

Documentation for **HIV indicators** in Countries & Territories

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We welcome all sorts of comments, corrections and suggestions through e-mail to the authors.

Gapminder Documentation 006
Version 1
Uploaded: 2009-03-03
Published by: The Gapminder Foundation,
Sweden, Stockholm, 2008

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Gapminder is a non-profit foundation
promoting sustainable global development
by increased use and understanding of statistics.
www.gapminder.org



This compilation includes annual estimates for prevalence of HIV infection among persons 15-49 years old and total estimated numbers of infected, all ages. Data for most countries are estimates obtained from UNAIDS/WHO, or for early years, extrapolations from UNAIDS/WHO data. For other countries data are rough estimates done by Gapminder based on information from a number of different sources, as indicated in this document.

The purpose of this compilation is to provide access to an overview of the development of the global HIV epidemic over time in moving interactive graphics in **Gapminder World**, a freely accessible web service at www.gapminder.org

Our rough estimates of HIV occurrence should only be used for hypothesis generation. Due to their wide range of uncertainty they cannot be used for research on the determinants, monitoring and/or evaluation of control programs or for policy decisions. Gapminder Foundation only plans to make this set of updated estimated time series for HIV for countries available as long as complete and better datasets are not freely accessible from international agencies. The data set is available from www.gapminder.org/
We welcome comments and corrections.

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1 Abbreviations and Definitions

ARVs	Antiretroviral drugs (drugs against HIV)
HAART	Highly active antiretroviral treatment (efficient combination of several anti-HIV drugs taken together)
HBsAg	Hepatit B Surface Antigen
HCV	Hepatit C Virus
HIV Prevalence 15-49	The proportion of people in the age group 15-49 years with HIV infection
IDUs	Injecting drug users
MSM	Men who have Sex with Men
MTCT	Mother To Child Transmission
PLWH or PLHIV	People living with HIV
SWs	Sex Workers

2 Indicators, sources and general information

This compilation contains estimates on two HIV indicators:

- 1) Estimated absolute numbers of HIV positive persons, living in a given country at a given point in time.
- 2) Estimated HIV prevalence (percentage of people infected with HIV) in the age group 15-49 years, in a certain country at a given point in time.

The compilation of estimates builds on a large number of sources, categorized into three types:

- I** Estimates from 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007.¹
- II** Extrapolation backwards from the above UNAIDS/WHO data for the years 1979 to 1989.
- III** Other sources

¹ The complete data set (rounded figures) is available at www.unaids.org

Estimates of type I

In collaboration with national institutions, UNAIDS/WHO perform estimations on the current and previous state of the epidemic for most low and middle-income countries. We have used these estimations covering the years 1990 to 2007. This dataset is referred to as the “2008 Global report (UNAIDS/WHO)” and is the basis for most of the data in our compilation. The data set was made accessible by UNAIDS to the Gapminder Foundation in June 2008. For more details regarding the UNAIDS/WHO methodology in creating these estimates, see http://www.unaids.org/en/HIV_data/Methodology/. Our compilation is thus mainly based on the efforts by UNAIDS/WHO to provide comparable estimates of HIV indicators.

Estimates of type II

Gapminder Foundation wants to create a picture of the epidemic from the time when it became a public health problem up until the present. We have therefore tried to show a very rough picture also of what could have happened before 1990. To have a common start for high- and low-income countries, we have settled on displaying country/territory estimates from 1979. These estimates are extremely rough and details are given under section 3.2.

Estimates of type III

Further, the UNAIDS 2008 data set for the period 1990 to 2007 does not have estimates for all countries and territories. Countries and territories not included in the UNAIDS data set can broadly be divided into two categories, namely small nations of up to a few hundred thousand persons (e.g. Palau, Andorra) and countries with limited HIV assessments made or with limited burden of HIV (e.g. Saudi Arabia). Details of sources and methods for such country or territory estimates are included under the country specific headings in the annex.

