names were used in 11 countries. The European AIDS case definition was adopted in 35 (80%) countries. Information on molecular epidemiology was available in 30 countries and HIV drug resistance was monitored in 11 countries. HIV/AIDS case reporting systems have been evaluated for under-reporting in 17 countries and completeness in 11 countries. In more than half of the countries, HIV testing was routinely offered by health care providers to pregnant women (37 countries, 84%), IDU (32 countries, 73%), STI clinic patients (26 countries, 59%), but with wide ranges of population being tested in different countries. Linkage of HIV/AIDS data with vital statistics or death certificates was possible in 17/44 countries.

Conclusion: Recommendations are formulated to outline the future needs for HIV/AIDS surveillance in Europe and to improve data comparability across Europe.

## Résumé

Introduction : le but de cette étude était d'évaluer les systèmes de surveillance nationaux du VIH/sida en Europe pour produire des informations de référence avec lesquelles améliorer la comparabilité des données VIH/sida.

Méthode : un questionnaire standardisé a été envoyé aux 53 correspondants nationaux. Ce questionnaire comportait quatre sections (déclaration des cas de VIH/sida, dépistage du VIH, prévalence et incidence du VIH, surveillance des données de mortalité VIH/sida) et s'appliquait aux données de surveillance collectées en 2006. Il a été renvoyé par les correspondants de 44 pays (83 %).

Résultats : des systèmes de collecte de données individuelles ont été mis en place dans 43/44 pays pour la déclaration du VIH et dans tous les pays européens pour la déclaration des cas de sida. Pour les déclarations du VIH, un identifiant codé était utilisé dans 28 pays, tandis que l'identification des cas était nominative dans 11 pays. Les systèmes de déclaration des cas VIH/sida ont été évalués pour la sous-déclaration dans 17 pays et l'exhaustivité des données dans 11 pays. Dans plus de la moitié des pays, le dépistage du VIH était systématiquement offert par les cliniciens aux femmes enceintes (37 pays, 84 %), utilisateurs de drogues (32 pays, 73 %), les patients des cliniques IST (26 pays, 59 %), mais avec des proportions de population testées variant d'un pays à l'autre. Le lien entre les données VIH/sida et les données de mortalité était possible dans 17/44 pays.

Conclusion : des recommandations sont formulées pour souligner les besoins futurs de la surveillance du VIH/sida en Europe et pour améliorer la comparabilité des données en Europe.

## Резюме

Введение: цель опроса состояла в оценке национальных систем наблюдения за ВИЧ/СПИДом в Европе, для получения исходной информации, для улучшения сравнимости данных по ВИЧ/СПИДу.

Метод: стандартизированная анкета была послана 53 национальным корреспондентам ЕвроВИЧа. Эта анкета включала четыре части (регистрация случаев ВИЧ/СПИДа, ВИЧ тестирование, распространенность ВИЧ и наблюдение случаев смерти от ВИЧ/СПИДа) и исходила из данных наблюдения 2006 года. Корреспонденты из 44 стран (83 %) ответили на этот вопросник.

Результаты: Для регистрации ВИЧ случаев в 43/44 европейских стран были внедрены индивидуальные системы сбора данных и для регистрации случаев СПИДа во всех странах. Для регистрации ВИЧ, кодирование случаев использовалось в 28 странах, в то время как в 11 странах для идентификации случаев использовались полные имена.

В большей половине стран, работники здравоохранительных учреждений ВИЧ тестирование предлагали обычно беременным женщинам (37 стран, 84 %), ПИНам (32 страны, 73 %), пациентам ИППП (26 стран, 59 %), с широким диапазоном тестируемого населения в разных странах. Связывание данных ВИЧ/СПИДа со статистикой гражданского населения или с сертификатами смерти было возможно в 17/44 странах.

Заключение: Сформулированные рекомендации для того, чтобы выделить потребности в системе наблюдения ВИЧ/СПИДа в будущем и улучшить сравнимость данных на Европейском уровне.

# 1. Introduction

## BACKGROUND

In Europe, the reporting of HIV and AIDS cases is the mainstay of the epidemiological surveillance of HIV infection. Therefore, information regarding national reporting systems is necessary to underpin international comparisons of HIV and AIDS data. This is more so with the advent of the establishment of European structures to combat the HIV epidemic in Europe. Furthermore, the introduction of new treatment regimens and the application of technological advances in laboratories present a number of challenges and opportunities for the continuity and development of HIV surveillance in Europe.

Originally, the focus of surveillance rested on the reporting of AIDS cases, which was the main tool to monitor the epidemic trends, but with the introduction and widespread use of highly active antiretroviral treatment (HAART), the number of AIDS diagnoses has become less reflective of the underlying trends in HIV epidemic. Therefore, the reporting of HIV diagnoses has progressively replaced AIDS reporting as the surveillance instrument for monitoring the HIV epidemic in Europe. However, the major limitations of using HIV diagnoses to monitor the HIV epidemic are that this measure does not represent incidence (diagnoses may include infections that occurred several years previously) and depends on uptake and patterns of HIV testing in the population.

Attitudes and practices towards HIV testing have shifted dramatically with the introduction of HAART, and the move from "exceptionalism" towards the "normalisation" of HIV is reflected in the recent recommendations for the introduction of routine testing for HIV in many health care settings in the United States of America [1]. The current HIV testing policies and practices in European countries will have an impact on the number of cases of HIV newly diagnosed and subsequently reported.

The number of studies which estimate HIV incidence using serological techniques has increased since the introduction of the "detuned" assay [2-5]. The use of such serological techniques will enable HIV incidence to be estimated from surveillance data, so that the epidemic may be more closely monitored and prevention strategies and priorities reflect more closely the reality of the epidemic. A number of possible assays and techniques are available and increasingly employed in different environments.

The use of HAART had impacts on the management of HIV infection, so that HIV can now be viewed as a chronic disease. Greater emphasis is being placed on the estimation of HIV prevalence in the population in order to ascertain treatment needs. Monitoring mortality in the population of HIV positive individuals, both related and non-related to HIV infection, has increased the importance in providing insights into other causes of death (e.g. due to hepatitis C or suicide) and ensuring proper access to treatment.

## AIMS AND OBJECTIVES

The survey on HIV and AIDS surveillance aimed to assess national surveillance systems for HIV/AIDS in order to improve HIV/AIDS surveillance across Europe. The specific objectives of the survey were to:

- determine HIV/AIDS surveillance practices across Europe, with special emphasis placed on four identified areas: HIV/AIDS case reporting; HIV testing policies and procedures; HIV prevalence and incidence monitoring; HIV/AIDS mortality surveillance;
- develop technical recommendations and guidelines in order to improve data comparability across Europe;
- provide baseline data with which to ascertain the feasibility and coordinate future developments of HIV/AIDS surveillance in Europe.

## 2. Methods

The survey was conducted using a standardised questionnaire first tested through a pilot (EuroHIV steering group members) and sent to the EuroHIV national correspondents (end of April 2006) in all 53 countries of the WHO European Region. A Russian translation of the questionnaire was also provided to the correspondents of the former Soviet Union countries.

A reminder was sent at one month and 3 months and further contact (email, fax and telephone) was made to complete information where necessary.

The questionnaire (Annex 1) is divided into the four sections outlined below, which allowed national correspondents either to complete the survey themselves or to send part of the survey to be completed by designated national experts. The four sections of the survey were:

- HIV and AIDS case reporting;
- HIV testing policies and procedures;
- HIV prevalence and incidence monitoring;
- HIV/AIDS mortality surveillance.

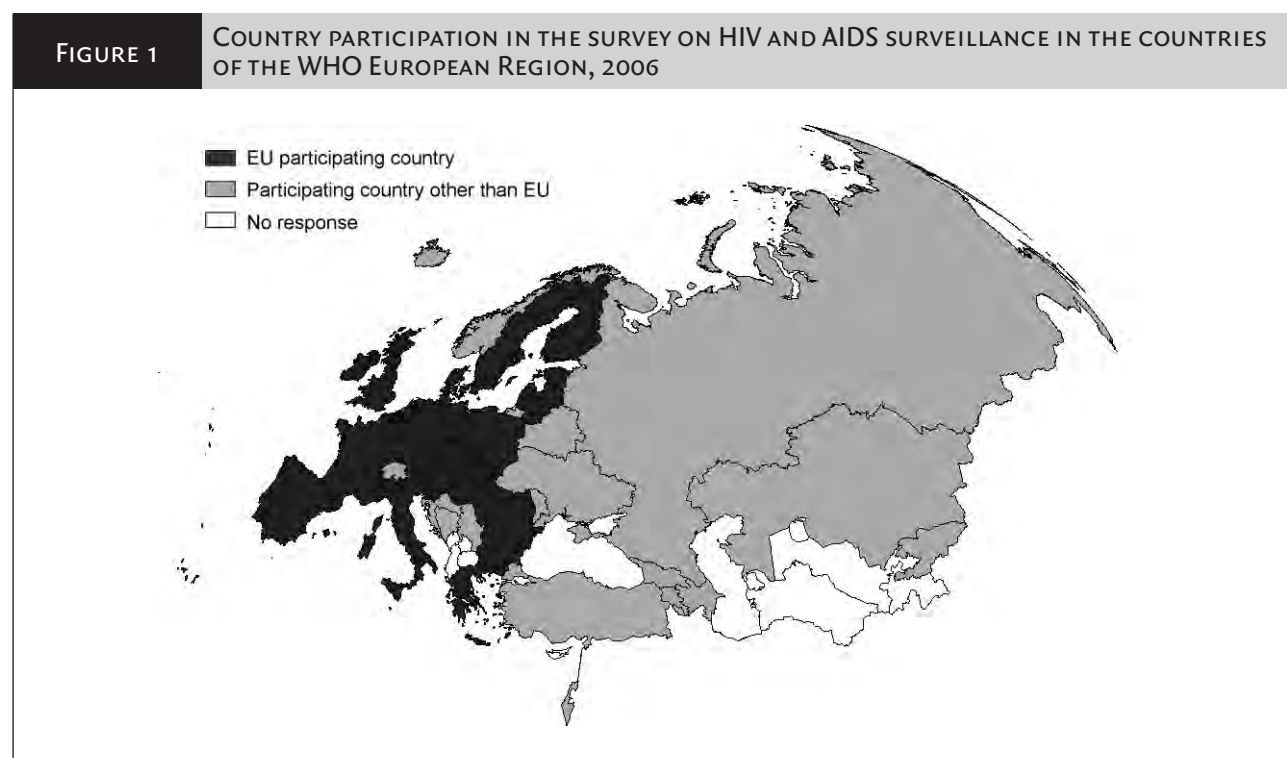
A draft report was circulated among all correspondents for comments as well as being the subject of discussion in a EuroHIV meeting of national HIV/AIDS surveillance correspondents.

## 3. Results

### 3.1 PARTICIPATION

The countries that participated in the survey are presented in Figure 1. The questionnaire was returned by 44 of 53 countries (overall response

rate of 83%): 26 of the 27 (96%) European Union (EU) countries and 18 of the remaining 26 countries (69%).



### 3.2 HIV AND AIDS CASE REPORTING

#### 3.2.1 Data collection system

In 2006, there was an HIV case reporting system in 43 of the 44 responding countries (98%), the exception being Austria where HIV surveillance was operated through a cohort survey (Table 1, Annex 2.1). In 37 countries (86%), it was specified that the sources of information were available at the national level for HIV data collection. Individual data were collected by 40 countries (93%). Reporting was done by both laboratories and physicians in almost two-thirds of the countries

(27 of the 43 countries), by laboratories only in 9 countries and by physicians only (either hospital-based physicians or community-based physicians or both) in 6 countries.

In 2006, there was a current AIDS case reporting in all the countries (Table 1, Annex 2.2) and data were collected at the national level in 41 of 44 countries (93%). Individual data were collected at least in 42 countries. AIDS cases were reported by physicians only in 32 (73%) countries (in 11 of which, reporting was done only hospital physicians), by both laboratories and physicians in 8 countries and by laboratories only in one country.

TABLE 1 INFORMATION ON DATA COLLECTION SYSTEM, 2006				
	HIV		AIDS	
	%	(n/N)	%	(n/N)
Case reporting	98%	(43/44)	100%	(44/44)
National level	86%	(37/43)	93%	(41/44)
Individual data	93%	(40/43)	95%	(42/44)
<b>Reporting by:</b>				
Laboratories only	21%	(9/43)	2%	(1/44)
Physicians only	14%	(6/43)	73%	(32/44)
Both	63%	(27/43)	18%	(8/44)

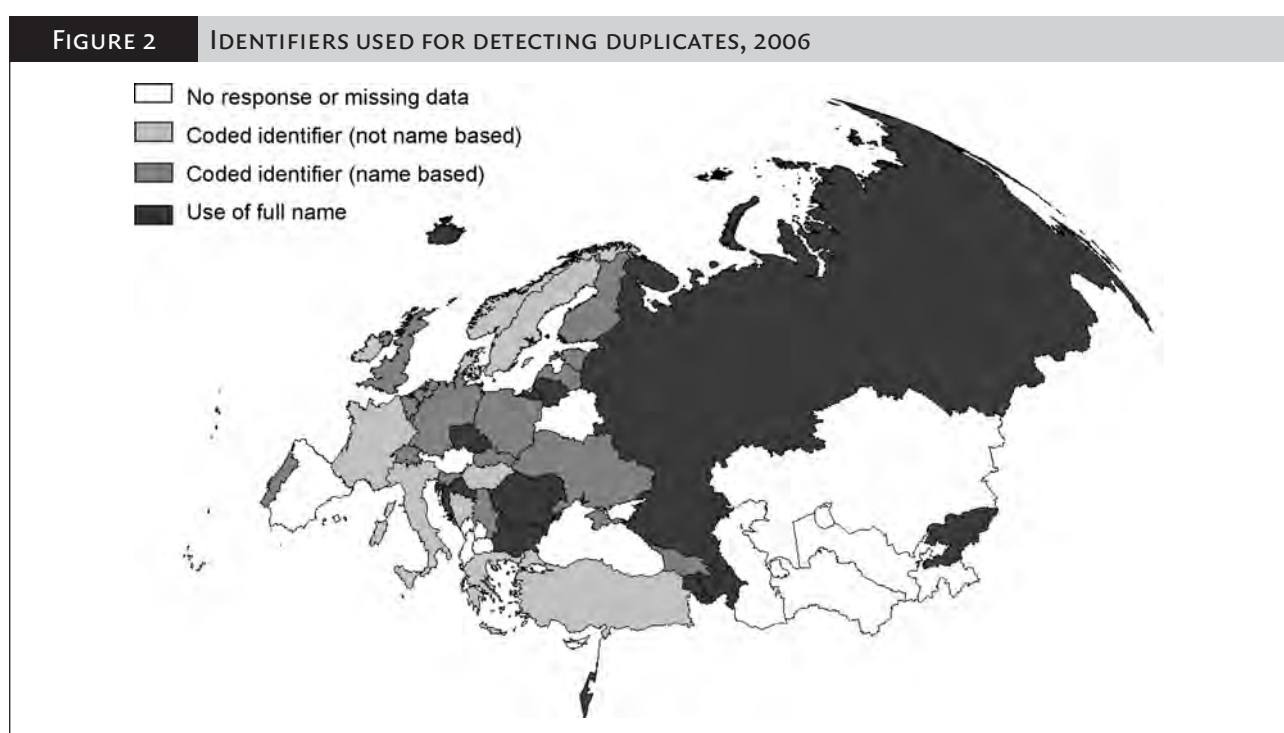
*n*: number of countries with positive answer.

*N*: number of participating countries.

HIV and AIDS case reports were compiled in one combined database in 30 out of 43 countries (70%) and for 7 additional countries where HIV and AIDS case reporting were in different databases there was a possibility of linkage. Thus, of the 43 countries, the minority (6) was unable to link HIV and AIDS databases; these were from Denmark, Iceland, Italy, Malta, Norway and Spain.

### 3.2.2 Case identification and detection of duplicate reports

Different means were employed to compile an individual identifier in order to detect duplicate HIV reports (Annex 3). Data were provided by 40 of the 44 countries (information not reported for Austria, Belarus, Kazakhstan, and Spain). Twenty-eight countries (72%) used a coded identifier which was based on name or part of name in 17 countries and does not include name in eleven countries. Twelve countries (28%) used full names to identify duplicate cases (Figure 2).



### 3.2.3 HIV and AIDS case definitions and testing algorithms for the diagnosis of HIV cases

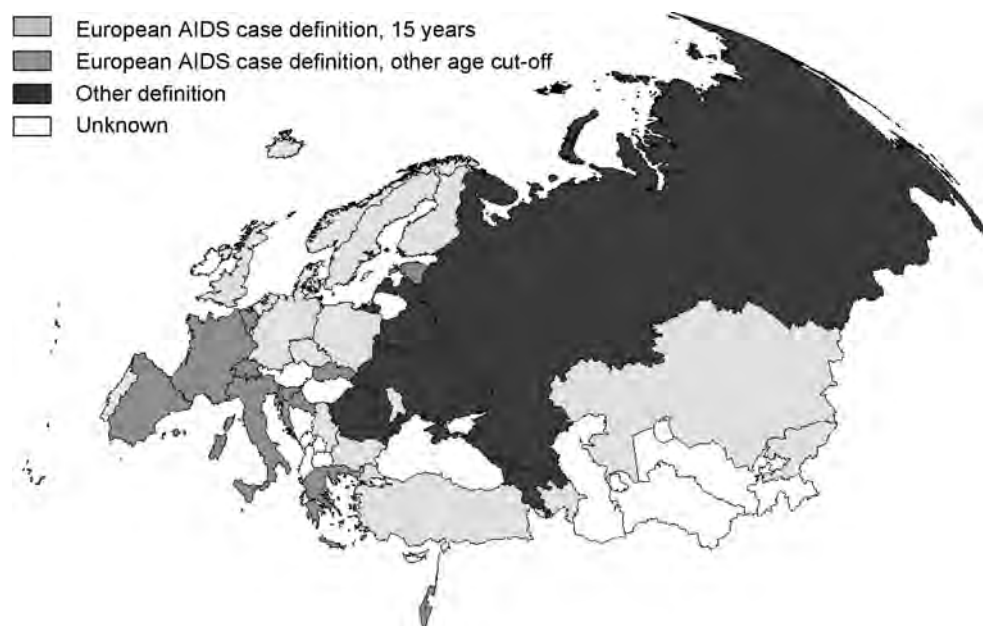
#### AIDS surveillance case definition

Most of the countries in the WHO European Region (35, 80%) use the 1993 European AIDS Surveillance Case Definition [6]. Seven countries (Armenia, Belarus, Georgia, Latvia, Romania, Russian Federation and Ukraine) use the CDC AIDS case definition [7]. Andorra and Belarus use the WHO 1994 case definition for AIDS surveillance in adults and adolescents (Annex 4).

