

Table 6. Number of reported AIDS cases by age group and year of diagnosis, 1979-2011, Canada.

Age group	Year of diagnosis/Année de diagnostic											Total		Groupe d'âge
	1979-2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	n	%	
Children	222	3	3	2	5	4	2	2	0	2	0	245	1.1	Enfants
< 1 year	98	0	2	1	2	1	0	1	0	1	0	102	0.5	< 1 an
1 to 4 years	68	1	0	0	1	1	2	0	0	0	0	73	0.3	1 à 4 ans
5 to 9 years	30	2	0	0	2	0	0	0	0	1	0	35	0.2	5 à 9 ans
10 to 14 years	30	0	1	1	0	2	0	1	0	0	0	35	0.2	10 à 14 ans
Adults	18,680	431	396	341	390	340	334	334	258	219	151	22,074	98.9	Adultes
15 to 19 years	67	0	2	0	3	2	3	1	2	1	0	81	0.4	15 à 19 ans
20 to 24 years	599	7	3	12	15	11	8	12	12	3	4	686	3.1	20 à 24 ans
25 to 29 years	2,488	27	28	20	36	29	19	23	19	15	7	2,711	12.1	25 à 29 ans
30 to 34 years	4,261	74	64	40	52	39	35	42	26	19	23	4,675	20.9	30 à 34 ans
35 to 39 years	4,121	93	89	74	68	67	65	55	44	34	23	4,733	21.2	35 à 39 ans
40 to 44 years	3,146	95	77	79	81	73	75	70	52	40	26	3,814	17.1	40 à 44 ans
45 to 49 years	2,005	54	55	51	56	48	53	52	51	42	28	2,495	11.2	45 à 49 ans
50 to 54 years	1,015	40	41	27	30	33	38	36	21	26	16	1,323	5.9	50 à 54 ans
55 to 59 years	594	24	15	22	28	19	16	21	18	21	9	787	3.5	55 à 59 ans
≥ 60 years	594	17	22	16	21	19	22	22	13	18	15	769	3.4	≥ 60 ans
Age group not reported	3	0	0	0	0	0	0	0	0	0	0	3		Groupe d'âge non indiqué
Total	19,105	434	399	343	393	344	336	336	258	221	151	22,322	100.0	Total

¹ Percentages by age are based on total number minus those reports for which age group was not reported.

¹ Les pourcentages par âge sont fondés sur le nombre total de rapports moins ceux pour lesquels le groupe d'âge n'était pas signalé.

Table 7. Number and percentage distribution of reported AIDS cases among adults (≥15 years) by exposure category and year of diagnosis, 1979-2011, Canada.

Exposure category	Year of diagnosis/Année de diagnostic														Total		Catégorie d'exposition
	1979-2005		2006		2007		2008		2009		2010		2011		n	%	
	n	%	n	%	n	%	n	%	n	%	n	%					
MSM	13,326	69.0	53	29.8	53	30.8	73	41.2	39	30.5	29	24.6	21	32.3	13,394	67.4	HRSH
MSM/IDU	873	4.5	12	6.7	8	4.7	5	2.8	2	1.6	5	4.2	0	0.0	905	4.5	HRSH/UDI
IDU	1,590	8.2	54	30.3	54	31.4	49	27.7	45	35.2	51	43.2	18	27.7	1,841	9.2	UDI
Blood/blood products ¹																	Sang/produits sanguins ¹
a) recipient of blood/clotting factor	86	0.4	1	0.6	1	0.6	1	0.6	1	0.8	1	0.8	1	1.5	92	0.5	a) receveur de sang/facteurs de coagulation
a) recipient of blood	284	1.5	0	0.0	0	0.0	1	0.6	1	0.8	0	0.0	1	1.5	287	1.4	a) receveur de sang
b) recipient of clotting factor	233	1.2	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	234	1.2	b) receveur de facteurs de coagulation
Heterosexual contact																	Contacts hétérosexuels
a) origin from an HIV-endemic country	1,194	6.2	22	12.4	23	13.4	21	11.9	16	12.5	8	6.8	13	20.0	1,297	6.4	a) originaire d'un pays où le VIH est endémique
b) sexual contact with a person at risk	1,079	5.6	11	6.2	8	4.7	6	3.4	5	3.9	9	7.6	3	4.6	1,121	5.6	b) contact sexuel avec une personne à risque
c) NIR - HET	634	3.3	21	11.8	19	11.0	20	11.3	18	14.1	12	10.2	7	10.8	731	3.6	c) ARS - HET
Perinatal transmission	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	Transmission périnatale
Occupational exposure	3	0.0	0	0.0	1	0.6	0	0.0	1	0.8	0	0.0	0	0.0	5	0.0	Exposition professionnelle
Other	23	0.1	4	2.2	4	2.3	1	0.6	0	0.0	3	2.5	1	1.5	36	0.2	Autres
NIR	703	-	11	-	10	-	6	-	4	-	1	-	0	-	735	-	ARS
Not reported ²	409	-	151	-	152	-	151	-	126	-	100	-	86	-	1,175	-	Non indiquée ²
Total	20,438	100.0	340	100.0	334	100.0	334	100.0	258	100.0	219	100.0	151	100.0	22,074	100.0	Total

¹ Percentages based on total number minus reports for which the exposure category was not reported and for which there was no identified risk (NIR).

² It is not always possible to separate "recipient of blood" from "recipient of clotting factor". However, they have been separated where possible for reporting purposes.

³ Due to changes in the reporting of AIDS cases in Ontario, exposure category data are not available for cases reported after the second half of 2005. These cases are categorized as "Not reported".

¹ Les pourcentages sont fondés sur le nombre total de rapports moins ceux pour lesquels la catégorie d'exposition n'était pas indiquée et pour lesquels aucun risque n'était signalé (ARS).

² Il n'est pas toujours possible de séparer « receveur de sang » de « receveur de facteurs de coagulation ». Ces catégories ont cependant été séparées dans la mesure du possible aux fins de la déclaration.

³ En raison des changements apportés à la déclaration de cas de sida en Ontario, les données sur la catégorie d'exposition n'étaient pas disponibles pour les cas signalés après la deuxième moitié de l'année 2005. Ces cas sont inclus dans la catégorie « Non indiquée ».

(Source: Public Health Agency of Canada)

Table 8. Number of positive HIV reports by age group and year of test, 1985-2009, Canada.¹

Age group	Year of test/Année du test								Total		Groupe d'âge
	1985-2005	2006	2007	2008	2009	2010	2011	n	% ²		
Children < 15 years	472	17	19	26	23	14	14	585	0.8	Enfants < 15 ans	
Adults	55,625	2,501	2,400	2,581	2,367	2,295	2,203	69,972	99.2	Adultes	
15 to 19 years	822	47	41	61	49	45	38	1,103	1.6	15 à 19 ans	
20 to 29 years	14,353	522	488	547	531	500	493	17,434	24.9	20 à 29 ans	
30 to 39 years	22,609	858	796	781	716	700	671	27,131	38.8	30 à 39 ans	
40 to 49 years	11,887	723	695	796	713	621	571	16,006	22.9	40 à 49 ans	
≥ 50 years	4,889	351	380	396	358	429	430	7,233	10.3	≥ 50 ans	
Adult, age unknown ³	1,065	0	0	0	0	0	0	1,065	1.5	Adulte, âge Inconnu ³	
Age group not reported	3,552	17	21	12	9	2	4	3,617	-	Groupe d'âge non indiqué	
Total	59,649	2,535	2,440	2,619	2,399	2,311	2,221	74,174	100.0	Total	

¹ Positive HIV test reports from each province/territory vary for cases under 2 years of age (see Appendix 2).
² Percentages based on total number minus reports for which age group was not reported.
³ Between 1985 and 1996, 47 positive HIV test reports among children were reported from Alberta. Due to limitations with the data, these cases have been reported as adults and added to "Adult, age unknown".