UNAIDS major efforts are devoted to the HIV epidemic in low and middle-income countries. However, in the 2008 Global Report data (I), UNAIDS/WHO include estimates for high-income countries for the period between 1990 and 2007. These estimates are in many cases unrealistic as only a limited number of high-income countries make or report good quality estimations and current UNAIDS estimation models do not fully take into account the effects of ARVs. For a large number of these high-income countries Gapminder has therefore either compiled data or made new estimates; details are given under section 3.2.

General information

All data for each individual country or territory, which is being used for the generation of animated graphics in Gapminder World, is also available for download in Excel format at www.gapminder.org.

In general the displayed estimates are limited to countries of more than 100,000 inhabitants. As the lack of UNAIDS estimates in the case of small or low-/ medium-income countries or territories is often associated with an overall lack of data, estimates for these countries or territories performed by Gapminder should be interpreted with great caution.

No figures (PLWH or prevalence) are shown for a specific year and country if the prevalence level is believed to have stayed below 0.01% in the 15-49 year age group.

This data set is a work in progress. We do not believe that the collected material reflects all available studies and analyses and we are therefore very grateful to receive information about other estimates than those referred to in this paper.

Below follows a description of how estimations of prevalence are performed globally as well as the specific methods that have been used by Gapminder to estimate prevalence trends in those cases where such trends have not been found elsewhere.

3 Estimation methods of HIV prevalence

3.1 *Prevalence estimation methods globally*

The way the epidemic is monitored in different countries depends most importantly on the resources available for monitoring, and the size of the HIV epidemic in the population.

In high-income countries where HIV is mainly found among persons at high risk (e.g. intravenous drug users, sex workers and men who have sex with men), national case reporting (reporting of new cases by laboratories and clinicians to the central level) is combined with variable extent of HIV testing in risk groups. In some high-income countries newly diagnosed cases are further examined regarding approximate time of infection. This information can be used, in combination with other data, for better estimation of HIV incidence (the number of new infections per time period, usually given per year).

For middle and low-income countries with a concentrated epidemic (HIV mostly confined to risk groups), the case reporting system referred to above usually does not function well. The epidemic is then followed through repeated surveys of different population groups, most importantly, groups with high risk of infection.

The main problem in estimating the number of HIV positive persons in concentrated epidemics, both in high and low-income countries, is to estimate the sizes of the groups at risk. For example, one can have performed surveys showing that 5% of intravenous drug users are HIV positive in a particular city. This data however has to be combined with the total number of intravenous drug users with the risk pattern in question, in order to yield the total number of infected persons in the group. Estimation of the sizes of risk groups are often more difficult to perform than the estimation of the proportion infected by HIV. It is also the case that people who can be easily found for testing, for example street-based sex workers or homeless intravenous drug users, are often the ones with the highest HIV prevalence. Extrapolating the results of such

surveys to the whole population at risk may thus overestimate HIV prevalence. A multitude of factors thus needs to be taken into account when making overall prevalence estimates in countries with concentrated epidemics.

In generalized epidemics where HIV has spread beyond high-risk groups into the general population, different approaches are used for estimation. One such approach is to monitor HIV prevalence among pregnant women in antenatal care clinics (ANC clinics). Prevalence at these ANC clinics is used as a proxy for the prevalence in the whole adult population. A so-called sentinel surveillance system is thus often set up, where women in a representative sample of ANC clinics are monitored over time. The estimates from the studied clinics are then extrapolated to the whole country or territory. The major difficulty in such a system is to choose clinics that are representative of the country or territory in its entirety. It has also been increasingly clear that prevalence among pregnant women does not need reflect the prevalence in the whole adult population.

A more expensive but more accurate approach, which is used by an increasing numbers of countries, is to test a representative sample of the whole population, including men and women of different ages and different geographical areas. This has mostly been done by including HIV testing in Demographic and Health Surveys using two-stage cluster sampling methods. The utilization of this improved estimation technique has in many countries led to a downward revision of earlier HIV prevalence estimates.

The figure below shows the general outline of information flow in most low and middle-income countries. In addition to this flow of information from country level and upwards, in many settings UNAIDS is collaborating directly with country level institutions to perform estimates and monitoring of the epidemic.