The age cut-off for adolescent and adult AIDS surveillance case definitions varies between countries (Figure 3). In the 1993 European AIDS case definition, the age cut-off for adults and adolescents was 13 years and over. However, several countries use 15 years or other age limits. Among the 35 countries using the European AIDS case definition, the age cut-off for adults and adolescent was 15 years in 17 countries (which is in accordance with the proposed ECDC case definition [8]), 13 years in eight countries and another or unknown age cut-off in the 10 remaining countries. In countries using the CDC or WHO AIDS case definition, the age cut-off for adults and adolescents varies between 12 and 15 years.



**FIGURE 3** AGE CUT-OFF FOR ADOLESCENT AND ADULT AIDS CASE DEFINITION, 2006



### HIV surveillance case definitions

The various HIV testing algorithms required for the diagnosis and reporting of an HIV case ( $\geq 18$  months of age) for surveillance purposes are illustrated in Figure 4. In two countries (Malta and Kyrgyzstan), the reporting of cases of HIV infection identified by a single positive ELISA is permitted in certain situations. Seventeen countries permit HIV reporting for surveillance purposes with two positive ELISA results. A screening test with a positive ELISA confirmed by Western Blot is required in 34 countries, confirmation by immunoblot is required in 14

countries and other confirmatory tests are used in 5 countries (PCR, p24 antigen test, immuno-fluorescence test and immuno-precipitation test). Four countries required three positive tests for diagnosis/reporting of HIV cases (Armenia, Kazakhstan, Portugal and Romania).

Single positive results with PCR, p24 antigen or viral culture are accepted by 10 countries, although in these countries, the number of HIV cases detected using one or other of these tests represent less than 10% of cases reported in 2005.

**FIGURE 4** HIV TESTING ALGORITHMS USED IN THE COUNTRIES OF THE WHO EUROPEAN REGION, 2006

First screening test	Confirmation test	Number of countries
ELISA	No test	2
	2 <sup>nd</sup> ELISA	17
	Western Blot	34
	Immunoblot	13
	Other	5
	2 <sup>nd</sup> + 3 <sup>rd</sup> ELISA or other test	5
PCR P24 antigen Viral culture		10

For children less than 18 months of age, the HIV detection tests used are:

- HIV nucleic acid (RNA or DNA detection) in 33 countries with a minimum number of determinations varying from 1 (Belgium) to 5;
- HIV p24 antigen test, including neutralisation assay in 8 countries with 2 or 3 minimum number of determinations;
- HIV isolation (viral culture) in 3 countries.

### Rapid tests

Rapid tests are used in 25 countries, either in hospitals, clinics or testing centres (Annex 5). Other settings were mentioned: mobile medical units, private laboratories, street for commercial sex workers, IDU low threshold services sites, STI clinics, municipal health services, obstetric clinics, outreach clinics.

In 15 countries, rapid tests can be used in preference to other tests in health care settings. Rapid tests are preferably used systematically in 4 countries (Armenia, Ireland, Netherlands, Ukraine), frequently in 2 countries (Portugal and United Kingdom in specific settings) and occasionally in 4 countries (Czech Republic, France, Hungary and Kyrgyzstan).

### 3.2.4 Variables collected with HIV and AIDS reports

Tables 2a and 2b show the number of countries collecting data related to 12 variables for HIV case reporting (Annex 6.1) and 15 variables for AIDS case reporting (Annex 6.2). Additional information on specific variables (molecular epidemiology, IDU status, ART resistance, clinical stage) is available in Annexes 6.3 and 6.4.

TABLE 2A VARIABLES COLLECTED IN THE NATIONAL HIV CASE REPORTING SYSTEM, 2006		
Variables	HIV case reporting (N=43)	
	No. countries	%
Sex	43	100
Age	43	100
Ethnicity and/or place of birth	34	79
Date of HIV diagnosis	43	100
Date of HIV report	40	93
Clinical stage	33	77
CD4 count	21	49
Transmission	41	95
IDU status	24	56
Resistance to ART	7	16
Date of death	31	72

In HIV case reporting, the following variables are collected:

- sex and age in all countries;
- ethnicity and /or place of birth in 34 countries (79%) and is planned to be collected in Bulgaria (not collected in Belarus, Estonia, Finland, Hungary, Moldova, Poland, Switzerland and Ukraine);
- date of HIV diagnosis by all the countries. Date of HIV report is not collected in Ireland, Poland. However, such information is reported to EuroHIV;
- CD4 count in 21 countries and is planned to be collected in 6 countries;
- transmission category in almost all the countries;
- information on drug injection status is collected by 24 countries;
- date of death in 31 countries.

TABLE 2B VARIABLES COLLECTED IN THE NATIONAL AIDS CASE REPORTING SYSTEM, 2006		
Variables	AIDS case reporting (N=44)	
	No. countries	%
Sex	44	100
Age	44	100
Ethnicity and/or place of birth	35	80
Date of:		
HIV diagnosis	41	93
HIV report	33	75
AIDS diagnosis	42	95
AIDS report	42	95
Clinical stage	32	73
CD4 count	27	61
Transmission	43	98
IDU status	26	59
ART	27	59
Resistance to ART	9	20
Date of death	39	89

In AIDS case reporting, the following variables are collected:

- sex and age in all the countries;
- ethnicity and/or place of birth in 35 countries (80%) and it is planned to be collected in Bulgaria (not collected in Belarus, Estonia, Finland, Hungary, Moldova, Poland, Switzerland and Ukraine);
- dates of HIV diagnosis and report by almost all the countries, except Denmark (none of these dates). Only "date of HIV diagnosis" (not date of HIV report) is collected in France, Germany, Ireland, Italy, Latvia, Russian Federation, Spain, Switzerland;
- dates of AIDS diagnosis and report by all the countries, except Turkey;
- CD4 count in 27 countries (61%) and is planned to be collected in Moldova and Russian Federation ;
- transmission category in almost all the countries;
- Information on drug injection status is collected by 26 countries;
- date of AIDS death is collected in 39 countries, and planned to be collected in Estonia.

### **Molecular biology**

Nine of 44 countries did not collect any data regarding the molecular biology of HIV. Of the remaining 35 countries, 10 collected data on types, groups and sub-types, four on types and sub-types, three on sub-types only; 17 countries collected data only on types and information was unknown for one country. Methods used to collect data on HIV molecular epidemiology are serological assays (15 countries), PCR (21 countries) and hybridisation (Belarus). Serological assays and PCR are used in 9 countries (Azerbaijan, Bulgaria, Croatia, France, Georgia, Hungary, Kyrgyzstan, Portugal, Sweden).

### **IDU status**

Information on drug injection status is collected by more than half of the countries for both HIV reporting (24 countries) and AIDS case reporting (25 countries).

### **Anti-retroviral therapy (ART) and HIV resistance**

Use of ART is collected with AIDS reports by 26 countries and a further five countries (Belgium, Bulgaria, Estonia, Finland, Russian Federation) plan to start collecting this information in the near future.

Monitoring of resistance to ART is performed in 11 countries either with HIV reports (7 countries) or AIDS reports (9 countries). This information is planned to be collected within the next two years in 11 additional countries. In 9 countries, data on HIV resistance are collected according to an "on-going" process. Data collection takes place at HIV diagnosis in Norway and AIDS diagnosis in Switzerland. The definition used for resistance is "Stanford algorithm" in 4 countries, IAS (key resistance mutations defined by the International AIDS Society) in 4 countries and another definition (not specified) in 2 other countries.

### **Clinical stage**

Clinical stage at HIV diagnosis was collected by 31 countries and 4 countries planned to collect this variable in the near future (Bulgaria, Luxembourg, Moldova, Russian Federation). The definition that is used for clinical stage is:

- the 2005 revised WHO clinical staging of HIV and AIDS for adults and adolescents in 10 countries;
- the 1990 WHO clinical staging of HIV and AIDS for adults and adolescents in 5 countries;
- the 2005 CDC clinical staging system in 7 countries.

## **3.2.5 National evaluations of HIV and AIDS case surveillance systems**

Information on whether countries had evaluated the national HIV and AIDS case surveillance systems in terms of under-reporting, validity, completeness and timeliness was collected (Annexes 7.1 and 7.2).

### **Under-reporting**

Over half of the countries (27 of 44, 61%) have not evaluated either their HIV or AIDS surveillance systems for under-reporting. Of the 17 countries that have done so, 6 have assessed under-reporting of HIV reports only, 3 of AIDS only and 8 of both surveillance systems. However, only 4 countries have assessed under-reporting in a formal survey, of which only two have been published.

The percentage of under-reporting has been estimated:

- in the United Kingdom at less than 10% for HIV cases and less than 40% for AIDS cases (unpublished survey);
- in Germany, by laboratories in a survey, at less than 1% of all HIV diagnosis. Under-reporting for newly diagnosed HIV cases due to missing data was estimated to be up to 20%. Under-reporting for AIDS cases was estimated to be 40%;
- in Belarus at 2% for HIV reporting.

### **Validity**

The validity of the HIV and AIDS reporting system (e.g. between the information provided on the original case report and the medical record) has been assessed in 7 countries (100% in Croatia and Czech Republic and 98% in Belarus) and the validity of HIV reporting system has been assessed at 100% in Croatia, Czech Republic and Moldova.

### **Completeness**

The completeness of HIV and AIDS reporting (*i.e.* percentage of cases with all variables completed) has been determined in 11 countries and varies from 23% to 100% for HIV cases and 40% to 100% for AIDS cases.

### **Timeliness**

Nineteen of 44 countries (43%) have not evaluated the timeliness of either their HIV or AIDS surveillance systems (*i.e.* time from diagnosis to report). Of the 18 countries that have done so, 3 have assessed timeliness of HIV reports only, 2 of AIDS reports only and 13 of both surveillance systems. Of the 16 countries which reported the timeliness of their HIV reporting systems, all but three stated that 90% or more of HIV reports were received within six months (in Belarus, United Kingdom and France, over 75% were received within six months).

In contrast, of the 15 countries which reported the timeliness of their AIDS reporting systems, only eight stated that 90% or more of AIDS reports were received within six months and six countries stated that 10% or more of AIDS reports were received with a delay of more than 12 months.

## **3.3 HIV TESTING**

### **3.3.1 HIV testing practices**

Three types of HIV testing practices have been carried out among different populations: HIV testing routinely offered by health-care providers (Table 3, Annex 8.1), voluntary testing (Annex 8.2) and mandatory testing (Annex 8.3).

TABLE 3

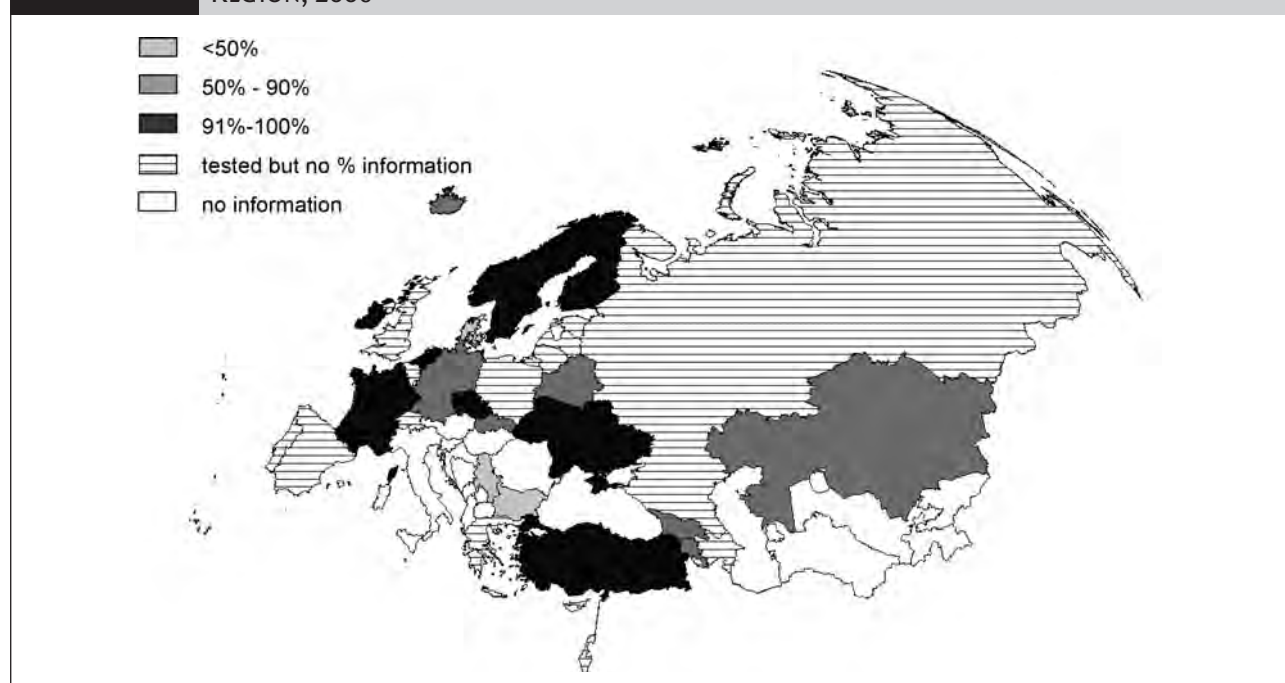
HIV TESTING ROUTINELY OFFERED BY HEALTH-CARE PROVIDERS IN SPECIFIC POPULATIONS, 2006

Population	No. countries	% of countries	% range of population tested
Pregnant women	37	84	2-100
IDUs	32	73	10-100
STI clinic patients	26	59	30-100
TB patients	21	48	60-100
Prisoners	20	45	10-100
Sex workers	17	39	24-100
Men who have sex with men (MSM)	16	36	15-100
Immigrants	11	25	10-100
Hospital patients (non TB)	9	20	10-100
Young people (<25)	6	14	6-85

In 37 countries (84%), HIV testing is routinely offered to pregnant women by health care providers. Of these 37 countries, 23 provided percentages of pregnant women tested (Figure 4).

FIGURE 4

PERCENTAGE OF PREGNANT WOMEN ROUTINELY TESTED FOR HIV IN THE WHO EUROPEAN REGION, 2006



Estimates of the percentage of pregnant women routinely tested for HIV infection were provided by 23 countries, of which 11 estimated that more than 90% were tested, nine estimated that between 50% and 90% were tested and three countries estimated that less than 50% were tested.

HIV testing is routinely offered to IDU in 32 (73%) countries, STI clinic patients in 26 (59%) countries and TB patients in 21 (48%) countries.

HIV testing is mandatory among blood donors in all countries. In a few countries, it is mandatory among immigrants (Andorra, Azerbaijan, Russian Federation), military (Croatia, Lithuania, Moldova, Romania, Ukraine), sex workers (Austria, Greece, Moldova and Turkey), pregnant women (Czech Republic and Estonia) and among surgical patients in Turkey.

### 3.3.2 Policies on home testing and home sampling

Policies on home testing and home sampling are not approved or not available in 39 (86%) countries. However, it is possible to order HIV testing kits from the internet, internationally. In three countries, it has been specified that policies on home testing and home sampling were available (Austria, Serbia and United Kingdom). There is no formal policy in Ireland (under discussion).

### 3.3.3 Pre- and post-test counselling

HIV testing is accompanied by pre- or post-test counselling or both in more than three quarters of the countries when testing is routinely offered by health-care providers (35 countries, 79%) and in 31 countries (71%) when testing is voluntary or self-initiated (Table 4, Annex 9).

TABLE 4	NUMBER OF COUNTRIES WITH PRE- AND/OR POST-HIV TEST COUNSELLING		
	Pre- and post- counselling	Pre- or post- counselling	No counselling
Routinely offered by health care providers	31 (70%)	4 (9%)	8 (18%)
Voluntary/self- initiated	28 (64%)	3 (7%)	12 (27%)
Mandatory	19 (43%)	6 (14%)	24 (55%)
Rapid test	13 (30%)	1 (2%)	30 (68%)
Home testing	1 (2%)	0 (0%)	43 (98%)

### 3.3.4 Partner notification

Information on partner notification is described in Table 5 (Annex 10).

TABLE 5	PARTNER NOTIFICATION OF HIV-INFECTED PERSONS IN THE WHO EUROPEAN REGION, 2006	
	No. countries with positive answer	% of countries
Partner notification		
voluntary	32	82
compulsory	4	10
not sure, don't know	3	8
Referred by		
patient and provider	19	51
patient only	13	35
provider only	5	14
% of patients reached:		
<10%	13	46
10-50%	10	36
50-90%	3	11
>90%	0	0

Partner notification is voluntary in 32 countries (82%) and compulsory in only 4 countries. Partner notification is carried out by both patients and health-care providers in 19 countries (51%), patient only in 13 countries (35%) and providers only in 5 countries.

Only Kazakhstan mentioned that nationally defined targets are set for monitoring the effectiveness of partner notification. The proportion of HIV-infected patients usually reached through partner notification is less than 10 % in more than half of the countries (13 countries, 46%), it is considered to be between 10% and 50% in 10 countries. Estimates are based on personal assessment in most of the countries (18 countries, 72%), on published or unpublished surveys in five countries and one country carries out ongoing multi-centre assessment.

## 3.4 ASSESSMENT OF RECENT HIV INFECTION AND HIV INCIDENCE

Recent HIV infection can be assessed using serological methods in 10 countries (see Annex 11). In the Netherlands, recent HIV infection has been assessed in Amsterdam. The tests being used are the Avidity test in six countries, IgG capture BED-EIA in five countries, and other immuno-assay in four countries. Other tests possibly used to measure acute HIV infection (markers of p24 antigen or RNA) have been mentioned in 8 countries (Annex 11).