¹ Les résultats sérologiques positifs de chaque province et territoire varient pour les cas âgés de moins de 2 ans (voir annexe 2).
² Les pourcentages sont fondés sur le nombre total de rapports moins ceux pour lesquels le groupe d'âge n'était pas indiqué.
³ Entre 1985 et 1996, 47 tests positifs pour le VIH chez les enfants ont été signalés par l'Alberta. À cause des limites inhérentes à ces données, ces rapports de test ont été ajoutés à la catégorie « Adultes, âge Inconnu ».

(Source: Public Health Agency of Canada)

Table 9. Number and percentage distribution of positive HIV test reports among adults (≥ 15 years) by exposure category and year of test, 1980-2011, Canada.

Exposure category	Year of test/Année du test														Total		Catégorie d'exposition
	1980-2005		2006		2007		2008		2009		2010		2011		n	%	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%			
MSM	17,090	58.0	520	38.9	533	39.8	594	43.6	545	41.3	571	45.5	509	48.6	20,362	54.8	HRSH
MSM/IDU	720	2.4	27	2.0	26	1.9	21	1.5	33	2.5	23	1.8	19	1.8	869	2.3	HRSH/UDI
IDU	5,134	17.4	260	19.5	305	22.8	280	20.5	292	22.1	245	19.5	178	17.0	6,694	18.0	UDI
Blood/blood products ¹																	Sang/ produits sanguins ¹
a) recipient of blood/clotting factor	192	0.7	8	0.6	3	0.2	3	0.2	7	0.5	5	0.4	1	0.1	219	0.6	a) receveur de sang/ facteurs de coagulation
b) recipient of blood	277	0.9	2	0.1	4	0.3	7	0.5	3	0.2	1	0.1	6	0.6	300	0.8	b) receveur de sang
c) recipient of clotting factor	350	1.2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	352	0.9	c) receveur de facteurs de coagulation
Heterosexual contact																	Contacts hétérosexuels
a) origin from an HIV-endemic country	828	2.8	123	9.2	85	6.4	104	7.6	72	5.5	80	6.4	72	6.9	1,364	3.7	a) originaire d'un pays où le VIH est endémique
b) sexual contact with a person at risk	1,757	6.0	132	9.9	119	8.9	153	11.2	139	10.5	143	11.4	110	10.5	2,553	6.9	b) contact sexuel avec une personne à risque
c) N/R – HET	2,300	7.8	186	13.9	191	14.3	163	12.0	193	14.6	156	12.4	127	12.1	3,316	8.9	c) ARS – HET
Other	823	2.8	76	5.7	72	5.4	38	2.8	36	2.7	32	2.5	25	2.4	1,102	3.0	Autres
N/R	2,953	-	78	-	85	-	89	-	107	-	66	-	145	-	3,523	-	ARS
Not reported ²	23,201	-	1,087	-	977	-	1,129	-	940	-	973	-	1,011	-	29,318	-	Non indiquée ²
Total⁴	55,625	100.0	2,501	100.0	2,400	100.0	2,581	100.0	2,367	100.0	2,295	100.0	2,203	100.0	69,972	100.0	Total⁴

¹ Percentages based on total number minus reports for which exposure category was not reported and for which there was no identified risk (N/R).
² It is not always possible to separate "recipient of blood" from "recipient of clotting factor". However, they have been separated where possible for reporting purposes.
³ Information on exposure categories of individuals who have tested positive for HIV is not available for Quebec and a portion of the data from Ontario. These data are presented as "Not reported".
⁴ Between 1985 and 1996, 47 positive HIV test reports among children were reported from Alberta. Due to limitations with the data, these cases have been reported as adults.

¹ Les pourcentages sont fondés sur le nombre total de rapports moins ceux pour lesquels la catégorie d'exposition n'était pas indiquée et pour lesquels aucun risque n'était signalé (ARS).
² Il n'est pas toujours possible de séparer « receveur de sang » de « receveur de facteurs de coagulation ». Ces catégories ont cependant été séparées dans la mesure du possible aux fins de la déclaration.
³ L'information sur les catégories d'exposition des sujets dont les tests étaient positifs pour le VIH n'est pas disponible pour le Québec et pour une partie des données de l'Ontario. Ces données sont présentées à la ligne « Non indiquée ».
⁴ Entre 1985 et 1996, 47 tests positifs pour le VIH chez les enfants ont été signalés par l'Alberta. À cause des limites inhérentes à ces données, ces rapports de test ont été classés comme cas adultes.

(Source: Public Health Agency of Canada)

c) AUSTRALIA

National surveillance for HIV and AIDS in Australia is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), renamed in 2011 as the Kirby Institute for Infection and Immunity, in collaboration with state and territory health authorities, the Australian Government Department of Health and Ageing, the Australian Institute of Health and Welfare and other collaborating networks in surveillance for HIV, viral hepatitis and sexually transmissible infections.

By the end of 2011, an estimated 31,645 cases of HIV infection had been diagnosed in Australia and an estimated 24,731 people were living with diagnosed HIV infection, giving a national prevalence of 115 per 100,000 population. The HIV epidemic is concentrated particularly among MSM. Very few AIDS cases or HIV-related deaths are recorded each year in Australia due to the wide availability of multiple lines of antiretroviral therapy.³³

HIV/AIDS Surveillance System

The notification of new diagnoses of HIV and AIDS is mandated by public health legislation in each State and Territory. The reporting of new diagnoses to the Kirby Institute is made using the date of birth and a namecode (first two letters of first and last name) to maintain confidentiality while minimising duplicate notification. Case definitions for HIV and AIDS (Box 8 and 9) were approved for use by the Communicable Diseases Network Australia from January 1, 2004.³⁴

Each case of newly diagnosed HIV infection or AIDS reported to the Kirby Institute is reviewed prior to data entry to determine whether it had been previously diagnosed in another jurisdiction and already reported. A search of the databases is first carried out to identify if there is a previously recorded diagnosis for the case based on a search for exact and near-exact matches on namecode and date of birth.

The National AIDS Registry (NAR) and the National HIV Registry (NHR) operate independently. From 1982, AIDS cases were notified to the NAR using the family namecode, the given namecode, sex and date of birth, to uniquely identify each case. The NHR was established in 1990 and included information on sex, date of birth, date of HIV diagnosis and exposure category but not namecode. Agreement was reached in 1993 that namecode be reported to the NHR. However, namecode had not been collected in some jurisdictions prior to 1993 and in other jurisdictions, namecode was not made available to the NHR until 2004.³⁵

For cases with namecodes, reports of HIV infection to the NHR and of AIDS to the NAR have been linked by matching exactly on date of birth, namecode and sex. Cases must also be consistent with respect to date of HIV diagnosis, AIDS diagnosis and death following AIDS.

AIDS Case Surveillance

Reporting System: National AIDS Registry (NAR)

New diagnoses are reported to state or territory health authorities by clinicians using standard notification forms. Only confirmed cases should be notified. Reporting can be done using hard copy records or through electronic data transfer. Hard copies are transferred using the regular Australia Post postal service and envelopes are marked Confidential. For electronic format, records are sent as a zipped, password-protected file attached to an email that do not include namecodes or date of birth. The password is conveyed by telephone.