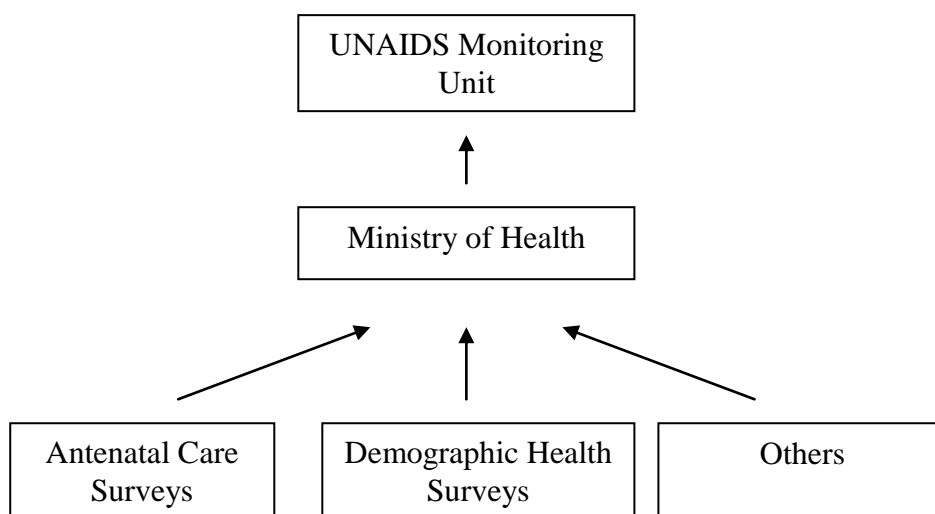


Figure 1: schematic model of the flow of epidemiological data for estimations

Trends over time in the epidemic, as estimated by UNAIDS, is produced by mathematical modeling and utilizes data from surveys in conjunction with assumptions about the clinical course of HIV infection and demographic indicators for the population. More information about these methodologies and the software used can be found at www.unaids.org.²

3.2 Additional prevalence estimation methods used in this compilation

Countries included in the UNAIDS/WHO data set excluding less realistic high-income country curves

For the vast majority of low and middle-income countries, and a few high-income countries, the data in Gapminder World is taken directly from the 2008 UNAIDS data set. This data set covers the years 1990 to 2007. For the years 1979 to 1989 the following very rough method was used:

An exponential curve was fitted to the UNAIDS prevalence data for 1990, 1991 and 1992, using Excel. Point estimates for the years 1979 to 1989 were then taken from this curve. The same method was used for estimating the number of infected persons (PLWH) back to 1979. Using this extremely rough method yielded what we perceived to be unrealistic scenarios for some countries as they indicated prevalence of several percentage points for 1979. For those countries (e.g. Uganda, Rwanda and D.R. Congo) Gapminder World shows the graph as a straight line between an ad hoc 0.01% prevalence in 1979 up to the UNAIDS data for 1990.

The extremely rough extrapolation method above yields 1979 prevalence levels higher than 0.01% for some of the countries in Sub-Saharan Africa (SSA), the West Indies and South America. This is, however, in concurrence with research showing that HIV has persisted cryptically in many places much longer than previously thought. For example work on mutations in the HIV genome pointed towards an introduction of HIV into Haiti around 1966³, into the U.S around 1969⁴ and into Brazil in the early '70s.⁵

In summary, estimates during 1979 to 1989 are extremely rough and should only be considered as "guesstimates". They can only hope to show one possible scenario for the development of the epidemic and we welcome all additions of better estimates for this and other periods.