In countries where serological methods are available to assess recent HIV infection and where incidence has been assessed, the information collected for HIV incidence testing is individual HIV testing history in 9 countries, risk behaviour in 7 countries, ART in 2 countries and post-exposure prophylaxis in 3 countries.

In 12 countries, incidence estimates have been reported in some subgroups of population. The methods used to assess such estimates vary from one country to another. In Denmark, incidence estimates are based mainly on the estimated number of People Living with AIDS among different groups of population and a "time-weighted" proportion of reports in each group. In the United Kingdom, incidence measurements were performed among men who have sex with 16 sentinel Genito-Urinary Medicine (GUM) clinics in London and outside London as part of the unlinked anonymous surveys [9-11]. Some countries have reported the percentage of recent HIV infection as a proxy for incidence in specific populations, although such an indicator is not a measure of incidence [12].

## 3.5 HIV PREVALENCE DATA

### 3.5.1 Monitoring HIV prevalence

HIV prevalence is reported in different populations using the following methods [13] (Table 6, Annex 12):

- diagnostic testing (DT): systematic reporting of results of all diagnostic or screening testing, carried out with the primary objective of providing individuals with their sero-status;

- sero-prevalence studies (SP): based either on testing of serum or saliva samples (SP) or on self reported (SR) HIV status;
- unlinked anonymous testing (UAT): testing of specimens for markers of infection after elimination (unlinking) of all personal identifying information from each specimen.

TABLE 6 MONITORING HIV PREVALENCE IN THE COUNTRIES OF THE WHO EUROPEAN REGION, 2006							
	No. countries using $\geq 1$ to 3 methods	Diagnostic testing		Sero-prevalence		UAT	
		N	%	N	%	N	%
Pregnant women	29	25	66	6	16	7	18
IDU	27	18	45	9	23	13	33
STI clinic patients	25	19	56	9	26	6	18
MSM	22	14	47	9	30	7	23
Prisoners	22	16	59	8	30	3	11
Sex workers	20	13	41	12	38	7	22
TB patients	15	14	74	4	21	1	5
New born	10	6	55	1	9	4	36
Hospital patients (non TB)	9	6	55	2	18	3	27
Abortion clinic patients	2	3	60	1	20	1	20

Among pregnant women, 29 countries (66%) monitor HIV prevalence using at least one of the 3 methods mentioned above. HIV prevalence is assessed through DT in 25 countries (66%), SP surveys in 6 (16%) countries and UAT in 7 (18%) countries.

HIV prevalence is assessed among IDU in 27 countries (61%). The method used is DT in 18 (45%) countries, SP surveys in 9 countries and UAT in 13 countries.

In more than half of the countries (25 countries, 57%), HIV prevalence is assessed in STI clinics. Diagnostic testing is employed in 19 (56%) countries.

HIV prevalence is assessed among MSM and prisoners in 22 countries (50%).

Among sex workers, information on HIV prevalence is available in 20 countries (45%), using DT in 13 countries (41%), SP surveys in 12 countries (38%) and UAT in 7 countries.

Information on HIV prevalence is available among TB patients in 15 countries.

### 3.5.2 Estimation of the number of people living with HIV and AIDS (PLWHA)

The number of people living with HIV and AIDS (PLWHA) was estimated in 23 countries. The methods used were Workbook in 9 countries, Spectrum in 7 countries and other methods in 11 countries (e.g. multiplier method in Croatia, back calculation in Germany and Switzerland).

The number of people diagnosed and living with HIV has been estimated in 20 countries. The number of people diagnosed and living with AIDS has been assessed in 17 countries.

The number of people not diagnosed and living with HIV has been estimated in 10 countries (Armenia, Croatia, Denmark, Finland, Iceland, Israel, Norway, Spain, Sweden and United Kingdom). The number of people not diagnosed and living with AIDS has been assessed in Armenia, Croatia and Israel.

## 3.6 MORTALITY

### 3.6.1 Linkage of mortality data

The HIV database can be linked to vital statistics or death certificate information in 18 countries of which 7 are in the EU (Annex 13).

The national mortality data used to link to the HIV database are:

- all national mortality data in eight countries;
- limited mortality database of AIDS defining illnesses in nine countries;
- limited mortality database of HIV-related deaths (overdose, suicide) in nine countries.

The AIDS database can be linked to vital statistics or death certificate information in 20 countries (9 EU countries).

The national mortality data used to link to the AIDS database are:

- all national mortality data in eight countries;
- limited mortality database of AIDS defining illnesses in seven countries.



Fourteen countries have undertaken surveys among specific populations (general population, MSM, IDU and immigrants) to monitor HIV and/or AIDS mortality.

Surveys using mortality data for a sample of reported HIV and/or AIDS cases were conducted in Croatia, Kazakhstan and Moldova in the general population; in Kyrgyzstan (HIV and AIDS) for MSM and IDU; and in Georgia (HIV and AIDS) and Denmark (AIDS data) in all groups of population.

Surveys using deaths among a cohort of HIV positive MSM and IDU were performed in Denmark (AIDS cases). Mortality analysis among a cohort of HIV-infected people has been conducted in Switzerland (HIV and AIDS cases).

In-depth national evaluation of causes of death among PLWHA from hospital data was performed in all specific populations (mentioned above) in Bosnia and Herzegovina. This was also performed in France, Kazakhstan and Spain in the general population and among IDU in Denmark (AIDS cases).

Analyses of death certificates were carried out in the general population in Finland, France, Italy, Kazakhstan, Kyrgyzstan, Portugal, United Kingdom; among MSM in Finland and United Kingdom; among IDU in Denmark, Finland and United Kingdom.

### 3.6.2 Monitoring HIV and AIDS related death information

#### Death among HIV infected persons

Mortality data for HIV cases are reported in the routine HIV surveillance in 29 (66%) countries (Annex 14.1).

Death is reported by physicians in 27 countries and another source of information in 6 countries. The information collected is "all deaths among PLWH" in 15 countries and "only deaths among registered HIV cases" in 15 countries. Both types of information are collected in Azerbaijan and Portugal.

In most countries where mortality data are reported in the routine HIV surveillance, the main variables routinely collected to monitor HIV mortality are: date of death (29 countries); date of HIV diagnosis (26 countries); cause of death (23 countries); stage of disease at death (16 countries); CD4 count and viral load at death (7 countries). Seven countries (Azerbaijan, Czech Republic, Latvia, Lithuania, Luxembourg, Netherlands, United Kingdom) collect all 6 variables.

#### Death among AIDS cases

Mortality data on AIDS cases are reported in the routine AIDS cases surveillance system in 41 (93%) countries (Annex 14.2).

AIDS death is reported by physicians in 39 countries and by another source of information in 6 countries.

The information collected is "all deaths among PLWA" in 19 countries, "only deaths among registered AIDS cases" in 18 countries and "deaths from AIDS defining illness" in 2 countries.

In most countries where mortality data are reported in the routine AIDS cases surveillance system, the main variables routinely collected to monitor AIDS mortality are: date of death (42 countries); date of AIDS diagnosis (38 countries); cause of death (33 countries); ART history (22 countries); CD4 count (12 countries) and viral load at death (11 countries). Eleven countries (Czech Republic, Estonia, Georgia, Germany, Kazakhstan, Latvia, Lithuania, Luxembourg, Netherlands, Romania and United Kingdom) collect all 6 variables.

#### Coding system

HIV-related causes of death are monitored using AIDS defining illnesses as causes of deaths according to ICD10 in 16 countries (Annex 14.3).

In 8 countries (Bulgaria, Germany, Iceland, Norway, Portugal, Serbia, Switzerland and United Kingdom), at least two coding systems are used to monitor HIV-related causes of deaths:

- AIDS defining (or not) causes of deaths according to ICD10;
- underlying cause of death according to ICD10.

Another coding system is used in 5 countries to monitor underlying cause of death (Georgia, Ireland, Italy, Netherlands, United Kingdom).

The following indicators are generated for deceased HIV patients:

- the percentage of patients who ever received ARV (9 countries);
- the percentage of patients who died within 6 to 12 months after HIV diagnosis (11 countries).

In some countries, additional variables are collected apart from the regular HIV and AIDS surveillance system (e.g. concomitant diagnosis or co-morbidity (hepatitis B/C) in 14 countries, autopsy report in 8 countries).

The reporting delay between HIV death and reporting of death was assessed in a few countries (Annex 14.4). For example, in the United Kingdom, 62% of HIV deaths were reported within 6 months after death, 16% between 6 and 12 months and 22% later than 12 months after death. In the Czech Republic, 85% of HIV deaths were reported within the 6 months following death.

For AIDS, it has been assessed that over 60% of AIDS deaths are reported within 6 months after the death in 6 countries: Belarus (98%), Belgium (88%), France (75%), Kyrgyzstan (100%), Serbia (99%) and Switzerland (64%). More than 75% of AIDS deaths are reported later than 12 months after death in Germany (85%) and Portugal (75%).

The percentage of deaths among people living with HIV has been estimated in 16 countries and the percentage of deaths among people living with AIDS has been estimated in 20 countries.

## 4. Discussion

### HIV AND AIDS CASE REPORTING

AIDS case reporting has been carried out at the European level since 1984 and, until the introduction and widespread use of HAART in the late nineties, it was the main surveillance instrument for monitoring the epidemic. Although AIDS surveillance data has become less reflective of the underlying trends in HIV infections, it does still provide an objective indication of severe HIV disease. According to a survey that was conducted in 2005 [14], AIDS case reporting was considered as somewhat useful but not as much as before in almost half (17/43) of the countries in Europe. Although HIV case reporting was developed in many European countries in the late 1980s, it was established at the European level in 1999 [15].

In 2006, HIV and AIDS case reporting systems were in place in almost all the 53 countries of WHO European Region. In only two countries (Italy, Spain) was there no national system for HIV case reporting, although both countries had established HIV case reporting systems in certain regions. Interestingly, HIV reporting in both Austria and the Netherlands is based on a national cohort of HIV-positive patients. However, in country responses to this survey, the Netherlands, but not Austria, stated that they had a national HIV reporting system. This is an example of how countries may describe differently similar surveillance systems. The modalities for data collection can be drawn in a broad perspective at European level: data collection is computerised and individually based in most of the countries, AIDS case reporting is mainly physician based and HIV reporting is physician and laboratory based.

Although linkage between HIV and AIDS individual reports is possible in most of the European countries (either within the same database or by linkage of database), it is still not possible in some countries with a high case load, mainly due to confidentiality reasons. Linking HIV and AIDS databases allows assessment of the progression of HIV disease and evaluation of modalities for HIV testing and care practices. In countries where HIV and AIDS databases are linked, it is possible to achieve better individual case follow-up.

Confidentiality remains an important issue for HIV reporting. Although most of the European countries use a coded identifier to identify duplicate report, the full name is still used in 11 countries. While the use of full names needs strict and enforceable regimes of confidentiality to secure the registries, the use of unique coded identifiers depends on the reliability of the encoding system to identify duplicate reports [16]. Among the nine countries that were using full names to identify duplicate cases in 1998 [17], five were still using them in 2005 (Czech Republic, Israel, Lithuania, Moldova and Russian Federation) and two countries (Poland and Serbia) are now using a code based on name (information unavailable for the two countries). In contrast, in the United States, HIV surveillance was name-based in almost all the States in 2006 [18].

Although most of the countries use the 1993 European AIDS Surveillance Case Definition, some criteria still need to be standardised across European countries (e.g. the age cut-off for adults and adolescents is 13 in some countries and 15 in others). The AIDS case definition is

currently under revision by the European Centre for Disease Prevention and Control and will be published in the near future. In parallel, in order to better monitor HIV treatment needs, the case definition for HIV surveillance has been recently revised by WHO [19] to include a clinical and immunological classification of HIV-related disease.

Of the variables included in HIV and AIDS reports at the European level, some are currently collected by more than 90% of the countries (e.g. sex, age, dates of diagnosis and report of HIV and AIDS, transmission categories) and others are not systematically collected by all the countries (e.g. ethnicity, date of death, antiretroviral treatment at AIDS diagnosis or CD4 count at HIV diagnosis). Collecting information on CD4 count as well as clinical stage at HIV diagnosis can be useful to monitor the proportion of cases diagnosed with advanced HIV infection and thereby provide information with which to target efforts to reduce late diagnosis. A number of countries also monitor the molecular biology of HIV. This information can be used to identify HIV strains sharing the same genetic pattern, and thereby better characterise risks factors of genetic and environmental origin. This approach can also serve to better understand resistance to HIV treatment.

Information on HIV resistance is collected in only a quarter of the European countries, mainly according to an "on-going" process. Monitoring HIV drug resistance can be used for public health interventions or treatment monitoring [20]. While some guidelines recommend that HIV drug resistance surveillance should focus on individuals newly diagnosed with HIV in order to track transmitted resistance over time [20], other projects support genotypic resistance testing for all antiretroviral-naïve individuals (recently and chronically infected) [21]. Different definitions are used to monitor HIV drug resistance and the need for a specific definition of what constitutes transmitted drug resistance has been underlined [22].

In two-thirds of the countries, HIV and/or AIDS surveillance systems have been evaluated using one of four criteria: under-reporting, validity, completeness, timeliness. In countries where specific evaluations have been conducted, the percentage of under-reporting is higher and reporting delays longer for reporting of AIDS cases than of HIV infections. Completeness of HIV and AIDS reporting varies widely from one country to another and few countries have evaluated the validity of their reporting systems. Although the criteria for evaluation cited above are the most commonly used to evaluate HIV/AIDS surveillance systems, other assessment indicators (simplicity, flexibility, acceptability and representativeness) should also be used [23-25].

### TESTING POLICIES AND PRACTICES

In more than half of the European countries, HIV testing is routinely offered by health-care providers to targeted populations, such as pregnant women, STI clinic patients and TB patients. However, as demonstrated by testing policies for pregnant women, the percentage of the population being routinely tested varies widely from one country to another. In most countries, HIV testing is also routinely offered by health-care providers to high risk groups such as IDU and, in a few countries, testing is offered to other risk groups (e.g. commercial sex workers, prisoners and MSM).



HIV testing is mandatory among blood donors in all countries. Mandatory testing in specific populations (e.g. commercial sex worker) is established in only a few countries. The benefit of introducing mandatory testing as a public health measure is limited as demonstrated in Austria where HIV prevalence among registered commercial sex workers is 0%, but among illegal sex workers it is 3.7% [26].

Early HIV testing has benefits for the HIV-positive individual (early access to treatment) and the community (reduced transmission of HIV). In the USA, the proportion of persons who are not aware of their HIV sero-status is high, estimated at 25% [27] and this proportion is as high as 30% in Europe [28]. To encourage the uptake of HIV testing in the USA, routine HIV testing of all patients in health-care settings has been recommended [1]. WHO guidelines on provider-initiated HIV counselling and testing in health facilities have been published [29]. In Europe, there is emphasis on increasing voluntary HIV testing to reduce the undiagnosed fraction of the HIV infected population [28] and European guidelines are currently being developed by WHO and ECDC.

In most European countries, HIV testing is accompanied by counselling (pre- and/or post-) when testing is initiated either by the provider or by the patient. In many health-care settings, an "opt-out" approach (consent is inferred unless the patient declines testing) for routine HIV testing may be proposed. Post-test counselling is still considered as an integral component of the HIV testing process in Europe and is viewed as essential for both those who test HIV-negative (prevention) and HIV-positive persons (psycho social support) [29].

The use of rapid tests has been developed in the past decades. Rapid tests are a major technical advance and provide easy access individuals to their status. They demonstrate sensitivities and specificities comparable to those of enzyme immunoassays without the need for advanced technologies [30]. However, data in this report show that rapid tests are not currently used in health-care setting in many European countries. Policies on home-testing and home-sampling are seldom approved or available in European countries.

Thirty-nine countries reported that they undertake partner notification for new HIV diagnoses, which was voluntary in all but four countries (Georgia, Iceland, Norway and Sweden). In 1996, policies for partner notification were established in 14 of 25 countries in which partner notification was carried out in 2006 [17], indicating the wider adoption of this intervention in the past decade. In some European countries, the proportion of HIV-infected persons usually reached though partner notification has been estimated at less than half of the patients. While most countries have a mix of provider and patient referral systems, currently the best evidence is for provider referral [31].

## PREVALENCE STUDIES

Approaches used to assess HIV prevalence in Europe differ between countries and populations. While HIV screening tests are routinely performed among pregnant women for diagnostic purposes and routinely collected for surveillance purposes in two-thirds of European countries, sero-prevalence surveys among commercial sex workers and unlinked anonymous testing among IDU are still of current use in one third of the countries. Whereas unlinked anonymous testing

was available in most of the countries in 1996, it was used in few countries to monitor HIV prevalence in 2006 (7 countries for pregnant women, 10 countries for IDU).

In Europe, HIV prevalence data for specific populations (e.g. pregnant women, men who have sex with men, injecting drug users) are currently collated by EuroHIV in the European HIV prevalence database [26,32]. HIV sero-surveillance studies, especially when combined with behavioural surveillance, are important components of second generation HIV surveillance. The expansion of routine HIV testing in many sentinel populations (e.g. STI clinic attendees or pregnant women) represents an opportunity to improve HIV sero-surveillance practices since countries will be able to better monitor HIV prevalence in these populations, provided they ensure that they have good data collection systems in place.

## PERCENTAGE OF RECENT HIV INFECTION AND HIV INCIDENCE

With the development of new technologies to distinguish whether new HIV diagnoses are either recent or long-standing infections, it is possible to provide estimates of HIV incidence and provide a "real-time" measure of the progression of the epidemic. When applied to high risk populations, it is possible to have a measure of HIV transmission and thus better target prevention and health promotion messages in these populations.

Although serological methods to assess recent HIV infection are used in 14 countries, HIV incidence estimates are not necessarily available in these countries. The percentage of cases diagnosed with recent HIV infection depends on the number of people being tested and the probability of being exposed and being infected by HIV over time. It is related to the probability that the infection has occurred recently. In contrast, incidence is the number of persons who are infected over a certain period; the denominator includes the total number of persons who are at risk in the window period (either in the general population or in a transmission group). Incidence is based on estimation methods and output indicators can vary by using different approaches. Data from tests for recent infection have been reported in a number of different ways, for example, simply as the percentage of HIV recent infection among new diagnoses [12,33] or as estimates of incidence in populations using specific health services [10,34].