Reporting delay, the interval between the date of diagnosis and date of entry of the AIDS notification onto the NAR, is calculated for AIDS cases diagnosed in the three calendar years immediately preceding the Annual Surveillance Report. It is assumed that AIDS cases are completely reported within three years of diagnosis and the numbers in each quarter are adjusted for reporting delay. The distribution of reporting delay varies between state or territory health authorities, and AIDS cases diagnosed in the fourth quarter of the year are reported more quickly than in other quarters.³⁵

An AIDS notification must contain family and given namecode, date of birth, month and year of AIDS diagnosis, and a valid AIDS defining illness for inclusion into the NAR:

AIDS Case Definition

A confirmed case requires laboratory definitive evidence *and* clinical evidence. Laboratory definitive evidence is a *definitive diagnosis of HIV infection* (see case definitions for HIV, Box 8). Clinical evidence is a diagnosis of at least one of the 1994 Australian National Council on AIDS (ANCA) AIDS- defining illnesses. (Box 9)

Results

By the end of 2011 there is a cumulated number of 10,796 AIDS cases. The annual number of AIDS diagnoses in Australia peaked in 1994, at 953 cases. AIDS diagnoses then declined rapidly following the introduction of effective combination ART, and there are now few people diagnosed with AIDS in Australia, 115 cases in 2011.³³

HIV Case Surveillance

Reporting System: National HIV Registry (NHR)

It is based on reports of new diagnoses of HIV infection from HIV reference laboratories, or from a combination of reference laboratory and diagnosing doctors. In order to avoid counting the same case more than once, only diagnoses which are determined to be new by the diagnosing laboratory or doctor are reported for the purposes of national surveillance.

Reporting of newly diagnosed HIV cases can be done in hard copy or electronic format, in the same way as AIDS notification. The number of newly diagnosed cases of HIV reported in the Australian HIV Surveillance Report is adjusted for reporting delay and multiple reporting.³⁵

Information sought at notification include state or territory of diagnosis, namecode, sex, date of birth, Aboriginal and Torres Strait Islander status, date of HIV diagnosis, CD4 cell count at diagnosis, source of exposure to HIV and evidence of newly acquired HIV infection. Information on country of birth has been reported from 2002, and language spoken at home from 2004 by all jurisdictions. Reporting of a previous HIV diagnosis overseas was introduced from 2007. A notification of newly diagnosed HIV infection must contain the date of birth and the date of HIV diagnosis for inclusion into the NHR. Advanced HIV infection was defined as newly diagnosed HIV infection with a CD4 cell count of less than 200/mm³, and late HIV diagnosis with a CD4 cell count between 200-350/mm³.

*Case definition for HIV newly acquired*³⁵

Newly acquired HIV infection may be diagnosed in individuals aged 18 months or older at the time of blood sample collection. A diagnosis of newly acquired HIV infection excludes a diagnosis of HIV infection (unspecified). Both confirmed cases and probable cases should be notified. A confirmed case requires laboratory definitive evidence only, whereas a probable case requires laboratory suggestive evidence and clinical evidence.

*Case definition for HIV unspecified*³⁵

HIV infection (unspecified) is diagnosed in individuals aged 18 months or older at the time of blood sample collection, who do not have evidence of HIV acquisition in the previous 12 months. A diagnosis of HIV infection (unspecified) excludes a diagnosis of newly acquired HIV infection. Both confirmed cases and probable cases should be notified. A confirmed case requires laboratory definitive evidence only *and* that the case does not meet any of the criteria for a newly acquired case. A probable case requires laboratory suggestive evidence only.

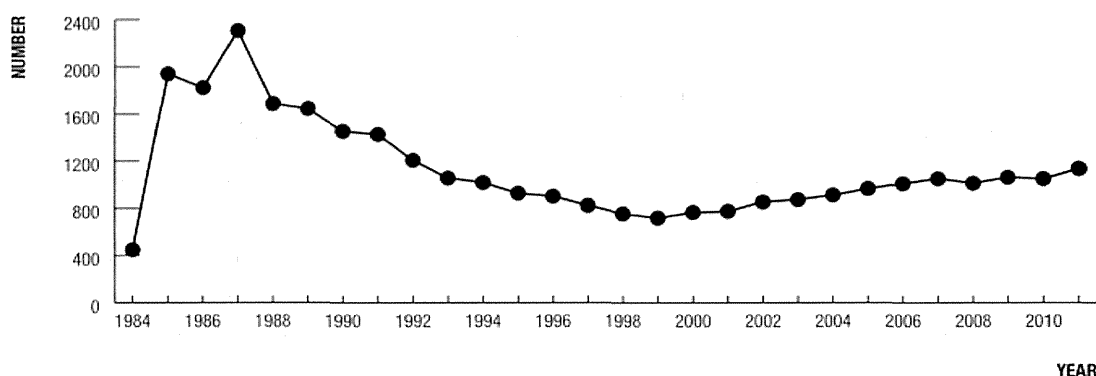
*Case definition for HIV child aged less than 18 months at the time of blood sample collection*³⁵

Both confirmed cases and probable cases should be notified. A confirmed case requires laboratory definitive evidence only. A probable case requires laboratory suggestive evidence only.

Results

The annual number of new HIV infections in Australia increased to 1,137 cases in 2011, an 8.2% increase over the numbers diagnosed in 2010. The majority of people diagnosed in 2011 were male (87%). The number of new diagnoses has steadily increased from 719 cases in 1999. In 2007-2011, 66% of new HIV diagnoses occurred among MSM, 25% were attributed to heterosexual contact, 3% to IDU and exposure was undetermined in 7%. MSM accounted for 86% of diagnoses of newly acquired HIV infection.³³

Figure 9. Newly diagnosed HIV infection between 1984-2011, Australia.



(Source: The Kirby Institute)

Sentinel Surveillance

The Australian Needle and Syringe Program Survey (ANSPS)³⁶

This is a cross-sectional study that has been conducted over a one to two week period each year since 1995. The survey forms the basis of Australia's HIV and HCV surveillance among IDU, and monitors behavioural indices of risk in addition to prevalence of infection.

All clients attending selected needle and syringe programs sites during the specified survey period are asked to complete a brief self-administered questionnaire and to provide a capillary blood sample for HIV and HCV antibody testing. Demographic and behavioural data captured includes injecting, and sexual behaviour, blood borne virus testing, drug treatment and needle and syringe acquisition.

In 2011, 2,395 needle and syringe programs attendees participated in the ANSPS with representation from states and territories relatively proportional to population sizes. HIV antibody prevalence remained low at 1.5% or less nationally and less than 2.5% in all states and territories over the past five years. HIV prevalence was consistently higher among homosexual male participants, where prevalence ranged from 23.5% to 37.5% over the period 2007 to 2011. Re-use of needles and syringes declined from 26% in 2007 to 21% in 2011.

National Surveillance for Perinatal Exposure to HIV³⁷

The Australian Paediatric Surveillance Unit conducts national active surveillance of perinatal exposure to HIV and HIV infection among other diseases. It is estimated that approximately 91% of paediatricians who have graduated as a Fellow of the Royal Australasian College of Physicians and are currently active in clinical paediatric practice within Australia are participating in the Australian Paediatric Surveillance Unit. Monthly report card return rates (an estimate of participation) have remained at over 90% since 1994. Clinicians who report cases provide

information on the child's demographics, clinical presentation, treatment and short-term outcome.

From a total of 35 confirmed cases of perinatal exposure to HIV reported to the Australian Paediatric Surveillance Unit in 2011, 6 children were perinatally exposed to HIV acquired HIV infection. Five of the 6 children were born overseas in sub-Saharan Africa or in South East Asia. Since May 1993, there have been a total of 469 cases of perinatal exposure to HIV infection reported to the Surveillance Unit and 83 cases of HIV infection. Perinatal HIV infection remains a rare occurrence among children born to women whose HIV infection was diagnosed antenatally and who made use of interventions for minimising the risk of mother-to-child transmission.

Surveillance Among Blood Donors^{33, 38}

All blood donations in Australia have been screened for HIV-1 antibodies since May 1985 and for HIV-2 antibodies since April 1992. Prior to donation, all donors are required to sign a declaration that they do not have a history of any specified factors associated with a higher risk of HIV infection and other blood-borne infections. In all state or territory health jurisdictions, detailed information is routinely sought on donors found to have antibody to HIV-1 or HIV-2 and reports are routinely forwarded to the Kirby Institute.

Levels of HIV infection in blood donors, who undergo a screening interview to exclude those with recognised risk factors for HIV infection, have been below 1 per 100 000 donations since 1985. The two most common routes of exposure for donors with HIV infection during 2008-2011 were partners with known risk or known to be positive (37%) followed by male-to-male sexual contact (30%).