²<http://www.unaids.org/en/KnowledgeCentre/HIVData/Methodology/default.asp>

³ The emergence of HIV/AIDS in the Americas and beyond. M. Thomas P. Gilbert, Andrew Rambaut, Gabriela Wlasiuk, Thomas J. Spira, Arthur E. Pitchenik and Michael Worobey. PNAS. November 20, 2007. Vol. 104. no. 47. 18566–18570

⁴ The emergence of HIV/AIDS in the Americas and beyond. M. Thomas P. Gilbert, Andrew Rambaut, Gabriela Wlasiuk, Thomas J. Spira, Arthur E. Pitchenik and Michael Worobey. PNAS. November 20, 2007. Vol. 104. no. 47. 18566–18570

⁵ Evolutionary history of HIV-1 subtype B and F infections in Brazil
Gonzalo Bello, Monick L. Guimaraes and Mariza G. Morgado. AIDS 2006, 20:763–768

Countries not included in the UNAIDS/WHO data set and less realistic UNAIDS/WHO high-income country curves

Data on HIV prevalence and absolute numbers of infected are missing altogether from the UNAIDS data set for some low and middle-income countries and territories. Where possible Gapminder has compiled information about these countries and territories and included them in this data set. Depending on the type of information that has been found the estimates span single or multiple years. Generally, the information available is limited and estimates should be interpreted with great caution. Specific information on sources and methods are included under the country specific section below.

UNAIDS/WHO devotes most of their HIV related work to the epidemics of low and middle-income countries. The epidemic models used by UNAIDS/WHO are therefore not perfectly suited to the demands of higher-income country epidemics. It is also true that many high-income countries do not fully report HIV related data to UNAIDS/WHO. For these reasons most high-income country curves in the UNAIDS/WHO data set are less realistic as compared to the general knowledge of the evolution of the epidemic in these countries as well as compared with the few national longitudinal estimates made by other agencies and researchers.

For the majority of these high-income countries, Gapminder has therefore made separate estimates based on a variety of sources. In the search for longitudinal prevalence estimates in high-income countries, we only found well-documented longitudinal HIV prevalence estimates from other sources for the United Kingdom, Canada, and Denmark. For a few other countries estimates of varying quality have been found going back to at least 1990, e.g., Germany, Switzerland and Austria.

The general difference between UNAIDS/WHO estimates for high-income countries and other higher quality estimates is that UNAIDS/WHO curves tend to have a strong growth in the epidemic during the 1990s and a gradual flattening during the 2000s. What seems to have been the case for many high-income countries, however, is a relatively stable or even a decreasing (e.g., Germany) number of persons living with HIV during the mid '90s. This was due to a somewhat lower level of new cases and, most importantly, due to a high number of deaths from the persons infected in the '80s. As HAART became available in the late '90s and annual new numbers of infections increased in many high-income countries, the 2000s have (as opposed to a flattening) seen a strong growth in the number of persons living with HIV.

For this reason Gapminder has decided to make new estimates for a number of high-income countries. Estimating the course of the HIV epidemic in a country and in the world is difficult. Historical data is limited, surveillance methods have varied over time, and treatments have prolonged the life of those infected and thereby making prevalence of HIV more and more useless for estimating the number of newly infected cases during recent years. By necessity, the compilation of estimated prevalence trends involves making a number of assumptions on a range of issues.

For high-income countries we have generally used the following rough method. The latest UNAIDS figure for the absolute number of infected persons (December, 2007) has been used as a starting point. For each country this number has annually been subtracted by the annual number of new HIV cases, as reported by each country. Most high-income countries report fairly reliable national statistics of annual number of new persons diagnosed with HIV. This data has been adjusted with the annual number of reported deaths from AIDS. There is, however, both under- and over- reporting of cases and deaths. In addition, this method does not take into account migration or deaths from causes other than AIDS.

From 1996 and onwards, deaths from AIDS decreased dramatically due to the availability of antiretroviral drugs. As mortality was high before 1996, underreporting of deaths would heavily contribute to underestimation if this method was used for estimates going back further in time. As errors in the reporting of the number of new diagnoses and deaths also will accumulate the further back one goes, we have chosen another methodology before 1997.