In countries in which it is planned to use tests for recent HIV infection with surveillance data, it is necessary to ensure the availability of certain data in order to be able to estimate incidence (e.g. number of tests performed, percentage of recent tests among HIV diagnoses). Tests for recent HIV infection have variable performances, which depend on the predominance of subtypes [35,36]. There is a need to compare and evaluate the performance of currently available assays and this is part of the objectives of a current EuroHIV project. This project also aims to estimate incidence in different European populations in order to draw out some of the difficulties and data requirements that countries will have to consider before widespread implementation of such technology. The ethical considerations of testing for recent infection must also be considered since patients may wish to be informed of the results, which might not be reliable because of uncertainties related to these new technologies.

## MORTALITY

Although mortality has decreased among HIV-infected persons with access to HAART, causes of death are not necessarily directly associated with HIV infection. Monitoring HIV-related and non-HIV-related causes of death is very important in order to identify factors that reduce survival among HIV and AIDS cases. A better understanding of these factors will allow appropriate prevention and health-care in HIV-infected persons to be developed [37,38].

Mortality data were monitored through HIV and/or AIDS case-reporting systems in most countries and this information is reported mainly by

physicians. Linkage between HIV and/or AIDS databases with mortality data (either vital statistics or death certificates) was possible in 17 of 44 European countries in 2006, an approach considered optimal at a recent WHO technical consultation on mortality surveillance [39]. Several countries monitor HIV and/or AIDS mortality through regular surveys. However, in countries with small numbers of diagnosed HIV cases, individual follow-up can be possible. A minimum set of variables should be collected to monitor mortality better among HIV-infected individuals (e.g. cause of death by ICD10, ART history, CD4 count). A number of European projects currently conduct research of HIV/AIDS mortality amongst defined cohorts [22,40].

## 5. Recommendations

The surveillance of HIV and AIDS is vital to provide the necessary data with which to support the control of the epidemic. Standardisation of HIV/AIDS surveillance system needs to be improved at European level in order to enhance comparability of European data and to ensure the monitoring of adequate data with which to develop policies for the prevention, control and treatment of HIV in Europe.

1. All countries should have a surveillance system that collects individual data at a national level in order to monitor the HIV and AIDS epidemic. Such a system should ensure data confidentiality and maintain human rights of the patients. Ideally, this surveillance system should integrate the three key stages of disease progression:
  - 1.1. HIV diagnosis: in the framework of the revision of HIV case definition for surveillance purposes, extra-variables should be collected at European level (e.g. CD4 count).
  - 1.2. AIDS diagnosis: the new European AIDS case definition that will be published by the ECDC should be adopted by all the countries to enable standardisation of data collection. In order to optimise the use of case-based AIDS data, the reporting of certain variables (e.g. ART information, cause of death) should be established or improved.
  - 1.3. Mortality: HIV/AIDS mortality needs to be monitored by all the countries and where possible should include estimates of HIV-related and non-HIV-related causes of deaths to better target resource allocation and prevention actions to avoid premature deaths. When possible, HIV/AIDS reporting systems should be linked to the mortality database. If not possible, other methods (e.g. surveys) should be conducted among HIV infected persons. Standard coding systems are needed to improve HIV/AIDS mortality surveillance [39].
2. Countries should ensure that monitoring of HIV drug resistance is included in their current HIV surveillance system. WHO guidelines are available and these should be applied to the European region [20].
3. Evaluation of surveillance systems should be undertaken at appropriate and regular intervals. Evaluation should be undertaken not only according to classic criteria (e.g. completeness, timeliness), but also using additional assessment indicators (e.g. simplicity, flexibility, acceptability and representativeness). Guidelines on evaluation of HIV surveillance system should be developed for European countries.
4. European countries should estimate HIV prevalence at national level. This requires appropriate estimating methods to determine the sizes of the different populations at risk. Tools are needed to estimate the fraction of people who are not aware of their HIV sero-status. Such information is important to better plan treatment needs and deliver targeted prevention messages, including the promotion of HIV testing.
5. HIV prevalence needs to be monitored in sentinel populations. This can be achieved using different methods, including sero-prevalence surveys (linked or unlinked, case-based or anonymous data). In the light of the WHO guidelines to promote HIV testing [27], the systematic collection of routine testing data in specific populations (e.g. pregnant women) could be considered as an alternative method to provide reliable HIV prevalence estimates. HIV surveillance data used to assess prevalence should not be obtained through mandatory testing.
6. Second generation surveillance is an essential component to monitor the HIV epidemic. This entails undertaking behavioural and, where possible, prevalence surveys in appropriate populations in order to assess levels of high risk behaviour. Improvements to the surveillance of acute STI need to be implemented under the aegis of appropriate European projects (e.g. ESSTI) and organisations (e.g. WHO Euro and ECDC).
7. Serological methods for identification of recent infection are an important development in the surveillance of HIV infection. The wider implementation of this technology depends on national priorities as well as the evaluation and wider availability of appropriate laboratory and epidemiological methods and techniques. A specific EuroHIV work package is currently evaluating various assays. The main outcome of this work will be recommendations to promote the use of new assays for monitoring HIV incidence.

# References

- [1] CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR* 2006; 55 (RR-14): 1-17.
- [2] Chawla A, Murphy G, Donnelly C, *et al.* Human immunodeficiency virus (HIV) antibody avidity testing to identify recent infection in newly diagnosed HIV type 1 (HIV-1)-seropositive persons infected with diverse HIV-1 subtypes. *J Clin Microbiol* 2007; 45: 415-420.
- [3] Barin F, Meyer L, Lancar R, *et al.* Development and validation of an immunoassay for identification of recent human immunodeficiency virus type 1 infections and its use on dried serum spots. *J Clin Microbiol* 2005; 43: 4441-4447.
- [4] Suligoi B, Galli C, Massi M. Precision and accuracy of a procedure for detecting recent human immunodeficiency virus infections by calculating the antibody avidity index by an automated immunoassay-based method. *J Clin Microbiol* 2002; 40: 4015-4020.
- [5] Parekh BS, Kennedy MS, Dobbs T, *et al.* Quantitative detection of increasing HIV type 1 antibodies after seroconversion: a simple assay for detecting recent HIV infection and estimating incidence. *AIDS Res Hum Retroviruses* 2002; 18: 295-307.
- [6] European Centre for the Epidemiological Monitoring of AIDS. 1993 revision of the European AIDS surveillance case definition. AIDS Surveillance in Europe, Quarterly report 1993. Paris: Institut de Médecine et d'Épidémiologie Africaines, 1993. No. 37: 23-8.
- [7] CDC. 1993 revised classification system for HIV infection and expanded surveillance case definition for AIDS among adolescents and adults. *MMWR* 1992; 41 (RR-17).
- [8] European Centre for Disease Prevention and Control. Case definitions for reporting communicable diseases to the Community Network. Stockholm: European Centre for Disease Prevention and Control, 2006 (Draft).
- [9] The UK Collaborative Group for HIV and STI Surveillance. Mapping the Issues - HIV and other Sexually Transmitted Infections in the United Kingdom: 2005. London: Health Protection Agency Centre for Infections, 2005. Available from [www.hpa.org.uk/publications/2005/hiv\\_sti\\_2005](http://www.hpa.org.uk/publications/2005/hiv_sti_2005).
- [10] Murphy G, Charlett A, Brown AE, Gill ON, Parry JV. Is HIV incidence increasing in homo/bisexual men attending GUM clinics in England, Wales and Northern Ireland? *Commun Dis Public Health* 2004; 7:11-4.
- [11] Murphy G, Jordan LF, Charlett A, Osner N, Gill ON, Parry JV. Serological testing algorithm for recent HIV sero-conversion shows no decline in HIV incidence in MSM attending STI clinics. *AIDS* 2004; 18: 265-72.
- [12] Pillonel J, Laperche S, Le Vu S, Liander B, Barin F. HIV incidence in blood donors in France between 1992 and 2003 using an immunoassay for the identification of recent infection. 12th Conference on Retroviruses and Opportunistic Infections, Boston, 22-25 February 2005.
- [13] European Centre for the Epidemiological Monitoring of AIDS. HIV and AIDS Surveillance in Europe. Mid-year report 2002. Saint Maurice: Institut de Veille Sanitaire, 2002. No. 67.
- [14] EuroHIV. HIV/AIDS Surveillance in Europe. End-year report 2004. Saint-Maurice: Institut de Veille Sanitaire, 2005. No. 71.
- [15] Hamers FF for the group of experts and national coordinators of HIV/AIDS surveillance from the countries of the WHO European Region. Recommendations for HIV surveillance in Europe. *Euro Surveill* 1998; 3(5): 51. Available from: [www.eurosurveillance.org/em/v03n05/0305-223.asp](http://www.eurosurveillance.org/em/v03n05/0305-223.asp)
- [16] UNAIDS. The role of named-based notification in public health and HIV surveillance. Geneva: UNAIDS, 2000 (UNAIDS/00.28E).
- [17] Infuso A†, Hamers F. HIV testing and HIV case reporting in Europe - Report. Paris: European Centre for Epidemiological Monitoring of AIDS, Institut de Médecine et d'Épidémiologie Africaines, 1998.
- [18] Sullivan P. Personal communication. Annecy Group Meeting, Berlin, October 2006.
- [19] WHO. Case definitions of HIV for surveillance and revised clinical staging and immunological classification of HIV-related disease in adults and children. Geneva: WHO, 2006

- [20] WHO. Guidelines for surveillance of HIV drug resistance. Draft document 2003. Geneva: WHO, 2003. Available from [www.who.int/3by5/publications/guidelines/en/resisguide12\\_12.pdf](http://www.who.int/3by5/publications/guidelines/en/resisguide12_12.pdf)
- [21] Wensing AMJ, van de Vijver DA, Angarano G, *et al.* Prevalence of drug-resistant HIV-1 variants in untreated individuals in Europe: implications for clinical management. *J Infect Dis* 2005; 192: 958-66.
- [22] Masquelier B, Bhaskaran K, Pillay D, *et al.* Prevalence of transmitted HIV-1 drug resistance and the role of resistance algorithms. Data from seroconverters in the CASCADE collaboration from 1987 to 2003. *J Acquir Immune Defic Syndr* 2005; 40: 505-11.
- [23] Stoto MA. Public health surveillance: A historical review with a focus on HIV/AIDS. Santa Monica: RAND Health, 2003. Available from [www.rand.org/pubs/drafts/2005/DRU3074.pdf](http://www.rand.org/pubs/drafts/2005/DRU3074.pdf)
- [24] CDC. Framework for evaluating public health surveillance systems for early detection of outbreaks. *MMWR* 2004; 53 (RR05): 1-11.
- [25] WHO. Overview of the WHO framework for monitoring and evaluating surveillance and response systems for communicable diseases. *Wkly Epidemiol Rec* 2004; 79: 322-326.
- [26] EuroHIV. HIV/AIDS Surveillance in Europe. Mid-year report 2006. Saint Maurice: Institut de Veille Sanitaire, 2006. No. 74.
- [27] Marks G, Crepaz N, Janssen RS. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *AIDS* 2006; 20:1447-50.
- [28] Hamers FF, Devaux I, Alix J, Nardone A. HIV/AIDS in Europe: trends and EU-wide priorities. *Euro Surveill* 2006; 11(11):E061123.1. Available from: [www.eurosurveillance.org/ew/2006/061123.asp#1](http://www.eurosurveillance.org/ew/2006/061123.asp#1)
- [29] WHO/UNAIDS. Guidance on provider-initiated HIV testing and counselling in health facilities. Geneva: WHO, 2007.
- [30] Branson BM. Point-of-care rapid tests for HIV antibodies. *J Lab Med* 2003; 27: 288-95.
- [31] Mathews C, Coetzee N. Partner notification. *Clin Evid* 2005; 14:1969-75.
- [32] EuroHIV. HIV/AIDS Surveillance in Europe. Mid-year report 2005. Saint Maurice: Institut de Veille Sanitaire, 2006. No. 72.
- [33] Puchhammer-Stockl E, Schmied B, Rieger A, *et al.* Low proportion of recent human immunodeficiency virus (HIV) infections among newly diagnosed cases of HIV infection as shown by the presence of HIV-specific antibodies of low avidity. *J Clin Microbiol* 2005; 43: 497-8.
- [34] Dukers NH, Fennema HS, van der Snoek EM, *et al.* HIV incidence and HIV testing behavior in men who have sex with men: using three incidence sources, The Netherlands, 1984-2005. *AIDS* 2007; 21: 491-9.
- [35] Sakarovich C, Rouet F, Murphy G, *et al.* Do tests devised to detect recent HIV-1 infection provide reliable estimates of incidence in Africa? *J Acquir Immune Defic Syndr* 2007; 45: 115-22.
- [36] WHO. UNAIDS Reference Group on Estimates, Modelling and Projections – Statement on the use of the BED assay for the estimation of HIV-1 incidence for surveillance or epidemic monitoring. *Wkly Epidemiol Rec* 2006; 81: 40. Available from [www.who.int/wer/2006/wer8104.pdf](http://www.who.int/wer/2006/wer8104.pdf)
- [37] Lewden C, Salmon D, Morlat P, *et al.* Causes of death among human immunodeficiency virus (HIV)-infected adults in the era of potent antiretroviral therapy: emerging role of hepatitis and cancers, persistent role of AIDS. *Int J Epidemiol* 2005; 34: 121-30. Epub 2004 Nov 23.
- [38] Sackoff JE, Hanna DB, Pfeiffer MR, Torian LV. Causes of death among persons with AIDS in the era of highly active antiretroviral therapy: New York City. *Ann Intern Med* 2006; 145: 397-406.
- [39] WHO Europe. Report from the WHO technical consultation on HIV/AIDS mortality surveillance in Europe, organized in collaboration with the Spanish Ministry of Health. Madrid, 23-25 November 2005. Copenhagen: WHO, 2006.
- [40] EuroSIDA, a multicentre study. Tracking HIV/AIDS across Europe. Copenhagen HIV programme, 2003. Copenhagen: Hvidovre University Hospital, 2003.

# Annex 1: Survey questionnaire on HIV and AIDS surveillance in the countries of the WHO European Region, April 2006

## INTRODUCTION

The survey on HIV and AIDS surveillance aims to better understand national surveillance systems by the development of technical recommendations and guidelines in order to improve data comparability across Europe.

The questionnaire is divided into 4 sections:

- HIV and AIDS case reporting;
- HIV testing policies and procedures;
- HIV prevalence and incidence monitoring;
- Mortality surveillance.

The questionnaire is sent to the EuroHIV correspondents in all the countries of the WHO European region. The correspondents will

have the opportunity to organise the collect of the information for this survey. The questionnaire can be completed either entirely by the correspondents themselves or each section can be completed separately by a designated expert if necessary.

The deadline for returning the completed questionnaire is 29th May 2006. The contact point for this survey is:

EuroHIV, 12 rue du Val d'Osne, 94500 Saint-Maurice, France  
email: i.devaux@invs.sante.fr – phone: + 33 141 79 69 40.

Please do not hesitate to contact us for any question/request you may encounter.

## Contact details

<b>Contact information – Section 1</b> Country: _____ Date: □□ □□ □□□□ Name, position and address of the respondent: _____ _____ Phone/Fax: _____ Email: _____	<b>Contact information – Section 2 (if different)</b> Country: _____ Date: □□ □□ □□□□ Name, position and address of the respondent: _____ _____ Phone/Fax: _____ Email: _____
<b>Contact information – Section 3 (if different)</b> Country: _____ Date: □□ □□ □□□□ Name, position and address of the respondent: _____ _____ Phone/Fax: _____ Email: _____	<b>Contact information – Section 4 (if different)</b> Country: _____ Date: □□ □□ □□□□ Name, position and address of the respondent: _____ _____ Phone/Fax: _____ Email: _____

## I – HIV and AIDS case reporting

### I.1 – Data collection

1) In your country, is there a current HIV case reporting system?

- ☐ Yes  
☐ No (if No, please go to question 3)

1a) At what level(s) are the sources of information available for HIV data collection (*please tick all that apply*)?

- ☐ Local level (district, city)  
☐ Regional/ state level  
☐ National level  
☐ Other, please specify: \_\_\_\_\_

1b) Are the HIV data collected:

- ☐ Individually (non-aggregate)  
☐ Aggregate

1c) Is the HIV data set computerised at national level?

- ☐ Yes  
☐ No

1d) Are the following groups excluded from the national HIV case reporting (*please tick all that apply*)

- ☐ Prisoners  
☐ Immigrants  
☐ Military personal  
☐ Other, please specify: \_\_\_\_\_

2) What are the sources of information for HIV case reporting (*please, tick all that apply*)?

- ☐ Laboratories
- ☐ All physicians
- ☐ Only hospital based physicians
- ☐ Only community-based physicians

2a) Could you please describe the flow of information for HIV case reporting?

3) In your country, is there a current AIDS case reporting system?

- ☐ Yes
- ☐ No (if No, please go to question 5)

3a) At what level(s) are the sources of information available for AIDS data collection (*please tick all that apply*)?

- ☐ Local level (district, city)
- ☐ Regional/state level
- ☐ National level
- ☐ Other, please specify: \_\_\_\_\_

3b) Are the AIDS data collected:

- ☐ Individually
- ☐ Aggregated

3c) Is the AIDS dataset computerised at national level?

- ☐ Yes
- ☐ No

3d) Are the following groups excluded from the national AIDS case reporting (*please tick all that apply*)

- ☐ Prisoners
- ☐ Immigrants
- ☐ Military personal
- ☐ Other, please specify: \_\_\_\_\_

4) What are the sources of information for AIDS case reporting (*please, tick all that apply*)?

- ☐ Laboratories
- ☐ All physicians
- ☐ Only hospital based physicians
- ☐ Only community-based physicians

4a) Could you please describe the flow of information for AIDS case reporting?

5) Are HIV and AIDS case reports compiled in one combined database?

- ☐ Yes (please go to question 6)
- ☐ No, in 2 separate databases

5a) If HIV and AIDS case reporting system are separate, is there a possibility of linkage between HIV and AIDS databases?

- ☐ Yes
- ☐ No (please go to question 6)

5b) If yes, how do you link cases in the HIV and AIDS case reporting systems and how often do you do it?

## 1.2 – HIV and AIDS case definitions and laboratory criteria for HIV diagnosis

6) Which AIDS case definition is currently used in your country?