Gay Community Periodic Surveys (GCPS)

Behavioral surveillance of HIV risk behavior in gay men has been monitored through studies jointly administered by the National Centre in HIV Social Research and the Kirby Institute, in collaboration with local AIDS Councils. The Gay Community Periodic Surveys (GCPS) are community-based surveys that started in Sydney in 1996 and now are routinely conducted in six Australian cities recruiting men from gay community events, gay venues and sexual health clinics. The surveys are managed by the National Centre in HIV Social Research in collaboration with the Kirby Institute. Most indicators of gay men's sexual practices collected in the GCPS have remained stable in the last ten years. However, the proportion of men reporting any unprotected anal intercourse with casual partners has increased from 20% in 2000 to 24% in 2009. Also, the proportion of HIV-negative men with seroconcordant (HIV-negative) regular male partners having an explicit negotiated safety agreement with their partner to allow unprotected anal intercourse within the relationship and to avoid unprotected anal intercourse with other partners had fallen from 35% in 2000 to 29% in 2009.³⁹

Box 8. Case definitions for national notifiable diseases, Communicable Diseases Network Australia (CDNA)- 2004, Australia.

1. HIV – newly acquired

Newly acquired HIV infections may be diagnosed in individuals aged 18 months or older at the time of blood sample collection. A diagnosis of newly acquired HIV infection excludes a diagnosis of HIV infection (unspecified)

Reporting

Both confirmed cases and probable cases should be notified.

• **Confirmed case**

A confirmed case requires laboratory definitive evidence only.

Laboratory definitive evidence

1. Repeatedly reactive result on a screening test for HIV antibody followed by a positive result on a western blot AND laboratory evidence of a negative or indeterminate HIV antibody result in the 12 months prior to blood sample collection.

OR

2. A group IV indeterminate western blot AND detection of HIV by at least one of the following virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation). A group IV indeterminate western blot is defined by the presence of a glycoprotein band (gp41, gp120 or gp160) and one or two other HIV specific bands.

• **Probable case**

A probable case requires laboratory suggestive evidence and clinical evidence.

Laboratory suggestive evidence

1. Detection of HIV by at least one of the following virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation).

OR

2. Repeatedly reactive result on a screening test for HIV antibody followed by a positive result on a western blot.

Clinical evidence

HIV seroconversion illness within the 12 months prior to blood sample collection.

2. HIV – unspecified

Diagnosed in individuals aged 18 months or older at the time of blood sample collection, who do not have evidence of HIV acquisition in the previous 12 months. A diagnosis of HIV infection (unspecified) excludes a diagnosis of newly acquired HIV infection.

Reporting

Both confirmed cases and probable cases should be notified.

• **Confirmed case**

A confirmed case requires laboratory definitive evidence only AND that the case does not meet any of the criteria for a newly acquired case.

Laboratory definitive evidence

1. Repeatedly reactive result on a screening test for HIV antibody followed by a positive result on a western blot. A positive result on a western blot is defined by the presence of a glycoprotein band (gp41, gp120 or gp160) and at least three other HIV-specific bands

OR

2. Detection of HIV by at least two virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation) performed on at least two separate blood samples.

• **Probable case**

A probable case requires laboratory suggestive evidence only.

Laboratory suggestive evidence

Detection of HIV by at least one of the following virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation) in one blood sample.

3. HIV – child aged less than 18 months at the time of blood sample collection

Reporting

Both confirmed and probable cases should be notified.

• **Confirmed case**

A confirmed case requires laboratory definitive evidence only.

Box 8. (continued)

Laboratory definitive evidence

Detection of HIV by at least two virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation) on at least two separate blood samples (excluding cord blood).

- **Probable case**

A probable case requires laboratory suggestive evidence only.

Laboratory suggestive evidence

Detection of HIV by one of the following virologic assays (nucleic acid testing for proviral DNA; HIV p24 antigen, with neutralization; virus isolation) in one blood sample (excluding cord blood) and no subsequent negative HIV virologic or antibody tests.

Box 9. 1994 Australian National Council on AIDS (ANCA) Case Definition.

Reporting

Only confirmed cases should be notified.

Confirmed case

A confirmed case requires laboratory definitive evidence AND clinical evidence.

Laboratory definitive evidence

Definitive diagnosis of HIV infection (see case definitions for human immunodeficiency virus).

Clinical evidence**

A diagnosis of at least one of the following clinical conditions:**

- Candidiasis of the bronchi, trachea or lungs
- Oesophageal candidiasis*
- Invasive cervical cancer
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis, of more than one month's duration
- Cytomegalovirus disease, other than liver, spleen or lymph nodes
- Cytomegalovirus retinitis, with loss of vision*
- Encephalopathy, HIV related
- Herpes simplex: chronic ulcer(s) of more than 1 month duration, bronchitis, pneumonitis or oesophagitis
- Histoplasmosis, disseminated or extrapulmonary
- Isosporiasis, chronic intestinal, of more than one month's duration
- Kaposi's sarcoma*
- Lymphoma, Burkitt's
- Lymphoma, immunoblastic
- Lymphoma, primary, of brain
- Mycobacterium tuberculosis complex, any site, pulmonary or extrapulmonary*
- Non-tuberculosis mycobacterial disease, disseminated or extrapulmonary*
- Pneumocystis jirovecii (formerly Pneumocystis carinii) pneumonia*
- Pneumonia, recurrent bacterial*
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia, recurrent
- Toxoplasmosis*
- Wasting syndrome due to HIV infection
- Bacterial infection affecting a child less than 13 years of age
- Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia affecting a child <13 years*

*May be presumptive diagnosis

** Illnesses indicative of AIDS are defined in the Australian National Council on AIDS (ANCA) Bulletin 18: Definition of HIV infection and AIDS-defining illnesses. ANCA. April 1994. Canberra.

Table 10. Characteristics of cases of newly diagnosed HIV infection by year. Number of cases, proportion with late HIV diagnosis, percentage of total cases by sex and HIV exposure category, Australia.

Characteristic	Year of HIV diagnosis										Total ^{1,2}
	≤ 02 ¹	03	04	05	06	07	08	09	10	11	
Total cases	22 563	875	913	967	1 010	1 051	1 013	1 065	1 051	1 137	31 645
Males (%)	92.3	89.8	86.0	90.1	85.1	86.8	85.9	86.1	85.3	87.4	90.7
HIV status at diagnosis (%)⁴											
Late HIV diagnosis	12.3	11.8	13.0	12.1	16.4	14.4	17.1	18.5	19.8	14.2	15.1
Advanced HIV infection	15.7	17.3	15.9	16.6	18.8	15.4	15.1	17.7	18.8	16.5	16.8
HIV exposure category (%)⁵											
Men who have sex with men	77.6	73.3	67.4	72.0	67.1	68.1	65.7	64.6	66.5	71.0	74.7
Men who have sex with men and injecting drug use	4.4	4.5	4.1	4.5	4.0	2.9	3.3	3.6	2.2	2.7	4.1
Injecting drug use ⁶	4.2	3.4	4.4	3.5	2.7	2.8	3.3	2.3	2.3	1.9	3.8
Heterosexual contact	10.6	18.4	23.8	19.3	25.5	25.1	27.0	28.3	26.2	23.3	14.9
Person from a high prevalence country	2.6	6.4	9.5	6.8	10.8	9.4	12.0	12.3	13.5	8.9	4.9
Partner with/at risk of HIV infection	4.0	8.0	9.1	8.0	7.4	9.0	7.1	6.6	7.7	8.3	5.2
Not further specified	4.0	4.1	5.2	4.5	7.3	6.7	7.9	9.4	7.0	6.1	4.8
Haemophilia/coagulation disorder	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Receipt of blood/tissue	1.2	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.9
Mother with/at risk of HIV infection	0.4	0.2	0.1	0.6	0.6	0.9	0.6	1.1	0.6	0.9	0.5
Health care setting	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Other/undetermined	15.7	7.0	6.9	8.5	6.3	6.1	4.2	5.3	6.3	4.4	12.9

1 Late diagnosis and advanced infection for HIV diagnoses in 2002 only. Total percentage with late HIV diagnosis in 2002 – 2011 only.