Before 1997 we mimic the country curve of a particularly country by the shape of curves from nearby countries or regional curves that can be assumed to share similarities with the specific country in question. For West European countries without country specific annual HIV prevalence estimates before 1997, we have chosen a beginning of the epidemic that mimics the estimation curve for the EU area by Downs et al.⁶ The middle part of the epidemic curve has for most countries been based on the well-modeled British curve by Philip et al.⁷ For North America the curve is based partly on Canadian estimates of the evolution of the epidemic and partly on new incidence figures from the U.S. Centers for Disease Control and Prevention.

Where there is no national level reporting of AIDS deaths or annual number of positive diagnoses having been made, and when no curve exists for a country that could be assumed to be similar, no curve has been drawn. The graphics in Gapminder World will show a straight line from the start of the epidemic to the latest available estimate.

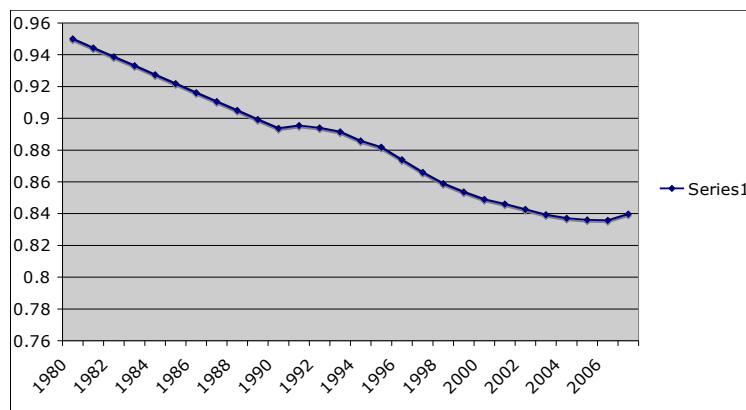
As is the case for all countries in this data set, countries start to appear in Gapminder World in the year when the prevalence in the population reached 0.01%. No data is displayed for any year before 1979. This of course constitutes an oversimplification as recent studies point to an emergence of HIV in North America from a single migration around 1969.⁸

⁶ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp, Jean-Baptiste Brunet and Françoise F. Hamers. *AIDS* 1997, 11:649–662

⁷ HIV in the UK 1980–2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. *HIV Medicine* (2007), 8, 536–546

⁸ Gilbert et al, The emergence of HIV/AIDS in the Americas and beyond. *PNAS*, November 20, 2007. Vol. 104. No. 47.

For most countries where estimates have been recovered from non-UNAIDS sources, the information available has in most cases been estimates of the absolute number of infected individuals. Prevalence curves for the age group 15-49 years have then been created by using the estimations on the annual number of PLWH for all ages as described above together with 1) the population size of the age group 15-49 years in the specific country, during the specific year, and 2) the proportion of PLWH in any given year that belong to the 15-49 years age group. The first type of information has been retrieved from the UN Statistics Division or the U.S. Census Bureau. The second type of information has been difficult to obtain and any assumptions made should be interpreted with caution. For most high-income countries we have assumed the same proportion as for Denmark (see section 5 on Denmark), also shown below. When other data for a specific country has been available, adjustments have been made. The assumptions made are detailed for each country in the country specific section in this document.



Proportion of all people living with HIV (PLWH) who are assumed to belong to the age group 15-49 years in Denmark (see section on Denmark for more information)

Data quality vary enormously between different high-income countries and for a few countries, we have not yet been able to make a new time series but have used the UNAIDS/WHO data.

4 Data issues

4.1 Ranges of uncertainty of estimates

For Gapminder estimates, the uncertainty of estimates ranges from approximately 20 % to 50 % (or more) of the number displayed. For many countries additional information on the epidemic has been included for this purpose. Gapminder will in the future try to incorporate estimation ranges for individual data points.

Trends of HIV prevalence and incidence are necessary to understand the course of the epidemic. However as considerable insecurities exist in the estimations

compiled by Gapminder, projections of the future epidemic paths should not be done using this data.

Gapminder strongly advises users to consult the country specific headings in the annex to get a better picture of the estimation uncertainties for an individual country.

4.2 *Causes and concerns about the lack of data for main HIV indicators*

Many countries have not performed estimations of the evolution of the number of people living with HIV or the prevalence of HIV infections over time.