- ☐ European AIDS case definition 1993
- ☐ CDC AIDS case definition 1993
- ☐ Other, please specify: \_\_\_\_\_

7) Do you plan to keep the same AIDS case definition for surveillance in the next 2 years?

- ☐ Yes
- ☐ No

8) Is the age cut off for the adult/adolescent HIV case definition  $\geq 15$  years?

- ☐ Yes
- ☐ No, please specify what age: \_\_\_\_\_

9) Please complete the table below by providing information on:

9a) HIV testing algorithms which conform to your national case definition for the diagnosed HIV infection in adults, adolescents and children aged  $\geq 18$  months (*please tick all that apply*)

9b) The estimated proportion of HIV reported cases in 2004 which were reported using each algorithm?

9c) Whether the estimate in (b) is a personal (P) or calculated from collected data (C)?

Testing algorithms	%reported HIV cases	Estimate (P,C)
<input type="checkbox"/> A positive results of a single ELISA (or simple/rapid assay)	____ %	
<input type="checkbox"/> A positive result obtained from a single ELISA confirmed by a second assay of which:	____ %	
<input type="checkbox"/> a second different ELISA with high sensitivity	____ %	
<input type="checkbox"/> Western Blot	____ %	
<input type="checkbox"/> Immunoblot	____ %	
<input type="checkbox"/> Other (please specify): _____	____ %	
<input type="checkbox"/> A positive result obtained from a single ELISA confirmed by a second and a third confirmatory ELISA assay	____ %	
<input type="checkbox"/> Detection of HIV using one of the tests below without a confirmatory test:	____ %	
<input type="checkbox"/> Detection of HIV nucleic acid (RNA/DNA) using PCR	____ %	
<input type="checkbox"/> Detection of HIV by HIV p24 antigen test, including neutralisation assay	____ %	
<input type="checkbox"/> HIV isolation (viral culture)	____ %	

10) What are the HIV detection tests and the minimum number of determinations performed among children less than 18 months (please specify in the box)?

- ☐ HIV nucleic acid (RNA or DNA) detection \_\_\_\_\_
- ☐ HIV p24 antigen test, including neutralisation assay \_\_\_\_\_
- ☐ HIV isolation (viral culture) \_\_\_\_\_

11) Are rapid tests being used in your country?

☐ Yes    ☐ No (if no, please go to question 12)

11a) If yes, please tick the tests that are available/ licensed in your country

- ☐ OraQuick advance
- ☐ Uni-gold recombinogen
- ☐ Reveal G2
- ☐ Multispot
- ☐ Other, please specify: \_\_\_\_\_

11b) Where are they used (*please tick all that apply*)?

- ☐ Hospital
- ☐ Clinics
- ☐ HIV testing centres
- ☐ Other, please specify: \_\_\_\_\_

11c) In which of the following situation are rapid tests used?

*Please specify if it casual (1), frequently (2) or systematically (3) (please specify in the box)*

- ☐ Second intention (combined with regular HIV test) \_\_\_\_\_
- ☐ Absence of standard test \_\_\_\_\_
- ☐ Deliberate use in health care setting (e.g. outreach clinic) \_\_\_\_\_



### I.3 – Variables collected

12) What are the variables collected or planned to be collected in the national HIV and AIDS case reporting system?

*Please, can you send the data collection form currently used for HIV and AIDS case reporting in your country?*

Variables	HIV case reporting			AIDS case reporting	
	collected	plan to collect (within 2 yrs)		collected	plan to collect (within 2 yrs)
Sex	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Age or age group	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Ethnicity	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Country or continent of birth	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Date of HIV diagnosis	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Date of HIV report	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Date of AIDS diagnosis				<input type="checkbox"/>	<input type="checkbox"/>
Date of AIDS report				<input type="checkbox"/>	<input type="checkbox"/>
Clinical stage at diagnosis	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
CD4 count at diagnosis	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Transmission category	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Current and former IDU status	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
ART				<input type="checkbox"/>	<input type="checkbox"/>
Resistance to ART	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Date of death	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify					

13) Do you collect data onto HIV molecular epidemiology (*please tick all that apply*)?

- ☐ Yes, HIV types (HIV1, HIV2)
- ☐ Yes, HIV groups (o, m, n)
- ☐ Yes, HIV1 subtypes (A-k, CRFs)
- ☐ No

13a) If yes, how is this information collected?

- ☐ Serological assays
- ☐ Hybridisation methods
- ☐ PCR and sequencing

14) If you collect information on drug injection status, when is this collected?

- ☐ At the point of HIV diagnosis
- ☐ At the point of entry into care or treatment
- ☐ Other, please specify: \_\_\_\_\_

15) If you collect information on resistance to ART, at what point is this collected?

- ☐ HIV diagnosis only
- ☐ AIDS diagnosis only
- ☐ Ongoing, as resistant samples are identified

15a) What definition do you use for resistance?

- ☐ Stanford algorithm
- ☐ Key resistance mutations defined by the International AIDS Society
- ☐ HIV-1 genotypic drug resistance interpretation's algorithms (National Agency for AIDS Research in France)
- ☐ Other, please specify: \_\_\_\_\_

16) If the clinical stage at the time of diagnosis is collected, what definition is being used?

- ☐ Revised WHO Clinical staging of HIV and AIDS for Adults and Adolescents 2005
- ☐ WHO Clinical staging of HIV and AIDS for Adults and Adolescents 1990
- ☐ CDC clinical staging system 2005

#### I.4 – Case identification and detection of duplicate reports

17) Please complete the table below regarding the variable(s) used for detection of possible duplicate HIV reports at national level? (*tick all that apply*)

17a) What are the identifiers used for detection of possible duplicate HIV reports at national level?

17b) For each variable ticked, how many cases reported with missing information in 2004 were included in the data set?

17c) Are cases in b) (*i.e.* those missing that variable) counted in the total number of HIV cases reported in 2004?

a) Identifiers used for detecting duplicates at national level	b) No. cases with missing information	c) Counted in the total no of cases
<input type="checkbox"/> Full name		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Name parts ( <i>e.g.</i> initials), please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> An identifying code* please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Full date of birth (day/month/year)		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Part of date of birth ( <i>e.g.</i> month/year, year), please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Sex		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Place of birth, please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Place of residence, please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Nationality, Please specify _____		<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Other variables, specify below _____		<input type="checkbox"/> Y <input type="checkbox"/> N

\*An identifying code is replicable (*i.e.* the same person has always the same code if reported more than once) and specific (*e.g.* 2 persons will not have the same code).

18) If coded identifiers are being used, are they used to permit the: (*please tick all that apply*):

- ☐ Elimination of duplicate records
- ☐ Completion of inadequate reports
- ☐ Linkage of AIDS-related records
- ☐ Linkage to mortality data

19) When one or more of the variables used for detection of duplicates (17a) are missing, are laboratories or clinicians contacted from the national level for follow-up of missing information?

- ☐ Yes, the physicians systematically
- ☐ Yes, the laboratories systematically
- ☐ No

20) When a reported case has the same identifier as a previous case (*i.e.* possible duplicate), what are the steps undertaken in order to decide whether or not to include it in the national HIV data set.

- ☐ Use of other information available in the database
- ☐ Contact with the local health authorities
- ☐ Contact the reporting laboratory/clinician
- ☐ Other, please specify: \_\_\_\_\_

21) Please describe if there has been any important change over time in the variables or in the procedures used for HIV case identification and elimination of duplicates

## I.5 – Under-reporting, validity and timeliness of HIV and AIDS surveillance data

22) Have you assessed the percentage of under-reporting of diagnosed HIV and AIDS cases?

- ☐ Yes  
☐ No

22a) If yes, please specify the percentage, the year and the source of estimate

	HIV	AIDS
Percentage (%)		
Year		
Published survey	<input type="checkbox"/>	<input type="checkbox"/>
Unpublished survey	<input type="checkbox"/>	<input type="checkbox"/>
Own personal assessment	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>

23) Have you assessed the validity of the HIV and AIDS reporting system?

If yes, please specify the percentage of agreement and the year it was last performed (e.g. between the information provided on the original case report and the medical record)

	%	year
<input type="checkbox"/> Yes for HIV		
<input type="checkbox"/> Yes for AIDS		
<input type="checkbox"/> No, please go to question 24		

24) Have you assessed the completeness of reporting?

If yes, please specify the percentage of cases with all variables completed and the year it applies?

	%	year
<input type="checkbox"/> Yes for HIV		
<input type="checkbox"/> Yes for AIDS		
<input type="checkbox"/> No, please go to question 25		

25) Have you assessed the timeliness of the HIV and AIDS case reporting system?

- ☐ Yes for HIV  
☐ Yes for AIDS  
☐ No (if no, please go to question 26)

25a) If yes, can you provide estimates of the percentage of HIV and AIDS cases reported in the following time frames:

	% of HIV cases reported	% of AIDS cases reported
From diagnosis to report		
<6 months		
6-12 months		
>12 months		

- End of section I, please add your comments in the box below-

## Section II - HIV testing policies

### II.1 – HIV testing practices

26) Is HIV testing routinely offered by health care providers among the following population?

Please specify the percentage of the population to be tested and the national target to be reached if it applies.

	% of the population tested	National target
<input type="checkbox"/> Pregnant women	_____	_____
<input type="checkbox"/> Hospital patients (non TB)	_____	_____
<input type="checkbox"/> TB patients	_____	_____
<input type="checkbox"/> STI clinic patients	_____	_____
<input type="checkbox"/> IDUs	_____	_____
<input type="checkbox"/> Sex workers	_____	_____
<input type="checkbox"/> Prisoners	_____	_____
<input type="checkbox"/> Young people (<25)	_____	_____
<input type="checkbox"/> MSM	_____	_____
<input type="checkbox"/> Immigrants	_____	_____

27) Do you collect information on voluntary testing (self-initiated) among the following population?

*Please, specify the percentage of the population being tested if it applies.*

	% of the population tested
<input type="checkbox"/> Pregnant women	_____
<input type="checkbox"/> Hospital patients (non TB)	_____
<input type="checkbox"/> TB patients	_____
<input type="checkbox"/> STI clinic patients	_____
<input type="checkbox"/> IDUs	_____
<input type="checkbox"/> Sex workers	_____
<input type="checkbox"/> Prisoners	_____
<input type="checkbox"/> MSM	_____

28) Is HIV testing mandatory among the following population?

- |   |  |
|---|--|
| <input type="checkbox"/> Blood donors                 | <input type="checkbox"/> Sex workers       |
| <input type="checkbox"/> Immigrants                   | <input type="checkbox"/> Pregnant women    |
| <input type="checkbox"/> Military personnel           | <input type="checkbox"/> Surgical patients |
| <input type="checkbox"/> Other, please specify: _____ |  |

29) Are policies on home testing and home sampling:

- |  |                                    |
|--|------------------------------------|
| <input type="checkbox"/> approved                      | <input type="checkbox"/> available |
| <input type="checkbox"/> not approved or not available |                                    |
| <input type="checkbox"/> other, please specify: _____  |                                    |

30) Is HIV testing accompanied by pre/post test counselling in the following situations?

	Counselling
Routinely offered by health care providers	<input type="checkbox"/> Pre <input type="checkbox"/> Post
Voluntary/ self initiated	<input type="checkbox"/> Pre <input type="checkbox"/> Post
Mandatory	<input type="checkbox"/> Pre <input type="checkbox"/> Post
Rapid testing	<input type="checkbox"/> Pre <input type="checkbox"/> Post
Home testing	<input type="checkbox"/> Pre <input type="checkbox"/> Post

## II.2 – Partners notification

31) Is contact tracing / partner notification of sexual contacts of HIV patients carried out as part of routine HIV surveillance?

- ☐ Yes  
☐ No

34) Are there nationally defined targets set for monitoring the effectiveness of partner notification?

- ☐ Yes  
☐ No

32) Is partner notification compulsory or voluntary?

- ☐ Compulsory  
☐ Voluntary  
☐ Not sure / don't know

34a) If yes, what are these targets?

\_\_\_\_\_

33) What form of partner notification is normally carried out?

- ☐ Patient referred  
☐ Provider referred  
☐ Mixture of both  
☐ Other, please describe: \_\_\_\_\_

35) What proportion of HIV infected patients are usually reached through partner notification?

- ☐ >10%   ☐ 10-50%   ☐ 50-90%   ☐ >90%

36) On what evidence is your estimate based?

- ☐ Published survey  
☐ Unpublished survey  
☐ Own personal assessment  
☐ Other, please specify: \_\_\_\_\_

## Section III – Other surveillance practices

### III.1 – HIV incidence

37) Are serological methods available to assess recent HIV infection in your country?

- ☐ Yes  
☐ No

39) What type of information do you collect for HIV incidence testing (during or as a follow-up)?

- ☐ Individual HIV testing history  
☐ Post-exposure prophylaxis  
☐ Anti-retroviral treatment for other conditions (hepatitis B or C)  
☐ Risk behaviour (ongoing or proximate)

38) If yes, what type of tests are currently being used (please tick all that apply)?

- ☐ Avidity index  
☐ IgG – capture BED EIA  
☐ Immunoassay using IDE (immuno-dominant epitope of gp41) and V3 peptides  
☐ Other, please specify: \_\_\_\_\_

40) In which population incidence has been assessed?

*Please specify the year and the incidence estimates in each population?*

	Year	Incidence estimate %
<input type="checkbox"/> General Population	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> MSM	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Drug users	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Heterosexuals	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Others	<input type="text"/>	<input type="text"/>

41) If the technology for HIV incidence estimation is currently unavailable, is it planned to be introduced in a near future?

☐ Yes

☐ No

### III.2 – Prevalence estimates

42) Do you monitor HIV prevalence using Diagnostic Testing (DT) in specific populations listed below?

*If yes, please specify the geographic coverage and if a sentinel network is involved*

DT	Geographic coverage		
	National	Regional	Sentinel
<input type="checkbox"/> Pregnant women	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> New born	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Abortion clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hospital patients (non TB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TB patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STI clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> IDU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sex workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Prisoners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> MSM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

43) Do you monitor HIV prevalence using seroprevalence based survey (SP, **excluding UAT**) in specific populations listed below?

*If yes, please specify the geographic coverage and if a sentinel network is involved*

SP	Geographic coverage		
	National	Regional	Sentinel
<input type="checkbox"/> Pregnant women	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> New born	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Abortion clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hospital patients (non TB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TB patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STI clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> IDU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sex workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Prisoners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> MSM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

44) Do you monitor HIV prevalence using Unlinked Anonymous Testing (UAT) in specific populations listed below?

If yes, please specify the geographic coverage and if a sentinel network is involved

UAT	Geographic coverage		
	National	Regional	Sentinel
<input type="checkbox"/> Pregnant women	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> New born	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Abortion clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hospital patients (non TB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TB patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> STI clinic patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> IDU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sex workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Prisoners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> MSM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

45) Do you estimate the prevalence of people living with HIV and AIDS (diagnosed and undiagnosed) in 2004 (PLWHA)

☐ Yes

☐ No

45a) If yes, what method do you use?

☐ Workbook

☐ Spectrum

☐ Other, please describe below

47) Do you collect information to estimate the number of people

☐ Un-diagnosed and living with HIV in 2004

☐ Un-diagnosed and living with AIDS in 2004

47a) If yes, what method do you use?

- End of section II and III, please add your comments in the box below-

46) Do you collect information to estimate the number of people:

☐ Diagnosed and living with HIV

☐ Diagnosed and living with AIDS

46a) If yes, what method do you use?

## IV – Mortality data

### IV.1 – Linkage

48) Can HIV database be linked to vital statistics/death certificate information?

☐ Yes ☐ No (please go to question 49b)

48a) If yes, please complete the table below to specify what national mortality data you use to link to the HIV database (and the frequency)

Mortality database used	≥2/y	1/y	<1/y
<input type="checkbox"/> All national mortality data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited mortality database of:			
<input type="checkbox"/> AIDS defining illnesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Causes of deaths more likely related to HIV + status (overdose, suicide)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

49) Can AIDS database be linked to vital statistics/ death certificate information?

☐ Yes ☐ No (please go to question 49b)

49a) If yes, please complete the table below to specify what national mortality data you use to link to the HIV database and with what frequency:

Mortality database used	≥2/y	1/y	<1/y
<input type="checkbox"/> All national mortality data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Limited mortality database of AIDS defining illnesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

49b) If linkage is not possible, what are the reasons?

50) Do you undertake specific surveys to monitor HIV and AIDS mortality?

50a) General population

	HIV	AIDS
<input type="checkbox"/> Mortality data for a sample of reported HIV and AIDS cases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Deaths among a cohort of HIV positive cases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In-depth national evaluation of causes of death among PLWHA from hospital data	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Analysis of death certificate	<input type="checkbox"/>	<input type="checkbox"/>

50b) Men who have Sex with Men

	HIV	AIDS
<input type="checkbox"/> Mortality data for a sample of reported HIV and AIDS cases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Deaths among a cohort of HIV positive MSM	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In-depth national evaluation of causes of death among PLWHA from hospital data	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Analysis of death certificate	<input type="checkbox"/>	<input type="checkbox"/>

50c) Injecting Drug Users

	HIV	AIDS
<input type="checkbox"/> Mortality data for a sample of reported HIV and AIDS cases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Deaths among a cohort of HIV positive IDUs	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In-depth national evaluation of causes of death among PLWHA from hospital data	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Analysis of death certificate	<input type="checkbox"/>	<input type="checkbox"/>

50d) Immigrants

	HIV	AIDS
<input type="checkbox"/> Mortality data for a sample of reported HIV and AIDS cases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Deaths among a cohort of HIV positive immigrants	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In-depth national evaluation of causes of death among PLWHA from hospital data	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Analysis of death certificate	<input type="checkbox"/>	<input type="checkbox"/>

50e) Other population, please specify:

## IV.2 – Monitoring HIV and AIDS related death information

51) Are mortality data of HIV cases (not AIDS) reported in the routine HIV surveillance system?

☐ Yes  
☐ No (please go to question 51)

51a) If yes, is the death reported by:

☐ Physician  
☐ Other sources please specify: \_\_\_\_\_

51b) Do you monitor:

☐ All deaths among PLWH  
☐ Only deaths among registered HIV cases  
☐ Other types of deaths among PLWH, please specify: \_\_\_\_\_

51c) Could you please list the variables collected?