2 Not adjusted for multiple reporting.

3 Language spoken at home was sought for cases of HIV infection newly diagnosed from 1 January 2004.

4 Late HIV diagnosis was defined as newly diagnosed HIV infection with a CD4+ cell count of 200 or more, to less than 350 cells/μl and advanced HIV infection as newly diagnosed infection with a CD4+ cell count of less than 200 cells/μl.

5 The 'Other/undetermined' category was excluded from the calculation of the percentage of cases attributed to each HIV exposure category.

6 Excludes men who have sex with men.

(Source: The Kirby Institute)

Table 11. Cases* of AIDS by sex and age group, cumulative to 31 December 2011, and for two previous yearly intervals, Australia.

Age group (years)	1 Jan 10 – 31 Dec 10		1 Jan 11 – 31 Dec 11		Cumulative to 31 Dec 11			%
	Male	Female	Male	Female	Male	Female	Total [†]	
0 – 2	0	0	1	0	11	12	23	0.2
2 – 12	0	0	0	0	22	12	34	0.3
0 – 12	0	0	1	0	33	24	57	0.5
13 – 19	0	1	0	0	28	7	35	0.3
20 – 29	9	3	10	1	1 497	133	1 646	15.2
30 – 39	33	5	23	7	4 065	224	4 301	39.8
40 – 49	37	1	29	7	2 965	121	3 091	28.6
50 – 59	22	1	18	2	1 136	58	1 198	11.1
60+	11	1	17	0	425	43	468	4.3
Total[†]	112	12	98	17	10 149	610	10 796	100.0

*Cases are classified by age at diagnosis

(Source: The Kirby Institute)

Table 12. Cases of AIDS by sex and exposure category, cumulative to 31 December 2011, and for two previous yearly intervals, Australia.

Exposure category	1 Jan 10 – 31 Dec 10		1 Jan 11 – 31 Dec 11		Cumulative to 31 Dec 11			%
	Male	Female	Male	Female	Male	Female	Total	
Men who had sex with men	66	--	61	--	8 149	--	8 149	78.7
Men who had sex with men and injecting drug use	4	--	5	--	524	--	524	5.1
Injecting drug use	3	0	4	2	254	109	363	3.5
<i>Heterosexual</i>	2	0	4	2	157	83	240	
<i>Not further specified</i>	1	0	0	0	97	26	123	
Heterosexual contact	27	11	23	14	597	377	974	9.4
<i>Sex with injecting drug user</i>	0	0	0	0	10	32	42	
<i>Sex with bisexual male</i>	--	0	--	0	--	53	53	
<i>From a high prevalence country</i>	5	5	7	7	121	115	236	
<i>Sex with person from a high prevalence country</i>	4	1	3	1	99	28	127	
<i>Sex with person with medically acquired HIV</i>	0	0	0	0	2	11	13	
<i>Sex with HIV infected person, exposure not specified</i>	1	0	2	2	37	40	77	
<i>Not further specified</i>	17	5	11	4	328	98	426	
Haemophilia/coagulation disorder	0	0	0	0	124	3	127	1.2
Receipt of blood/tissue	1	0	0	0	85	67	152	1.5
Health care setting	0	0	0	0	1	3	4	0.0
Total Adults/ Adolescents	101	11	93	16	9 734	559	10 293	99.4
Children (under 13 years at AIDS diagnosis)								
Mother with/at risk for HIV infection	0	0	1	0	18	21	39	0.4
Haemophilia/coagulation disorder	0	0	0	0	5	0	5	0.0
Receipt of blood/tissue	0	0	0	0	11	3	14	0.1
Total children	0	0	1	0	34	24	58	0.6
Sub-total	101	11	94	16	9 768	583	10 351	100.0
Other/undetermined ¹	11	1	4	1	381	27	445	
Total	112	12	98	17	10 149	610	10 796	

1 The 'Other/undetermined' exposure category includes 37 AIDS cases in people whose sex was reported as transgender. The category was excluded from the calculation of the percentage of cases attributed to each exposure category.

(Source: The Kirby Institute)

EUROPEAN REGION

At the European level, AIDS surveillance began in 1984 with the creation of the European Center for the Epidemiological Monitoring of AIDS (EuroHIV). Later, a European HIV case reporting system, also coordinated by EuroHIV was set up in 1999. EuroHIV coordinated the surveillance in the WHO European Region between 1984 and 2007. Since January 2008, the HIV/AIDS surveillance in Europe is jointly coordinated by the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe (WHO/Europe). Currently, the following 53 countries are covered in the HIV/AIDS surveillance in Europe:

European Union/ Economic European Area (EU/EEA)

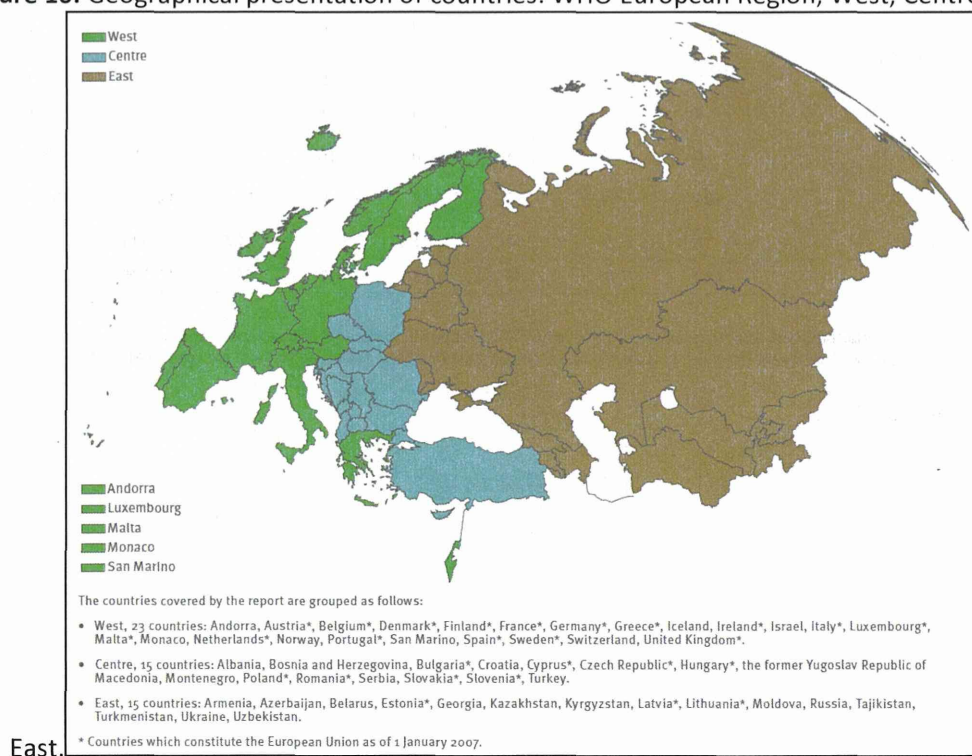
Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom of Great Britain and Northern Ireland

Non- European Union/ Economic European Area (non-EU/EEA)

Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Israel, Kazakhstan, Kyrgyzstan, Monaco, Montenegro, Republic of Moldova, Russian Federation, San Marino, Serbia, Switzerland, Tajikistan, former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan

The data are presented based on geopolitical and epidemiological considerations. The 53 countries are sub-divided into three geographic areas: West (23 countries), Centre (15 countries), and East (15 countries). The division reflects similarities in epidemiological dynamics such as epidemic levels, trends over time and transmission patterns.