- ☐ Date of death
- ☐ Date of HIV diagnosis
- ☐ Cause of death
- ☐ CD4 count at time of death
- ☐ Stage of disease at HIV at death
- ☐ Viral load at time of death

52) Are mortality data of AIDS cases reported in the routine AIDS case surveillance system?

- ☐ Yes
- ☐ No

52a) If yes, is the death reported by:

- ☐ Physician
- ☐ Other sources please specify: \_\_\_\_\_

52b) Do you monitor:

- ☐ All deaths among PLWA
- ☐ Only deaths among registered AIDS cases
- ☐ Only deaths from AIDS defining illness
- ☐ Other types of deaths among PLWA, please specify: \_\_\_\_\_

52c) Could you please list the mortality variables collected?

- ☐ Date of death
- ☐ Date of AIDS diagnosis
- ☐ Cause of death
- ☐ Information on ART history
- ☐ CD4 count at time of death
- ☐ Viral load at time of death

53) Which coding system\* is being used to monitor HIV-related causes of deaths?

- ☐ AIDS defining (or not) cause of deaths according to ICD10
- ☐ AIDS defining (or not) cause of deaths according to another coding system
- ☐ Underlying cause of death according to IDC10
- ☐ Underlying cause of death according to another coding system

\* Please send a list of the coding system you use

54) Do you generate the following indicator for deceased HIV patients?

- ☐ % of patients who ever received ARV
- ☐ % of patients who died within 6 to 12 months HIV diagnosis

55) Could you please list additional variables (related to mortality) collected apart from the regular HIV and AIDS surveillance system

- ☐ Variables related to risk factors (smoking, alcohol use, drug-use...)
- ☐ Elaborate ART information (regimens, resistance, side-effects)
- ☐ Concomitant diagnosis/ co-morbidity (hepatitis B/C)
- ☐ Autopsy report
- ☐ Place for HIV testing

56) Can you estimate the reporting delay between death and reporting of death in the national surveillance systems by the percentage of HIV and AIDS diagnosed cases in the following timeframes?

Time from death to report	% of HIV non-AIDS deaths reported	% of AIDS deaths reported
<6 months		
6-12 months		
>12 months		

57) Could you please provide estimates of:

No. or %	Year	Source of information
<input type="checkbox"/> deaths among HIV cases (PLWH)		
<input type="checkbox"/> deaths among AIDS cases (PLWA)		

**THANK YOU FOR YOUR PARTICIPATION !**



## Annex 2.1: HIV case reporting

Country	HIV case reporting	HIV data collection <sup>(1)</sup>	HIV Individual	Groups excluded	Source <sup>(2)</sup>
Andorra	✓	N	✓		Pall
Armenia	✓	N	✓	foreigners	L
Austria*	–	–	–		–
Azerbaijan	✓	N	✓		L
Belarus	✓	LRN	✓		L
Belgium	✓	N	✓		LPall
Bosnia & Herzegovina	✓	RN			PallPH
Bulgaria	✓	N	✓		L
Croatia	✓	L	✓		LPall
Czech Republic	✓	LRN	✓	immigrants	LPH
Denmark	✓	N	✓		LPall
Estonia	✓	N	✓		L
Finland	✓	LRN	✓		LPall
France	✓	R	✓	cases from VCT sites	LPall
Georgia	✓	LRN	✓		L
Germany	✓	N	✓		LPall
Greece	✓	R	✓		LPall
Hungary	✓	LN	✓		LPall
Iceland	✓	N	✓		L
Ireland	✓	RN	✓		LPall
Israel	✓	LRN	✓		LPall
Italy	✓	LR			LPH
Kazakhstan	✓	LRN	✓		LPall
Kyrgyzstan	✓	LRN	✓		LPall
Latvia	✓	N	✓		LPall
Lithuania	✓	LRN	✓		LPall
Luxembourg	✓	N	✓		PH
Malta	✓	N	✓		LPall
Moldova, Republic of	✓	LN			L
Netherlands	✓	LRN	✓		LPH
Norway	✓	LRN	✓		LPall
Poland	✓	N	✓		LPall
Portugal	✓	LRN	✓		Pall
Romania	✓	N	✓		PH
Russian Federation	✓	RN	✓	immigrants	LPH
Serbia	✓	LRN	✓	military	LPall
Slovakia	✓	LRN	✓		LPall
Slovenia	✓	N	✓		Pall
Spain	✓	LR	✓		LPall
Sweden	✓	R	✓		LPall
Switzerland	✓	RN	✓		LPall
Turkey	✓	N	✓		Pall
Ukraine	✓	LRN	✓	immigrants	L
United Kingdom	✓	LRN	✓		LPall
<b>Total</b>	<b>43</b>	<b>–</b>	<b>40</b>	<b>–</b>	<b>–</b>

(1)Level at which source of data was available: L local; R regional; N national ; – not undertaken. (2)L laboratory; PH hospital physician; Pall any physician.

\*Case reporting not applicable, cohort analysis is performed. VCT = Voluntary counselling & testing.

## Annex 2.2: AIDS case reporting

Country	AIDS case reporting	AIDS data collection <sup>(1)</sup>	Individual	Groups excluded	Sources <sup>(2)</sup>	Common database used for AIDS/HIV	Possibility of database linkage
Andorra	✓	N	✓		Pall		✓
Armenia	✓	N	✓	foreigners	LPH	✓	
Austria	✓	N	✓		Pall		
Azerbaijan	✓	N	✓		L	✓	
Belarus	✓	LRN	✓		Pall	✓	
Belgium	✓	L	✓		PH	✓	
Bosnia & Herzegovina	✓	RN				✓	
Bulgaria	✓	N	✓		PH		✓
Croatia	✓	LRN	✓		LPall	✓	
Czech Republic	✓	LRN	✓		LPH	✓	
Denmark	✓	N	✓		Pall		
Estonia	✓	LN	✓		PH	✓	
Finland	✓	LRN	✓		Pall	✓	
France	✓	R	✓		Pall		✓
Georgia	✓	RN	✓		PH	✓	
Germany	✓	N	✓		Pall		✓
Greece	✓	R	✓		PH	✓	
Hungary	✓	LN	✓		LPall	✓	
Iceland	✓	N	✓		Pall		
Ireland	✓	RN	✓		Pall		✓
Israel	✓	LRN	✓		LPall	✓	
Italy	✓	N	✓		Pall		
Kazakhstan	✓	LRN	✓		PH	✓	
Kyrgyzstan	✓	LRN	✓			✓	✓
Latvia	✓	N	✓		PH	✓	
Lithuania	✓	LRN	✓		LPall	✓	
Luxembourg	✓	N	✓		PH	✓	
Malta	✓	N	✓	migrants	Pall		
Moldova, Rep. of	✓	LN				✓	✓
Netherlands	✓	LRN	✓		LPH	✓	
Norway	✓	LRN	✓		Pall		
Poland	✓	RN	✓		Pall		✓
Portugal	✓	LRN	✓		Pall	✓	
Romania	✓	RN	✓		PH	✓	
Russian Federation	✓	RN	✓	migrants	PH	✓	
Serbia	✓	LRN	✓	military	Pall	✓	
Slovak Republic	✓	LRN	✓		Pall		✓
Slovenia	✓	N	✓		Pall	✓	
Spain	✓	LRN	✓		Pall		
Sweden	✓	RN	✓		LPall	✓	
Switzerland	✓	RN	✓		Pall	✓	
Turkey	✓	N	✓		Pall	✓	
Ukraine	✓	LRN	✓		PH	✓	
United Kingdom	✓	RN	✓		Pall	✓	
<b>Total</b>	<b>44</b>		<b>42</b>			<b>30</b>	<b>9</b>

(1)Level at which source of data was available: L Local; R Regional; N National. (2)L Laboratory; PH Hospital Physician; Pall Any Physician.

## Annex 3: Case identification and detection of duplicate reports

Use of coded identifier	
Name-based 17 countries	Not name-based 11 countries
Andorra	Bosnia & Herzegovina
Belgium	Denmark
Estonia	France
Finland	Greece
Georgia	Hungary
Germany	Ireland
Latvia	Italy
Luxembourg	Norway
Netherlands	Slovenia
Poland	Sweden
Portugal	Turkey
Romania	
Serbia	
Slovakia	
Switzerland	
Ukraine	
United Kingdom	

Use of full names 12 countries
Armenia
Azerbaijan
Bulgaria
Croatia
Czech Republic
Iceland
Israel
Kyrgyzstan
Lithuania
Malta
Moldova (Rep. of)
Russian Federation

## Annex 4: AIDS case definition currently used by countries

Country	Definition used	Age cut off for adults and adolescents (years)
Andorra	WHO	12
Armenia	CDC	13
Austria	EU	
Azerbaijan	WHO	15
Belarus	CDC+WHO	15
Belgium	EU	13
Bosnia & Herzegovina	EU	
Bulgaria	EU	15
Croatia	EU	18
Czech Republic	EU	15
Denmark	EU	15
Estonia	EU	14
Finland	EU	15
France	EU	13
Georgia	CDC	15
Germany	EU	15
Greece	EU	13
Hungary	EU	
Iceland	EU	15
Ireland	EU	
Israel	EU	12
Italy	EU	12
Kazakhstan	EU	15
Kyrgyzstan	–	15
Latvia	CDC	13
Lithuania	EU	
Luxembourg	EU	15
Malta	EU	13
Moldova, Republic of	EU	15
Netherlands	EU	15
Norway	EU	15
Poland	EU	15
Portugal	EU	15
Romania	CDC	14
Russian Federation	CDC	15
Serbia	EU	15
Slovakia	EU	13
Slovenia	EU	13
Spain	EU	13
Sweden	EU	15
Switzerland	EU	13
Turkey	EU	15
Ukraine	CDC	15
United Kingdom	EU	15

EU 1993 European case definition; CDC US Center for Diseases Control and Prevention; WHO World Health Organisation; – Other case definition used.

## Annex 5: Rapid tests

Country	Use of rapid test	Settings where they are used			Situation in which they are used*		
		Hospitals	Clinics	Testing centres	Second intention	Standard test not available	Deliberate use
Andorra							
Armenia	✓	✓	✓	✓	+		+++
Austria							
Azerbaijan							
Belarus							
Belgium	✓				+++		
Bosnia & Herzegovina							
Bulgaria	✓			✓			✓
Croatia							
Czech Republic		✓		✓			+
Denmark							
Estonia	✓	✓		✓		+++	
Finland	✓	✓	✓	✓			✓
France	✓	✓	✓	✓	+		+
Georgia	✓	✓	✓	✓		✓	✓
Germany	✓	✓	✓				
Greece							
Hungary	✓	✓	✓				+
Iceland							
Ireland	✓		✓				+++
Israel	✓	✓					
Italy							
Kazakhstan							
Kyrgyzstan	✓			✓			+
Latvia	✓	✓	✓	✓	+	+++	
Lithuania							
Luxembourg	✓	✓			+		
Malta							
Moldova, Rep.							
Netherlands	✓			✓			+++
Norway							
Poland							
Portugal	✓	✓	✓	✓			++
Romania	✓			✓	+		
Russian Federation	✓						
Serbia	✓						
Slovakia	✓				+		
Slovenia							
Spain	✓						
Sweden	✓	✓					✓
Switzerland	✓		✓	✓			✓
Turkey							
Ukraine	✓	✓	✓	✓		+	+++
United Kingdom	✓			✓			++
<b>Total</b>	<b>25</b>	<b>14</b>	<b>11</b>	<b>15</b>	<b>7</b>	<b>3</b>	<b>15</b>

\*Frequency = + Occasionally; ++ Frequently; +++ Systematically; ✓ Used, but frequency not specified.

## Annex 6.1: Variables collected for HIV case reports

Country	HIV case reporting											
	Sex	Age	Ethnicity	Place of birth	Date HIV diagnosis	Date HIV report	Clinical stage	CD4 count	Transmission	IDU status	Resistance ART	Date Death
Andorra	✓	✓		✓	✓	✓	✓		✓	✓		✓
Armenia	✓	✓		✓	✓	✓	✓	✓	✓			✓
Austria												
Azerbaijan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Belarus	✓	✓			✓	✓	✓		✓	✓		✓
Belgium	✓	✓		✓	✓	✓	✓	✓	✓		✓*	✓*
Bosnia & Herzegovina	✓	✓		✓	✓	✓	✓		✓			✓
Bulgaria	✓	✓	✓*	✓*	✓	✓	✓*	✓*	✓	✓	✓*	✓
Croatia	✓	✓	✓	✓	✓	✓	✓		✓			✓
Czech Republic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	✓	✓		✓	✓	✓	✓	✓	✓	✓		
Estonia	✓	✓			✓	✓	✓	✓	✓*	✓		✓*
Finland	✓	✓			✓	✓	✓	✓*	✓		✓*	✓
France	✓	✓		✓	✓	✓	✓	✓*	✓			
Georgia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Germany	✓	✓	✓		✓	✓	✓	✓	✓	✓		
Greece	✓	✓	✓	✓	✓	✓	✓		✓			✓
Hungary	✓	✓			✓	✓	✓		✓	✓	✓*	✓
Iceland	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
Ireland	✓	✓		✓	✓		✓		✓			✓
Israel	✓	✓		✓	✓	✓	✓		✓			✓
Italy	✓	✓		✓	✓	✓		✓	✓			
Kazakhstan	✓	✓		✓	✓	✓	✓			✓	✓	✓
Kyrgyzstan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Latvia	✓	✓	✓		✓	✓	✓	✓	✓	✓		
Lithuania	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓*	✓
Luxembourg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Malta	✓	✓		✓	✓	✓		✓	✓	✓		✓
Moldova, Rep.	✓	✓			✓	✓	✓*	✓*	✓	✓		
Netherlands	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓
Norway	✓	✓	✓	✓	✓	✓			✓		✓	✓
Poland	✓	✓			✓		✓*	✓*	✓			
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Romania	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Russian Federation	✓	✓		✓	✓	✓	✓*	✓*	✓	✓	✓*	✓
Serbia	✓	✓		✓	✓	✓	✓		✓			✓
Slovakia	✓	✓		✓	✓	✓	✓		✓	✓	✓*	✓
Slovenia	✓	✓	✓	✓	✓	✓		✓	✓			✓
Spain	✓	✓		✓	✓	✓		✓	✓			
Sweden	✓	✓	✓	✓	✓	✓			✓		✓*	✓
Switzerland	✓	✓			✓	✓	✓	✓	✓	✓		
Turkey	✓	✓		✓	✓		✓		✓			✓
Ukraine	✓	✓			✓	✓	✓		✓	✓	✓*	✓
United Kingdom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Total	43	43	16	32	43	40	33	21	41	24	7	31

✓Variable collected; ✓\*Plans for future collection.

## Annex 6.2: Variables collected for AIDS case reports

Country	AIDS case reporting														
	Sex	Age	Ethnicity	Place of birth	Date HIV diagnosis	Date HIV report	Date AIDS diagnosis	Date AIDS report	Clinical stage	CD4 count	Transmission	IDU status	ART	Resistance to ART	Date of death
Andorra	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓			✓
Armenia	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓*	✓
Austria	✓	✓		✓			✓	✓		✓	✓		✓		✓
Azerbaijan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Belarus	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Belgium	✓	✓	✓		✓		✓	✓		✓	✓		✓*	✓*	✓
Bosnia & Herzegovina	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓		✓
Bulgaria	✓	✓	✓*	✓*	✓	✓	✓	✓			✓	✓	✓*	✓*	✓
Croatia	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓
Czech Republic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	✓	✓		✓			✓	✓			✓	✓	✓		✓
Estonia	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓*		✓*
Finland	✓	✓			✓	✓	✓	✓	✓		✓		✓*		
France	✓	✓		✓	✓		✓	✓		✓	✓		✓		✓
Georgia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Germany	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓		✓
Greece	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hungary	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓*	✓
Iceland	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓
Ireland	✓	✓		✓	✓		✓	✓	✓		✓		✓		✓
Israel	✓	✓		✓	✓	✓	✓	✓	✓		✓				✓
Italy	✓	✓		✓	✓		✓	✓			✓		✓		✓
Kazakhstan	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓*	✓
Kyrgyzstan	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Latvia	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓			
Lithuania	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Luxembourg	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Malta	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Moldova, Rep.	✓	✓			✓	✓	✓	✓	✓*	✓*	✓	✓	✓		✓
Netherlands	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Norway	✓	✓	✓	✓	✓	✓	✓	✓			✓				✓
Poland	✓	✓			✓		✓	✓	✓	✓	✓		✓		✓
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Romania	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Russian Federation	✓	✓		✓			✓	✓	✓*	✓*	✓	✓	✓*	✓*	✓
Serbia	✓	✓		✓	✓	✓	✓	✓	✓		✓		✓		✓
Slovakia	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓*	✓
Slovenia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Spain	✓	✓		✓	✓	✓				✓	✓	✓			✓
Sweden	✓	✓	✓	✓	✓	✓	✓	✓			✓				
Switzerland	✓	✓			✓		✓	✓		✓	✓	✓	✓	✓	✓
Turkey	✓	✓		✓	✓	✓			✓		✓				✓
Ukraine	✓	✓			✓	✓	✓	✓	✓	✓	✓			✓*	✓
United Kingdom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
<b>Total</b>	<b>44</b>	<b>44</b>	<b>16</b>	<b>32</b>	<b>41</b>	<b>33</b>	<b>42</b>	<b>42</b>	<b>32</b>	<b>27</b>	<b>43</b>	<b>26</b>	<b>27</b>	<b>9</b>	<b>39</b>

✓Variable collected; ✓\*Plans for future collection.

## Annex 6.3: Specific variables collected: HIV molecular epidemiology

Country	HIV molecular epidemiology						
	Not collected	HIV types	HIV groups	HIV1 subtypes	Serological assays	Hybridisation	PCR
Andorra		✓					
Armenia	–						
Austria		✓	✓	✓			✓
Azerbaijan		✓		✓			✓
Belarus				✓		✓	✓
Belgium		✓					
Bosnia & Herzegovina		✓			✓		
Bulgaria		✓	✓	✓	✓		✓
Croatia		✓			✓		✓
Czech Republic		✓		✓			✓
Denmark	–						
Estonia		✓	✓	✓			✓
Finland		✓	✓	✓			✓
France		✓	✓	✓	✓		✓
Georgia		✓		✓	✓		✓
Germany							
Greece		✓					✓
Hungary		✓		✓	✓		✓
Iceland	–						
Ireland		✓					
Israel		✓					
Italy	–						
Kazakhstan				✓			✓
Kyrgyzstan		✓			✓		✓
Latvia		✓					✓
Lithuania		✓	✓	✓			✓
Luxembourg				✓			✓
Malta	–						
Moldova, Rep.		✓			✓		
Netherlands		✓	✓	✓			✓
Norway		✓			✓		
Poland		✓			✓		
Portugal		✓			✓		✓
Romania		✓	✓	✓			✓
Russian Federation		✓	✓	✓			
Serbia		✓			✓		
Slovakia		✓			✓		
Slovenia	–						
Spain	–						
Sweden		✓	✓	✓	✓		✓
Switzerland		✓			✓		
Turkey	–						
Ukraine	–						
United Kingdom		✓					
<b>Total</b>	<b>9</b>	<b>31</b>	<b>10</b>	<b>17</b>	<b>15</b>	<b>1</b>	<b>21</b>

✓Variable; – not collected.



## Annex 6.4: Specific variables collected: resistance and clinical stage

Country	Resistance				Clinical stage		
	HIV report	AIDS report	Point of data collection	Definition	HIV report	AIDS report	Definition
Andorra					✓	✓	
Armenia		✓*			✓	✓	CDC-05
Austria			0	IAS			CDC-05
Azerbaijan					✓	✓	WHO-04
Belarus	✓*	✓*			✓	✓	
Belgium	✓*	✓*			✓		WHO-90
Bosnia & Herzegovina					✓	✓	WHO-05
Bulgaria	✓*	✓*	0	S+HIV-1	✓*		CDC-05
Croatia			0	S	✓	✓	CDC-05
Czech Republic	✓	✓	0	S	✓	✓	WHO-05
Denmark					✓		
Estonia						✓	CDC-05
Finland	✓*		0	Other	✓	✓	WHO-05
France					✓		Other
Georgia	✓	✓	0		✓	✓	WHO-05 + CDC-05
Germany					✓	✓	
Greece		✓	0	IAS	✓	✓	
Hungary	✓*	✓*		IAS	✓	✓	WHO-05
Iceland					✓	✓	
Ireland					✓	✓	
Israel	✓*	✓*			✓	✓	WHO 2005
Italy							
Kazakhstan	✓	✓*	0	IAS	✓	✓	WHO-05
Kyrgyzstan	✓	✓	0		✓	✓	WHO 2005
Latvia					✓	✓	WHO-90
Lithuania	✓*	✓	0	S	✓	✓	
Luxembourg	✓	✓	0	Other#	✓*	✓	
Malta		✓	0	Other		✓	WHO-05
Moldova, Rep.					✓*	✓*	
Netherlands	✓	✓	0	IAS	✓	✓	CDC-05
Norway	✓		HIVD	S+IAS			
Poland					✓	✓	
Portugal					✓	✓	
Romania			0	HIV-1			
Russian Federation	✓*	✓*			✓*	✓*	Other
Serbia			0	S	✓	✓	CDC-05
Slovakia	✓*	✓*	0	S	✓	✓	WHO-90
Slovenia						✓	Other*
Spain							
Sweden	✓*			Other§			
Switzerland		✓	AIDSD		✓		
Turkey					✓	✓	WHO-90
Ukraine	✓*	✓*			✓	✓	WHO-05
United Kingdom			0	S	✓	✓	WHO-90
<b>Total</b>	<b>7</b>	<b>9</b>			<b>31</b>	<b>31</b>	

✓ Variable collected.

✓\* Plans for future collection.

0 Ongoing.

S Stanford algorithm.

HIV-1 Genotypic drug resistance interpretation algorithms (National Agency for AIDS research in France).

HIVD HIV diagnosis.

AIDSD AIDS diagnosis.

Other: # Virocore; § Inhouse algorithm; \*1993 European AIDS surveillance.

IAS Key resistance mutations defined by International AIDS Society.

## Annex 7.1: Evaluation (under-reporting and validity)

Country	Under-reporting									Validity							
	Not done			HIV			AIDS			Not done			HIV			AIDS	
				%	Year	S*	%	Year	S*				%	Year	%	Year	
	HIV	AIDS		%	Year	S*	%	Year	S*	HIV	AIDS		%	Year	%	Year	
Andorra			✓							✓	✓		100	2005	100	2005	
Armenia			✓									✓					
Austria			✓									✓					
Azerbaijan			✓									✓					
Belarus	✓			2	2004	US			US	✓			98	2004			
Belgium			✓									✓					
Bosnia & Herzegovina			✓									✓					
Bulgaria	✓				1998-2005	PA						✓					
Croatia	✓	✓								✓	✓		100	2005	100	2005	
Czech Republic			✓							✓	✓		100	2005	100	2005	
Denmark	✓			5-10	2004	PA						✓					
Estonia			✓									✓					
Finland			✓														
France	✓			37	2004		16	1990-1993				✓					
Georgia			✓									✓					
Germany	✓	✓		<1	2004	PS	40	2004				✓					
Greece			✓														
Hungary	✓	✓										✓					
Iceland		✓					10										
Ireland			✓									✓					
Israel			✓							✓	✓						
Italy		✓					10					✓					
Kazakhstan	✓	✓		100			100			✓	✓						
Kyrgyzstan			✓									✓					
Latvia			✓									✓					
Lithuania			✓									✓					
Luxembourg			✓														
Malta			✓									✓					
Moldova, Rep.			✓								✓				100	2005	
Netherlands			✓							✓	✓						
Norway	✓	✓					30	2005				✓					
Poland			✓									✓					
Portugal	✓	✓				PS			PS			✓					
Romania			✓														
Russian Federation	✓			250#	2006							✓					
Serbia			✓														
Slovakia	✓				2005	PA		2005				✓					
Slovenia			✓									✓					
Spain		✓					13	2001	PS			✓					
Sweden		✓	✓														
Switzerland			✓									✓					
Turkey			✓									✓					
Ukraine			✓									✓					
United Kingdom	✓	✓		<10	2003	US	<40	2003				✓					
Total	14	11	27							7	7	29					

\*Source: PS Published survey; US Un-published survey; PA Personal assessment; # Cases

## Annex 7.2: Evaluation (completeness and timeliness)

Country	Completeness								Timeliness							
	HIV				AIDS				HIV				AIDS			
	HIV	AIDS	Not done	%	Year	%	Year	HIV	AIDS	Not done	% <6m	% 6-12m	% >12m	% <6m	% 6-12m	% >12m
Andorra			✓							✓						
Armenia			✓							✓						
Austria			✓							✓						
Azerbaijan			✓							✓						
Belarus	✓			98	2004			✓	✓		85	100				
Belgium			✓					✓	✓		100			77		23
Bosnia & Herzegovina			✓							✓						
Bulgaria	✓	✓		100	2005	100	2005	✓			100					
Croatia	✓	✓		100	2005	100	2005			✓						
Czech Republic	✓	✓		91	2005	100	2000-2005	✓	✓		100			90	9	1
Denmark			✓													
Estonia			✓							✓						
Finland			✓					✓			95					
France	✓	✓		23	2004	40	2004	✓	✓		79	16	5	68	15	17
Georgia			✓							✓						
Germany			✓					✓	✓		>99			40	6	54
Greece																
Hungary			✓							✓	100			100		
Iceland																
Ireland			✓							✓						
Israel	✓	✓						✓	✓		100			100		
Italy			✓						✓					65	15	20
Kazakhstan	✓	✓						✓	✓		100			100		
Kyrgyzstan			✓							✓						
Latvia			✓							✓						
Lithuania			✓							✓						
Luxembourg											100			100		
Malta			✓							✓						
Moldova, Rep.		✓				100	2005	✓	✓		100			100		
Netherlands	✓	✓						✓								
Norway			✓							✓						
Poland			✓								82	43	0.1	81	16	2.4
Portugal			✓													
Romania								✓	✓		70	15	15	70	15	15
Russian Federation			✓							✓						
Serbia								✓	✓		98	1	1	99	1	
Slovakia	✓	✓		100	2005	100	2005	✓	✓		100			100		
Slovenia			✓							✓						
Spain		✓				>95	2005		✓						60	
Sweden										✓						
Switzerland			✓					✓	✓		100/92.7*	1.50	5.80	51	15	44
Turkey	✓	✓		70	2005	90	2005			✓						
Ukraine			✓					✓	✓		100			100		
United Kingdom			✓					✓	✓		77.7	10.7	11.6	68.2	16.1	15.7
<b>Total</b>	<b>10</b>	<b>11</b>	<b>26</b>					<b>17</b>	<b>16</b>	<b>19</b>						

\*100% labs, 92.7% physicians.

## Annex 8.1: HIV testing – Routine HIV testing

Country	Pregnant Women		Hospital patients (non TB)		TB Hospital patients		STI clinics		IDU		Sex workers		Prisoners		Young people		MSM		Immi-grants	
	RT	%	RT	%	RT	%	RT	%	RT	%	RT	%	RT	%	RT	%	RT	%	RT	%
Andorra	✓																		✓	100
Armenia	✓	55																		
Austria																				
Azerbaijan	✓		✓		✓		✓		✓				✓							
Belarus	✓	85	✓	45	✓	90	✓	90	✓	80			✓							
Belgium	✓				✓		✓		✓		✓									
Bosnia & Herzegovina									✓		✓						✓			
Bulgaria	✓	39			✓		✓		✓		✓		✓				✓			
Croatia																				
Czech Republic	✓	98			✓	80			✓		✓						✓			
Denmark	✓	1-2	✓		✓		✓	50-90	✓	50-90	✓		✓		✓		✓		✓	
Estonia	✓	100			✓	91	✓		✓		✓	100	✓	100						
Finland	✓	>99							✓				✓						✓	
France	✓	95																		
Georgia	✓	80			✓	60	✓	30	✓	10	✓	24	✓	10	✓	6	✓	27		
Germany	✓	60																		
Greece	✓								✓		✓									
Hungary							✓		✓		✓		✓	>90						
Iceland	✓	50					✓	50												
Ireland	✓	95																	✓	
Israel	✓				✓	100	✓	100	✓	100	✓		✓	100	✓		✓		✓	100
Italy							✓	60	✓	95										
Kazakhstan	✓	50	✓	10	✓	90	✓	90	✓	40	✓	75	✓	80			✓	40		
Kyrgyzstan																				
Latvia	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
Lithuania	✓				✓		✓		✓		✓		✓				✓			
Luxembourg	✓				✓				✓				✓							
Malta	✓	>50			✓	100	✓	100	✓	100			✓	100					✓	<10
Moldova, Rep.	✓	90-95			✓	60-70	✓	30-40	✓	30-40			✓	10-20			✓	10-15	✓	80-90
Netherlands	✓	90-95							✓											
Norway	✓	95	✓	100			✓	95	✓	80	✓	50					✓	80	✓	90
Poland	✓																			
Portugal	✓		✓		✓		✓		✓				✓							
Romania	✓				✓		✓		✓		✓		✓		✓		✓			
Russian Federation	✓				✓								✓						✓	
Serbia	✓	12							✓											
Slovakia	✓	70			✓	100	✓	100	✓	15			✓	100			✓	100		
Slovenia					✓		✓		✓											
Spain	✓	94					✓		✓	76	✓	67	✓				✓	70-80		
Sweden	✓	97	✓	>50					✓	90										
Switzerland	✓						✓		✓								✓			
Turkey	✓	90	✓	90			✓	80	✓	100	✓	100								
Ukraine	✓	98			✓		✓		✓										✓	100
United Kingdom	✓						✓	82							✓	85	✓	80		
<b>Total</b>	<b>37</b>	<b>–</b>	<b>9</b>	<b>–</b>	<b>21</b>	<b>–</b>	<b>26</b>	<b>–</b>	<b>32</b>	<b>–</b>	<b>17</b>	<b>–</b>	<b>20</b>	<b>–</b>	<b>6</b>	<b>–</b>	<b>16</b>	<b>–</b>	<b>11</b>	<b>–</b>

RT = ✓ Routine HIV testing performed.

## Annex 8.2: HIV testing – Voluntary HIV testing

Country	Pregnant women		Hospital patients (non TB)		TB patients		STI clinic patients		IDU		Sex workers		Prisoners		MSM	
	VT	%	VT	%	VT	%	VT	%	VT	%	VT	%	VT	%	VT	%
Andorra																
Armenia	✓	55	✓		✓	14	✓	2	✓	13	✓		✓	3	✓	
Austria																
Azerbaijan	✓		✓		✓		✓		✓		✓		✓		✓	
Belarus									✓	20	✓	2			✓	3
Belgium																
Bosnia & Herzegovina	✓		✓						✓		✓				✓	
Bulgaria							✓		✓		✓		✓		✓	
Croatia							✓				✓				✓	
Czech Republic	✓	98														
Denmark																
Estonia			✓				✓		✓		✓				✓	
Finland																
France																
Georgia	✓		✓		✓		✓		✓		✓		✓		✓	
Germany															✓	7
Greece																
Hungary																
Iceland																
Ireland																
Israel																
Italy																
Kazakhstan	✓	9					✓	17	✓	39	✓	68	✓	61	✓	36
Kyrgyzstan	✓	17			✓	100			✓	30	✓	42	✓	32	✓	1
Latvia																
Lithuania	✓		✓		✓		✓		✓		✓		✓		✓	
Luxembourg																
Malta																
Moldova, Rep.	✓															
Netherlands																
Norway	✓	95													✓	8
Poland																
Portugal																
Romania																
Russian Federation																
Serbia	✓	3					✓		✓		✓				✓	
Slovakia																
Slovenia																
Spain							✓		✓	>8						
Sweden																
Switzerland																
Turkey											✓	1				
Ukraine	✓	98														
United Kingdom																
<b>Total</b>	<b>12</b>	<b>–</b>	<b>6</b>	<b>–</b>	<b>5</b>	<b>–</b>	<b>10</b>	<b>–</b>	<b>12</b>	<b>–</b>	<b>13</b>	<b>–</b>	<b>7</b>	<b>–</b>	<b>14</b>	<b>–</b>

VT = ✓ Voluntary HIV testing performed.

## Annex 8.3: HIV testing – Mandatory HIV testing

Country	Blood donors	Immigrants	Military	Sex workers	Pregnant women	Surgical patients
Andorra	✓	✓				
Armenia	✓					
Austria	✓			✓		
Azerbaijan	✓	✓				
Belarus	✓					
Belgium	✓					
Bosnia & Herzegovina	✓					
Bulgaria	✓					
Croatia	✓		✓			
Czech Republic	✓				✓	
Denmark	✓					
Estonia	✓				✓	
Finland	✓					
France	✓					
Georgia	✓					
Germany	✓					
Greece	✓			✓		
Hungary	✓					
Iceland	✓					
Ireland	✓					
Israel	✓					
Italy	✓					
Kazakhstan	✓					
Kyrgyzstan	✓					
Latvia	✓					
Lithuania	✓		✓			
Luxembourg	✓					
Malta	✓					
Moldova	✓		✓	✓		
Netherlands	✓					
Norway	✓					
Poland	✓					
Portugal	✓					
Romania	✓		✓			
Russian Federation	✓	✓				
Serbia	✓					
Slovak Republic	✓					
Slovenia	✓					
Spain	✓					
Sweden	✓					
Switzerland	✓					
Turkey	✓			✓		✓
Ukraine	✓		✓			
United Kingdom	✓					
<b>Total</b>	<b>44</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>1</b>

✓ Mandatory HIV testing performed.

## Annex 9: Pre- and Post-test counselling

Country	Routinely offered by health care providers		Voluntary/Self initiated		Mandatory		Rapid test	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Andorra								
Armenia	✓	✓	✓	✓			✓	✓
Austria	✓	✓	✓	✓	✓	✓		
Azerbaijan	✓	✓	✓	✓				
Belarus	✓	✓						
Belgium								
Bosnia & Herzegovina	✓	✓	✓	✓				
Bulgaria	✓	✓	✓	✓	✓	✓	✓	✓
Croatia	✓	✓	✓	✓	✓	✓		
Czech Republic	✓	✓	✓	✓	✓	✓		
Denmark		✓		✓		✓		
Estonia	✓	✓			✓	✓		
Finland	✓	✓	✓	✓	✓	✓	✓	✓
France	✓	✓	✓	✓	✓	✓		
Georgia	✓	✓	✓	✓				
Germany		✓	✓	✓		✓		✓
Greece								
Hungary	✓	✓	✓	✓	✓	✓		
Iceland		✓		✓				
Ireland								
Israel	✓	✓	✓	✓	✓	✓	✓	✓
Italy	✓	✓	✓	✓	✓	✓		
Kazakhstan	✓	✓	✓	✓	✓	✓		
Kyrgyzstan								
Latvia	✓	✓		✓	✓	✓	✓	✓
Lithuania	✓	✓	✓	✓	✓			
Luxembourg	✓							
Malta	✓	✓	✓	✓				
Moldova, Rep.	✓	✓	✓	✓				
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓
Norway	✓	✓	✓	✓	✓	✓		
Poland			✓	✓	✓			
Portugal	✓	✓			✓	✓		
Romania	✓	✓	✓	✓	✓	✓	✓	✓
Russian Federation	✓	✓						
Serbia	✓	✓	✓	✓			✓	✓
Slovakia	✓	✓	✓	✓	✓	✓	✓	✓
Slovenia								
Spain	✓	✓	✓	✓	✓	✓	✓	✓
Sweden	✓	✓	✓	✓	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓		✓	✓	✓
Turkey								
Ukraine	✓	✓	✓	✓	✓	✓	✓	✓
United Kingdom	✓	✓	✓	✓		✓	✓	✓
<b>Total</b>	<b>33</b>	<b>35</b>	<b>29</b>	<b>32</b>	<b>22</b>	<b>24</b>	<b>14</b>	<b>15</b>

✓ Performed.