Figure 10. Geographical presentation of countries: WHO European Region, West, Centre and



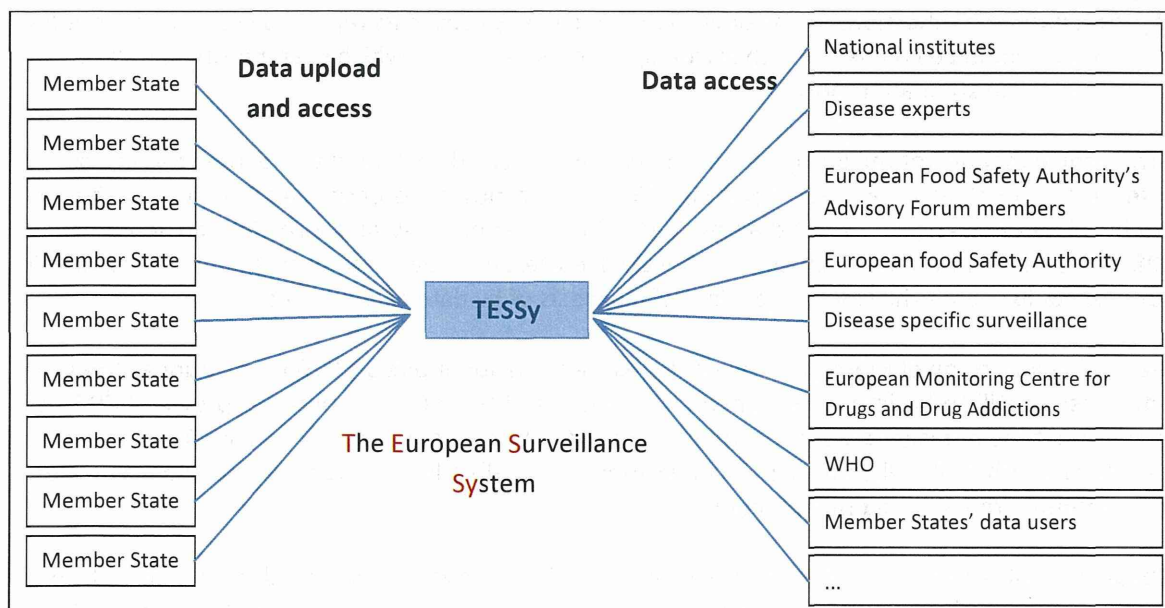
(Source: HIV/AIDS Surveillance in Europe 2011)

Prior to 2008, EuroHIV maintained two separated databases at the European level: European non-Aggregate AIDS Data Set (ENAADS) for all AIDS cases and the European HIV Infection Data Set (EHIDS) for all newly diagnosed HIV infection cases reported in each Member State. Anonymous, individual data on all newly diagnosed AIDS and HIV cases reported since the beginning of the epidemic in each country were reported to EuroHIV in a standard format every 6 months until 2004, and annually since 2005. Individual data were reported without personal identifiers and thus elimination of duplicate reports between countries was not possible. Countries provided new complete databases at each update, except those countries that were unable to provide individual data. These countries provided aggregate data (by sex, age and transmission group and half-year of report) of new cases with no update of previously reported data.

The AIDS cases were presented by year of diagnosis with adjustments for reporting delays, whereas the cases of newly diagnosed HIV infection were presented by year of report, but not adjusted for reporting delays. No adjustments were made for underreporting or underdiagnoses. A person with HIV and AIDS diagnosed at the same time was reported in both databases, ENAADS and EHIDS. In addition, persons with HIV infection (reported in EHIDS) that subsequently were diagnosed with AIDS were registered in ENAADS. The two databases partially overlapped.⁴⁰

Since 2008 and under the jointly coordination of the ECDC and WHO/Europe, the surveillance data on HIV and AIDS diagnoses is submitted directly by a single contact point in each Member State to a joint online database, The European Surveillance System (TESSy). Prior to the establishment of ECDC, there were 17 Dedicated Surveillance Networks (DSN) that collected data on a variety of diseases. TESSy is the new, unified European communicable disease surveillance system that will comprise all previously independently managed disease specific surveillance networks and the Basic Surveillance Network^{41, 42}, with the purpose of collection, validation, cleaning, analysis and dissemination of data. Currently TESSy coordinates 12 of the DSNs and it has incorporated all their previous data collection.

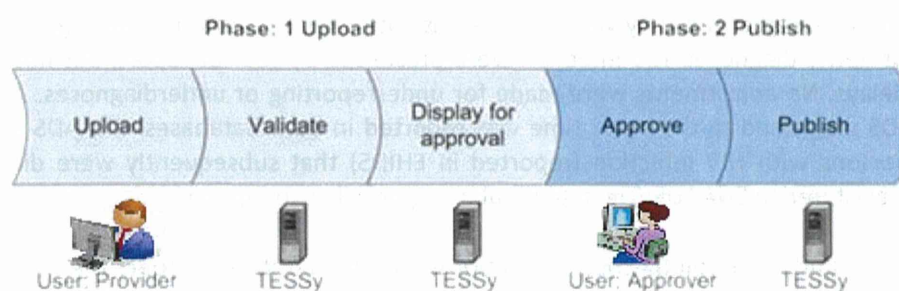
Figure 11. Information flow via European Centre for Disease Prevention and Control (ECDC)



In the EU/EEA countries, the competent organization for surveillance in each country nominates individuals who are the main contact points (epidemiologists and IT/data manager) to work with ECDC and the WHO/Europe on the reporting of surveillance data to TESSy. For non-EU/EEA countries, the respective ministries of health appoint a contact point for the WHO/Europe.

Reporting countries directly upload the file (one or more depending on the format, CSV or XML) containing surveillance data to the server of TESSy. There is an automated procedure with a set of validation rules for the verification of the data during the upload process. TESSy provides three levels of validation in order to ensure the quality of the data. If the data contains severe errors, the file is automatically rejected. In cases of unlikely values, unlikely combination of values, or minor validation issues, the user needs to approve (confirm) or reject the changes. The validation result can be checked by the user (uploader) who can choose to approve or reject the file. If the file is approved then additional data validation is conducted by ECDC staff before the data is transferred into the data warehouse in order to be accessible to all users for reports, analysis, etc.

Figure 12. Conceptual data flow when uploading data to The European Surveillance System



(TESSy).

(Source: Transport Protocol Specification CSV-Comma Separated Value TESSy, version v.7)

Three types of data are collected: HIV (case-based and aggregated), AIDS (case-based), and HIV tests performed (aggregated).⁴³ A list of variables included in data collection for the period 2011 is shown in table 13. The data collection includes a list of dates (eg: date of onset of infection, date of HIV diagnosis, date of notification, etc) but two dates are mandatory: “*date used for statistics*” and “*date of diagnosis*”. The “*date used for statistics*” is a generic date used by TESSy. Each Member State chooses its preferred date for reporting—this could be either date of onset of disease, date of diagnosis, date of notification, or any other date the country uses in its report to use as reference for when a case should be counted. In other words, the date defines to which year, month and day a case is counted in standard reports.⁴³

At the annual meeting of the European HIV surveillance network in 2008 it was agreed the use of the “*date of diagnosis*” as a basis for reporting.⁴³ Thus, countries were encouraged to submit the HIV data by “*date of diagnosis*” rather than by “*date of notification*”. HIV and AIDS data presented since 2008 in the Annual HIV/AIDS Surveillance Report are presented by “*date of diagnosis*”. Prior to this countries could submit the HIV data by date of diagnosis or by date of notification

Data quality and completeness of key variables as transmission mode and CD4 cell count at the time of diagnosis is still to be improved in many countries. In 2011, only 28 countries provided CD4 cell count at the time of diagnosis, most countries provide CD4 cell count for more than 50% of reported cases. Cases with CD4 cell count less than 350/mm³ are called late presenters and those with less than 200/mm³ are advanced HIV infection cases.

AIDS data is adjusted for reporting delays (except in 2007 and 2008) and HIV data is adjusted since the report of 2009, using updated surveillance results from previous years.⁴⁴ Yearly reporting delay probabilities are estimated using historical data, assuming a constant pattern over the previous years. A maximum reporting delay of 4 years was assumed in 2011. However, no adjustments are made for underreporting or underdiagnoses.

Table 13. List of variables in the new TESSy form for the 2011 HIV/AIDS data collection, WHO European

HIV case-based	AIDS case-based	HIV aggregated	HIV tests (aggregated)
Common set of variables			
1. RecordID	1. RecordID	1. RecordType	1. RecordType
2. RecordType	2. RecordType	2. RecordTypeVersion	2. RecordTypeVersion
3. RecordTypeVersion	3. RecordTypeVersion	3. Subject	3. Subject
4. Subject	4. Subject	4. DataSource	4. DataSource
5. Status	5. Status	5. AgeClass	5. DateUsedForStatistics*
6. DataSource	6. DataSource	6. Gender*	6. ReportingCountry*
7. ReportingCountry	7. ReportingCountry	7. ReportingCountry*	7. NumberOfTests*
8. DateUsedForStatistics*	8. DateUsedForStatistics*	8. DateUsedForStatistics*	
9. Age*	9. Age*	9. Classification	
10. Gender*	10. Gender*	10. Number of cases*	
11. Outcome	11. Outcome		
12. DateOfOnset	12. DateOfOnset		
13. DateOfDiagnosis*	13. DateOfDiagnosis*		
14. DateOfNotification	14. DateOfNotification		
15. Classification	15. Classification		
16. ClinicalCriteria	16. ClinicalCriteria		
17. LaboratoryResult	17. LaboratoryResult		
18. EpiLinked	18. EpiLinked		
Disease-specific set of variables			
19. HIV Type	19. HIV Type		
20. Stage			
21. Transmission*	20. ARTTreatment		
22. TransmissionHetero*	21. Transmission*	11. Transmission*	
23. TransmissionMTCT	22. TransmissionHetero*		
24. HIVStatus	23. TransmissionMTCT		
25. DateOfAIDSDiagnosis			
26. DateOfDeath	24. DateOfHIVDiagnosis		
27. CountryOfBirth	25. DateOfDeath		
28. CountryOfNationality	26. DateOfReportDeath		
29. RegionOfOrigin	27. CountryOfBirth		
30. CD4Cells	28. CountryOfNationality		
31. ProbableCountryOfInfection**	29. RegionOfOrigin		
	30. AIDSIndicatorDisease		
	31. AgeClass		

Region.

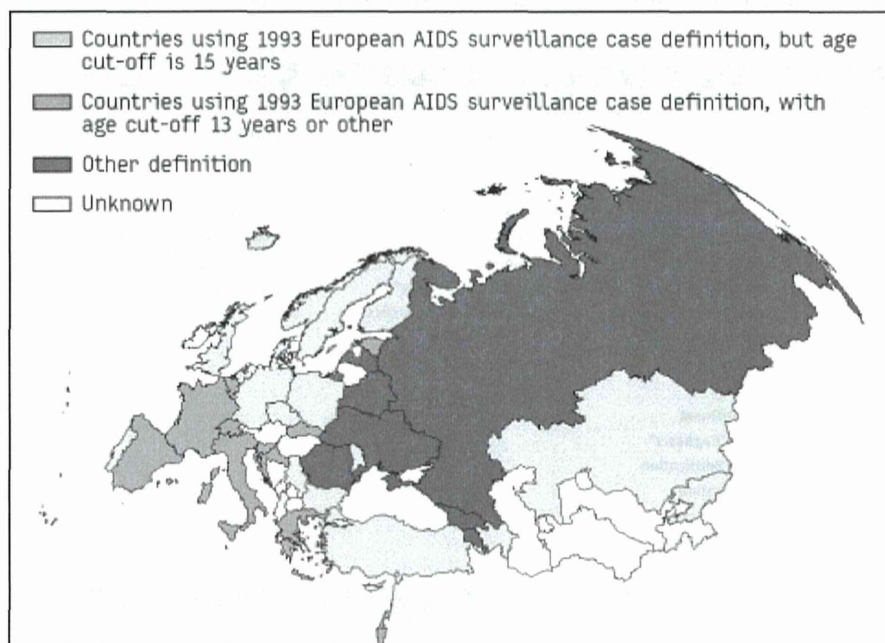
(Source: European Centre for Disease Prevention and Control)

AIDS Case definition

Most of the countries in the WHO European Region use the 1993 European AIDS Surveillance Case Definition.^{45, 46} AIDS case definition is based on the presence of one or more clinical AIDS defining illnesses. It is not based on a CD4 cell count. In the 1993 European AIDS case definition, the age cut-off for adults and adolescents is 13 years and over.⁴⁷ However, the age cut-off for adult and adolescent AIDS surveillance varies between countries.^{46, 48, 49}

Note: According to the ECDC webpage (Activities> Surveillance> European Network for HIV/AIDS Surveillance > Case definition), the age cut-off for adult and adolescent is 13 years old, however we found an amendment from August 8, 2012 setting the age cut-off at 15 years old (Activities> Surveillance> Legal Framework and strategy> Legal framework).⁵⁰

Figure 13. Age cut-off for adult and adolescent AIDS case definitions, 2006, WHO European Region.



(Source: EuroHIV, 2007)

HIV case definition

There are various HIV testing algorithm for surveillance for the diagnosis and reporting of an HIV case in an adult, and adolescent or a child aged 18 months or older. The most commonly used confirmatory tests are immunoblot (including Western Blot).^{46, 48}

Figure 14. HIV testing algorithms used in the countries in the WHO European Region, 2006.

First screening test	Confirmation test	Number of countries
	No test	2
	2nd ELISA	17
	Western Blot	34
ELISA	+	
	Immunoblot	13
	Other	5
	2nd + 3rd ELISA or other test	4
PCR	}	10
P24 antigen		
Viral culture		

(Source: EuroHIV, 2007)

Reporting delay

In a survey on HIV and AIDS surveillance systems in the WHO European Region carried out in 2006, EuroHIV found that 43% of the participating countries (44 out of 53) have not evaluated the

reporting delay (time delay between HIV/AIDS diagnosis and the report of this event) of either their HIV or AIDS surveillance systems.⁴⁶ Eighteen countries have evaluated their systems, 3 have assessed HIV reports only, 2 of AIDS reports only, and 13 assessed both surveillance systems. The great majority (13/16) of countries that assessed their HIV reporting system stated that 90% or more of HIV reports were received within six months. In contrast, only half (8/15) of the countries that assessed their AIDS reporting systems stated that 90% or more of AIDS reports were received within 6 months.

Box 10. 1993 AIDS and HIV case definition for countries in the WHO European Region

Clinical Criteria (AIDS)*

Any person who has any of the clinical conditions as defined in the European AIDS case definition for:

- * Adults and adolescents ≥ 13 years¹
- * Children < 13 years of age²

Laboratory Criteria (HIV)

Adults, adolescents and children aged ≥ 18 months

At least one of the following three:

- * Positive result of a HIV screening antibody test or a combined screening test (HIV antibody and HIV p24 antigen) confirmed by a more specific antibody test (e.g. Western blot)
- * Positive result of two enzyme immunoassay (EIA) antibody test confirmed by a positive result of a further EIA test
- * Positive results on two separate specimens from at least one of the following three:
 - Detection of HIV nucleic acid (HIV-RNA, HIV-DNA)
 - Demonstration of HIV by HIV p24 antigen test, including neutralisation assay
 - Isolation of HIV

Children aged < 18 months

Positive results on two separate specimens (excluding cord blood) from at least one of the following three:

- * Isolation of HIV
- * Detection of HIV nucleic acid (HIV-RNA, HIV-DNA)
- * Demonstration of HIV by HIV p24 antigen test, including neutralisation assay in a child ≥ 1 month of age

Epidemiological Criteria NA

Case Classification

A. Possible case: NA

B. Probable case: NA

C. Confirmed case:

HIV infection

Any person meeting the laboratory criteria for HIV infection

AIDS

Any person meeting the clinical criteria for AIDS and the laboratory criteria for HIV infection

NA, not applicable

1. EuroHIV. 1993 revision of the European AIDS surveillance case definition. AIDS Surveillance in Europe, Quarterly Report 1993; 37: 23-28

2. EuroHIV. European case definition for AIDS surveillance in children - revision 1995. HIV/AIDS Surveillance in Europe, Quarterly Report 1995; 48: 46-53

*The age cut-off is set to 15 years of age in: Commission Implementing Decision 2012/506/EU of 8 August 2012 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision no 2119/98/EC of the European Parliament and of the Council (notified under document C(2012) 5538) Text with EEA relevance.