## Annex 10: Partner notification

Country	Status	Process	% HIV infected patients reached through Partner notification	Basis of evidence
Andorra	?		<10	
Armenia	V	Pa	50-90	PA
Austria				
Azerbaijan	V	Pa		PS
Belarus	V	Pa+Pr		
Belgium	V	Pa		
Bosnia & Herzegovina	V	Pa+Pr	<10	US
Bulgaria	V	Pa	<10	PA
Croatia	V	Pa+Pr	10-50	PA
Czech Republic	V	Pa+Pr	10-50	PA
Denmark	V	Pa+Pr	10-50	O
Estonia	V	Pa+Pr	<10	PA
Finland	V	Pa+Pr		
France				
Georgia	C	Pa+Pr	10-50	PA
Germany	V	Pa		
Greece	V			
Hungary	V	Pa	<10	PA
Iceland	C	Pa+Pr	<10	PA
Ireland	?			
Israel	V	Pa+Pr		
Italy	V	Pa	<10	US
Kazakhstan	V	Pr	10-50	PA
Kyrgyzstan	V	Pa	<10	
Latvia				
Lithuania	V	Pa	<10	PA
Luxembourg				
Malta	?	Pa+Pr	<10	PA
Moldova, Rep.	V	Pa+Pr	<10	O
Netherlands	V	Pa+Pr	9	
Norway	C	Pa+Pr	<10	PA
Poland	V	Pa		
Portugal	V	Pr	50-90	PA
Romania	V	Pr	50-90	US
Russian Federation	V	Pa+Pr	10-50	PA
Serbia	V	Pa	10-50	PA
Slovakia	V	Pa	10-50	PA
Slovenia	V	Pa		
Spain	V	Pr	?	
Sweden	C	Pa+Pr	10-50	PS
Switzerland		Pa+Pr		
Turkey	V	Pr	<10	PA
Ukraine	V	Pa+Pr		
United Kingdom	V	Pa+Pr	10-50	PA
<b>Total</b>	—	—	—	—

V Voluntary; C Compulsory; ? Unknown. Pa Patient referred; Pr Provider; Pa+Pr Both patient referred + provider.  
PS Published survey; US Unpublished survey; PA Personal assessment; O Other.

## Annex 11: Assessment of recent HIV infection

Country	Recent HIV		Test being used			Information collected				Incidence estimates							
	infection	incidence	Avidity	IgG-capture BED-EIA	Immuno assay	HIV testing history	Post-exposure	ART / other	Risk behaviour	General population		MSM		IDU		Hetero-sexual	
										Yr	%	Yr	%	Yr	%	Yr	%
Andorra																	
Armenia																	
Austria	✓		✓	✓	✓												
Azerbaijan						✓		✓									
Belarus		✓															
Belgium																	
Bosnia & Herzegovina		✓				✓											
Bulgaria		✓															
Croatia						✓				05	12 <sup>□</sup>						
Czech Republic						✓		✓	✓								
Denmark						✓				05	<0.01	05	0.2	05	3	05	0.1
Estonia		✓				✓				05	0.4						
Finland		✓	✓														
France	✓				✓	✓			✓								
Georgia	✓			✓													
Germany		✓															
Greece																	
Hungary		✓				✓											
Iceland	✓									05	0.3						
Ireland	✓																
Israel		✓				✓	✓		✓								
Italy	✓		✓						✓	04	0.41						
Kazakhstan		✓					✓		✓								
Kyrgyzstan	✓					✓	✓	✓	✓			05	1.4	05	31	05	0.42
Latvia		✓				✓			✓								
Lithuania		✓				✓		✓									
Luxembourg																	
Malta																	
Moldova, Rep.		✓															
Netherlands	\$	✓			✓	✓		✓	✓			97-01	3.2				
Norway						✓											
Poland		✓															
Portugal	✓		✓			✓			✓			04	20.0	02	7.2	04	1.8
Romania		✓							✓	05	0.001						
Russian Fed.																	
Serbia																	
Slovakia		✓				✓	✓		✓	05	3.9 <sup>□</sup>						
Slovenia																	
Spain		✓	✓														
Sweden																	
Switzerland	✓			✓													
Turkey		✓		✓		✓											
Ukraine									✓	05	1.4	05	9.0	05	37		
United Kingdom	✓		✓	✓		✓			✓			04	3.0				
<b>Total</b>	<b>10</b>	<b>18</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>18</b>	<b>4</b>	<b>4</b>	<b>13</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>

✓ Performed. \$ Amsterdam. □ Figure based on per million.

## Annex 12: HIV prevalence

Country	Pregnant women	New borns	Abortion clinic	Hospital (non TB)	TB patients	STI clinics	IDU	Sex workers	Prisoners	MSM
Andorra	✓									
Armenia	✓						✓	✓	✓	✓
Austria										
Azerbaijan	✓			✓	✓	✓	✓	✓	✓	
Belarus	✓				✓	✓	✓	✓	✓	✓
Belgium					✓	✓	✓		✓	✓
Bosnia & Herzegovina										
Bulgaria	✓						✓	✓	✓	✓
Croatia						✓	✓	✓	✓	✓
Czech Republic	✓				✓	✓	✓	✓		✓
Denmark	✓	✓								✓
Estonia	✓		✓		✓	✓	✓		✓	
Finland	✓						✓		✓	✓
France						✓	✓			
Georgia	✓				✓	✓	✓	✓	✓	✓
Germany		✓				✓		✓		✓
Greece	✓	✓								
Hungary	✓									
Iceland	✓			✓			✓			
Ireland	✓					✓				✓
Israel										
Italy		✓				✓	✓	✓	✓	
Kazakhstan	✓			✓	✓	✓	✓	✓	✓	✓
Kyrgyzstan	✓				✓	✓	✓	✓	✓	✓
Latvia	✓	✓		✓	✓	✓	✓	✓	✓	✓
Lithuania	✓			✓	✓	✓	✓	✓	✓	✓
Luxembourg										
Malta										
Moldova, Rep.	✓				✓	✓	✓		✓	
Netherlands	✓	✓				✓	✓	✓	✓	✓
Norway	✓						✓			
Poland				✓			✓	✓	✓	✓
Portugal										
Romania	✓				✓	✓			✓	
Russian Federation	✓					✓	✓	✓	✓	✓
Serbia	✓	✓		✓	✓		✓	✓	✓	
Slovakia								✓		✓
Slovenia	✓					✓	✓			✓
Spain		✓			✓	✓			✓	
Sweden	✓		✓							
Switzerland						✓				
Turkey	✓			✓		✓	✓	✓		
Ukraine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
United Kingdom	✓	✓	✓			✓	✓			✓
<b>Total</b>	<b>29</b>	<b>10</b>	<b>4</b>	<b>9</b>	<b>15</b>	<b>25</b>	<b>27</b>	<b>20</b>	<b>22</b>	<b>22</b>

✓Performed.

## Annex 13: Linkage of HIV/AIDS databases to mortality data

Country	HIV database linkage	Mortality data used			AIDS database linkage	Mortality data used	
		All national mortality data	AIDS defining illness	Cause of death related to HIV		All national mortality data	AIDS defining illness
Andorra							
Armenia							
Austria							
Azerbaijan	✓		✓	✓	✓		✓
Belarus	✓		≥2/y	≥2/yr			
Belgium							
Bosnia & Herzegovina	✓		✓	✓	✓		✓
Bulgaria							
Croatia							
Czech Republic							
Denmark							
Estonia							
Finland	✓	≥1/y			✓	✓	
France					✓		
Georgia							
Germany					✓		
Greece							
Hungary	✓	1/y			✓	1/y	
Iceland	✓	1/y			✓	1/y	
Ireland							
Israel	✓	<1/y			✓	<1/y	
Italy					✓		
Kazakhstan	✓		✓	✓			
Kyrgyzstan	✓	≥2/y	≥2/y	≥2/y	✓	≥2/y	≥2/y
Latvia	✓	<1/y			✓	<1/y	
Lithuania	✓	<1/y			✓	<1/y	
Luxembourg							
Malta							
Moldova, Rep.					✓		1/y
Netherlands	✓			✓			
Norway					✓		
Poland							
Portugal							
Romania							
Russian Federation	✓		1/y	1/y	✓		1/y
Serbia	✓		1/y	1/y	✓		1/y
Slovakia							
Slovenia	✓				✓		
Spain			✓				
Sweden							
Switzerland	✓				✓		
Turkey							
Ukraine	✓		≥1/y	≥1/y	✓		≥1/y
United Kingdom	✓	≥1/y			✓	≥1/y	
<b>Total</b>	<b>18</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>20</b>	<b>8</b>	<b>7</b>

✓ Collected but frequency not specified.

## Annex 14.1: Monitoring HIV related death information

Country	Mortality data of HIV cases			Monitoring		Variables collected					
	Reported	By physician	Other source	All deaths/PLWH	Deaths/register HIV cases	Date of death	Date of HIV diagnosis	Cause of death	CD4 count	Stage	Viral load
Andorra	✓	✓			✓	✓	✓	✓			
Armenia	✓	✓	✓		✓						
Austria											
Azerbaijan	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Belarus	✓	✓		✓		✓	✓	✓		✓	
Belgium											
Bosnia & Herzegovina	✓	✓		✓		✓	✓			✓	
Bulgaria											
Croatia											
Czech Republic	✓	✓			✓	✓	✓	✓	✓	✓	✓
Denmark						✓					
Estonia	✓	✓			✓	✓	✓	✓			
Finland	✓	✓		✓		✓	✓	✓		✓	
France											
Georgia	✓	✓			✓	✓		✓		✓	
Germany											
Greece	✓	✓			✓	✓	✓				
Hungary	✓	✓			✓	✓	✓	✓			
Iceland	✓	✓		✓		✓	✓				
Ireland	✓	✓		✓		✓	✓	✓			
Israel	✓	✓	✓	✓		✓	✓	✓			
Italy											
Kazakhstan	✓					✓	✓	✓		✓	
Kyrgyzstan	✓	✓		✓		✓	✓	✓		✓	
Latvia	✓	✓		✓		✓	✓	✓	✓	✓	✓
Lithuania	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Luxembourg	✓	✓			✓	✓	✓	✓	✓	✓	✓
Malta											
Moldova, Republic											
Netherlands	✓	✓			✓	✓	✓	✓	✓	✓	✓
Norway											
Poland											
Portugal	✓	✓		✓	✓	✓	✓	✓		✓	
Romania											
Russian Federation	✓	✓			✓	✓	✓	✓			
Serbia	✓		✓	✓		✓		✓			
Slovakia	✓	✓	✓	✓		✓	✓	✓		✓	
Slovenia	✓	✓		✓		✓	✓	✓			
Spain											
Sweden	✓	✓			✓	✓	✓				
Switzerland											
Turkey	✓	✓		✓		✓	✓				
Ukraine	✓	✓			✓	✓	✓	✓		✓	
United Kingdom	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
<b>Total</b>	<b>29</b>	<b>27</b>	<b>6</b>	<b>15</b>	<b>15</b>	<b>29</b>	<b>26</b>	<b>23</b>	<b>7</b>	<b>16</b>	<b>7</b>

✓ Performed.

## Annex 14.2: Monitoring AIDS related death information

Country	Mortality data of AIDS cases			Monitoring			Variables collected					
	Reported	Physician	Other source	All deaths/PLWA	Deaths/registered AIDS cases	Deaths from AIDS defining illness	Date of death	Date of AIDS diagnosis	Cause of death	ART history	CD4 count	Viral load
Andorra	✓	✓			✓		✓	✓	✓	✓		
Armenia	✓		✓				✓	✓				
Austria	✓	✓		✓			✓	✓	✓	✓	✓	
Azerbaijan	✓*											
Belarus	✓	✓		✓			✓	✓	✓			
Belgium	✓	✓			✓		✓	✓				
Bosnia & Herzegovina	✓	✓		✓			✓	✓		✓		
Bulgaria	✓	✓			✓		✓	✓	✓	✓		
Croatia												
Czech Republic	✓	✓			✓		✓	✓	✓	✓	✓	✓
Denmark	✓	✓			✓		✓	✓				
Estonia	✓	✓			✓		✓	✓	✓	✓	✓	✓
Finland	✓	✓	✓	✓			✓	✓	✓			
France	✓	✓			✓		✓	✓				
Georgia	✓	✓			✓		✓	✓	✓	✓	✓	✓
Germany	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Greece	✓	✓			✓		✓		✓			
Hungary	✓	✓		✓			✓	✓	✓			
Iceland	✓	✓		✓			✓	✓	✓			
Ireland	✓	✓		✓			✓	✓	✓			
Israel	✓	✓		✓			✓	✓	✓			
Italy	✓	✓		✓			✓		✓			
Kazakhstan	✓	✓		✓			✓	✓	✓	✓	✓	✓
Kyrgyzstan	✓	✓		✓			✓	✓	✓	✓		
Latvia	✓	✓		✓			✓	✓	✓	✓	✓	✓
Lithuania	✓	✓			✓		✓	✓	✓	✓	✓	✓
Luxembourg	✓	✓					✓	✓	✓	✓	✓	✓
Malta							✓		✓	✓		
Moldova, Republic	✓					✓	✓	✓	✓	✓		
Netherlands	✓	✓			✓		✓	✓	✓	✓	✓	✓
Norway	✓	✓			✓		✓	✓	✓			
Poland	✓	✓		✓			✓	✓	✓			
Portugal	✓	✓			✓		✓	✓	✓	✓		
Romania	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
Russian Federation	✓	✓			✓		✓	✓	✓			
Serbia	✓	✓		✓			✓	✓	✓	✓		
Slovakia	✓	✓	✓	✓			✓	✓	✓	✓		
Slovenia	✓	✓		✓			✓	✓	✓			
Spain	✓	✓			✓		✓	✓				
Sweden	✓	✓			✓		✓	✓				
Switzerland	✓	✓	✓	✓			✓					
Turkey	✓	✓					✓	✓				
Ukraine	✓	✓			✓		✓	✓	✓	✓		
United Kingdom	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
<b>Total</b>	<b>41</b>	<b>39</b>	<b>6</b>	<b>19</b>	<b>18</b>	<b>2</b>	<b>42</b>	<b>38</b>	<b>33</b>	<b>22</b>	<b>12</b>	<b>11</b>

✓ Performed.

✓\* Plans to perform in future.

## Annex 14.3: Coding systems and mortality indicators

Country	% of patients			Additional variables							
	Coding 1	Coding 2	Coding 3	Received ARV	Died within 6 to 12 months	Risk Factor	ART info	Co-morbidity	Autopsy	Place HIV testing	% HIV test
Andorra		✓							✓		
Armenia											
Austria											
Azerbaijan											
Belarus		✓		✓	✓			✓			
Belgium											
Bosnia & Herzegovina	✓				✓						
Bulgaria	✓	✓									
Croatia											
Czech Republic				✓	✓			✓			
Denmark											
Estonia		✓							✓		
Finland		✓			✓			✓			✓
France											
Georgia			✓	✓	✓		✓	✓			
Germany	✓	✓		✓	✓		✓				
Greece							✓				✓
Hungary											
Iceland	✓	✓									
Ireland			✓								
Israel											
Italy			✓								
Kazakhstan				✓	✓			✓	✓		✓
Kyrgyzstan	✓					✓	✓	✓	✓	✓	
Latvia	✓					✓					
Lithuania	✓			✓				✓			
Luxembourg	✓					✓	✓	✓			
Malta	✓										
Moldova, Republic											
Netherlands			✓	✓	✓		✓	✓			
Norway	✓	✓									
Poland		✓									
Portugal	✓	✓									
Romania	✓					✓	✓	✓	✓	✓	
Russian Federation	✓							✓	✓		
Serbia	✓	✓		✓	✓	✓		✓	✓		✓
Slovakia						✓		✓	✓	✓	
Slovenia											
Spain											
Sweden										✓	
Switzerland	✓	✓									
Turkey											
Ukraine				✓	✓			✓			✓
United Kingdom	✓	✓	✓		✓						✓
<b>Total</b>	<b>16</b>	<b>13</b>	<b>5</b>	<b>9</b>	<b>11</b>	<b>6</b>	<b>7</b>	<b>14</b>	<b>8</b>	<b>4</b>	<b>6</b>

✓ Performed. Coding 1: AIDS defining cause of deaths according to ICD10; Coding 2: Underlying cause of death according to ICD10; Coding 3: Underlying cause of death according to another coding system.

## Annex 14.4: Mortality estimates

Country	% of HIV non-AIDS deaths reported			% of AIDS deaths			Estimates					
	<6 months	6-12 months	>12 months	<6 months	6-12 months	>12 months	Deaths among PLWH	No. or % of deaths among PLWH	Year	Deaths among PLWA	No. or % of deaths among PLWA	Year
Andorra												
Armenia												
Austria												
Azerbaijan												
Belarus	95	5	0	98	2	0	✓	12.5%	2006	✓	60%	2006
Belgium				88		12						
Bosnia & Herzegovina		1			1							
Bulgaria										✓	14	2005
Croatia												
Czech Republic	85	1	5	9	8	2	✓	1%	2005	✓	4%	2005
Denmark				1						✓	26	2005
Estonia							✓	31% 16%	2004 2005			
Finland							✓			✓		
France				75	13	12	✓	1700	2000	✓	500-600	2004
Georgia												
Germany				13	2	85						
Greece												
Hungary												
Iceland	5	5		5	5							
Ireland							✓	17	2005	✓	5	2005
Israel												
Italy										✓	62%	2005
Kazakhstan							✓	238	2005	✓	318	1997
Kyrgyzstan	100			100			✓	62	2008	✓	38	2005
Latvia	1			1			✓	60	2005	✓	50	2005
Lithuania												
Luxembourg				1								
Malta										✓	1	2005
Moldova, Republic				1						✓	20	2005
Netherlands	1			1			✓	9.9%	2005			
Norway												
Poland												
Portugal		2.7	97.3		24.8	75.2						
Romania				80	10	10				✓	2.15	2005
Russian Federation							✓	11782	2005	✓	2878	2005
Serbia				99	1		✓	1-10	2005	✓	20-30	2005
Slovakia	1			1			✓	1	2005	✓	0	2005
Slovenia							✓	0%	2005	✓	4%	2005
Spain										✓	53.5	2005
Sweden												
Switzerland				64	6	3				✓	86	2004
Turkey												
Ukraine	1			1			✓	3584	2005	✓	2238	2005
United Kingdom	61.7	16.4	21.9	78	9.5	12.5	✓	247	2004	✓	226	2004



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