Box 11. 1993 European AIDS surveillance case definition-List of indicator diseases, WHO/European

- Bacterial infections, multiple or recurrent in a child under 13 years of age
- Candidiasis of bronchi, trachea or lungs
- Oesophageal candidiasis
- Cervical cancer, invasive
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Intestinal Cryptosporidiosis, with diarrhoea (>1 month's duration)
- Cytomegalovirus disease (other than liver, spleen, or nodes) in a patient over one month of age
- Cytomegalovirus retinitis (with loss of vision)
- HIV-related Encephalopathy
- Herpes simplex ulcers(s) (>1 month's duration); or bronchitis, pneumonitis, or oesophagitis in a patient over one month of age
- Histoplasmosis, disseminated or extra pulmonary
- Isosporiasis, intestinal with diarrhoea (>1 month's duration)
- Kaposi's sarcoma
- Lymphoid interstitial pneumonia in a child under 13 years of age
- Lymphoma, Burkitt's (or equivalent term)
- Lymphoma, primary, of brain
- *Mycobacterium avium* complex or *M. kansasii*, disseminated or extra pulmonary
- *Mycobacterium tuberculosis*. pulmonary in an adult or an adolescent (> 13 years)
- *Mycobacterium tuberculosis*, extrapulmonary
- *Mycobacterium*. other species or unidentified species, disseminated or extrapulmonary
- *Pneumocystis jirovecii* pneumonia
- Pneumonia, recurrent
- Progressive multifocal leukoencephalopathy
- *Salmonella* (non-typhoid) septicaemia, recurrent
- Toxoplasmosis of brain in a patient over one month of age
- Wasting syndrome due to HIV

Although most of the countries in the WHO European Region use the same AIDS case definition for AIDS and HIV, there are differential characteristics in the respective reporting systems between countries. Two European countries were selected for the purpose of this report: United Kingdom of Great Britain and Northern Ireland (UK) and Germany.

D) UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (UK)

The Health Protection Agency (HPA) is an independent United Kingdom of Great Britain and Northern Ireland (UK) organisation that was set up by the government in 2003 to “protect the public from threats to their health from infectious diseases and environmental hazards”. Surveillance of the HIV epidemic in the UK is undertaken by the HPA with the collaboration of the National Public Health Service Wales; Health Protection Scotland; and the Department of Health, Social Services and Public Safety in Northern Ireland. From April 2013 the HPA will become part of Public Health England and the surveillance function will be transferred to Public Health England an executive agency of the Department of Health in the UK.

The HIV surveillance data relies on the notification of new diagnoses of HIV, AIDS and deaths (New HIV Diagnosis Surveillance System); access to HIV-related care; information about recently acquired infections; surveillance of CD4 cell count; and seroprevalence studies in targeted settings. Report of HIV or AIDS is not mandatory in the UK.⁵¹

By the end of 2011, an estimated 96,000 people were living with HIV in the UK, an estimated 24% unaware of their infection. The overall prevalence was 1.5 per 1000 population with the highest rates reported among MSM (47 per 1,000) and the black African community (37 per 1,000). Direct and indirect measures of incidence show that the rate of HIV transmission among MSM remains high. More than 90% of the cumulative number of HIV diagnoses and the annual new HIV diagnoses are registered in England.⁵²

AIDS and HIV Case Surveillance

Reporting system: New HIV Diagnosis Surveillance System

Reports of new HIV diagnoses, first AIDS diagnosis and deaths in HIV-infected individuals aged 15 years and over in England, Wales and Northern Ireland are received by the HPA from laboratories (since 1985) and clinicians (since 2000) in a voluntary basis. Separately, Scottish data is collected by Health Protection Scotland and data concerning pediatric infections by the University College London Institute of Child Health. All data are pooled by the HPA Centre for Infection at the end of each quarter to produce the UK data set of reported HIV/AIDS infections.

Laboratories provide the initial information relating to confirmed HIV diagnoses. Reports are preferably sent electronically via CoSurv (interconnected database modules that collect and transmit data from medical laboratories to local, regional and national parts of the HPA), but they can also be sent as electronic templates password protected via email or as paper forms in strict medical confidence. Reports should be made preferably at the time that the laboratory report is being issued to the requester, and no later than 6 months.⁵³ Subsequently, clinician report forms contain much more detailed epidemiological information than laboratory forms. In England, Wales and Northern Ireland, deaths are reported by clinicians alongside matching-to-death records held by the Office for National Statistics. Whereas in Scotland, the General Register Office for Scotland reports all deaths that record AIDS or HIV among the causes of death to Health Protection Scotland.

Laboratory and clinical reports relating to the same person are matched within the HIV dataset to form an individual patient record. However, clinical reports are not always received for newly diagnosed cases.⁵⁴ Patient identifier (soundex code of surname [Appendix II], date of birth, sex and clinic/hospital/laboratory identification numbers) is collected on all reports, enabling the identification of multiple reports of the same individual without revealing their identity or compromising confidentiality. Missing information is followed up with the laboratory or clinic.

The New HIV Diagnosis Surveillance System collects information about diagnosis date, age, sex, ethnicity, probable exposure category, CD4 cell count at diagnosis, and the location where the test was performed, i.e. a hospital, general practitioner or other site within a primary care trust. Information is not collected about each case's residence. Only by special analysis linking different datasets is it possible to provide new diagnosis information by residence.

AIDS Case definition

The UK employs the 1993 European AIDS case definition based in the presence of one or more clinical AIDS defining illnesses. It is not based on a CD4 cell count less than 200 cell/mm³. The adult and adolescent age cut-off in the UK is set at 15 years and above at diagnosis

HIV Case definition

The 2008 UK National Guidelines for the diagnosis of HIV infection⁵⁵ recommends that a sample has to be reactive in at least 3 HIV serological assays, the combination of which can distinguish antigen from antibody and type 1 from type 2. Screening using a fourth generation assay is now established as the standard of practice. Late diagnosis is defined as a CD4 count <350/mm³ at diagnosis within 3 months of diagnosis, and very late diagnosis is defined as a CD4 count <200/mm³ at diagnosis.

Results

Newly diagnosed cases of HIV have been increasing since the mid-1990s. This increase has been fuelled in part by an increase in heterosexually acquired infections among migrant populations, most of whom acquired their infection in sub-Saharan Africa as well as MSM, the majority of whom acquired their infections within the UK. A total of 5,600 people (4,050 men and 1,550 women) were diagnosed with HIV in the United Kingdom in 2011. This is a slight decrease on 2010 and continues the decline from the peak of 7,820 diagnoses reported in 2005. For the first time since 1998, the number of new HIV diagnoses in MSM has surpassed new diagnoses in heterosexuals. The number of new diagnoses among those infected heterosexually within the UK has remained steady at around 1,100 per year since 2008. In contrast, the number of new diagnoses among heterosexuals infected abroad has halved since 2006, from 3,530 in 2008 to 1,850 in 2011. This is largely due to a decrease in new diagnoses among persons from sub-Saharan Africa.⁵²

The number of AIDS cases reported each year has remained relatively stable since 2005. There were 460 AIDS diagnoses reported in 2011, the majority among people diagnosed late. Between 2009 and 2011 there were 1,790 reported AIDS diagnoses; the most commonly reported AIDS-