Several reasons are likely to contribute to this lack of trend estimations:

- Within high-income countries, there seems to be a lack of policy maker demand for trends in national level HIV prevalence. The reason may be that HIV infection in high-income countries is increasingly viewed as a chronic and controllable disease after the advent of therapy in 1996.
- Overall and precise historical estimates of national level data require substantial resources both in terms of survey costs and access to modeling competence.
- Epidemiologists emphasize the importance of viewing the HIV epidemic, not as one epidemic, but as several epidemics involving different groups with varying risk behaviors. In such a view, overall national estimates are often downgraded in priority for the benefit of a better understanding of the ongoing sub-epidemics.
- Imprecise estimates are generally not viewed favorably by epidemiologists who often worry about being criticized for not using state of the art estimation methods.

5 Annex. Data and sources for countries

The data points used to generate the Gapminder graphs are available for download at www.gapminder.org. The methodology and references for all Gapminder country/territory estimates are described directly below and are organized by country. For some countries or territories, additional information on the country-specific epidemic is incorporated. For some of countries or territories for which no estimates were found and for which no Gapminder estimation has been performed, a brief description of the situation in that country or territory is given. However, general HIV-related information is not included for each and every country. For such information, please consult www.unaids.org.

For technical reasons, no data for a specific year is shown in Gapminder World if prevalence levels are below 0.01% for that year. Some countries have never reached above that level and are consequently excluded from the animated graphics. Some of these countries are, however, included in the descriptions which follow below.

5.1.1 Albania

WHO/UNAIDS or the Albanian Ministry of Health have not performed an estimate of the number of infected in all ages or for the prevalence in the group 15-49 years. The limited HIV testing performed precludes reliable estimates of the development of the epidemic. It is reported that 211 individuals are known to have received an HIV diagnosis. Of these 35 have died.⁹ If the same number of new diagnoses and deaths are used for 2007 as was reported for 2006, the number of known diagnoses minus deaths would come to 236 (211+32 -7). The number of HIV positive individuals unaware of their status is hard to judge and set here to 30% of all HIV positive persons (EU span: 12-50%).¹⁰ Based on this, the Gapminder estimate for the number of HIV positive persons, all ages 2007, is set to 337 persons. Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data taken from U.S. Census Bureau, IDB.¹¹

Additional information

WHO HIV/AIDS country profile¹²

“Since HIV reporting began in 1992 and through the end of 2006, 211 HIV cases have been reported in Albania. 72 of the cases were reported as having developed AIDS, including 35 people who died. For the year 2006, 32 HIV diagnoses, 15 AIDS diagnoses and 7 deaths among AIDS cases were

⁹ WHO Regional Office for Europe, Copenhagen

http://www.euro.who.int/aids/ctryinfo/overview/20061127_1

¹⁰ Technical report. HIV infection in Europe: 25 Years into the Pandemic. Background paper prepared for the conference “Responsibility and Partnership: Together Against HIV/AIDS”, Bremen, 12-13 March 2007.

¹¹ Retrieved September 2008.

¹² Regional Office for Europe, Copenhagen

http://www.euro.who.int/aids/ctryinfo/overview/20061127_1

registered, the highest reported figures in all three categories reported to date. Among the 32 new HIV cases, 21 were male. The predominant mode of transmission is sexual (about 90% of all reported cases) and the age group most affected is 30–39 years old. The majority of reported cases were acquired outside the country.

It is estimated that there are 10 000–30 000 drug users in Albania (of whom 3000–5000 are estimated to be injecting drug users, or IDUs); for most IDUs, the drug of choice is heroin. There is a scarcity of information regarding injecting drug use and attitudes towards needle sharing in the country. A survey conducted in three Albanian cities (Tirana, Shkodra and Vlora) provided some information on the health consequences of drug use. None of the more than 400 drug users tested in Tirana were HIV positive, whereas about 40% had hepatitis B and just 3% hepatitis C. The data also suggest that injecting drug use is on the rise, and that more than two thirds of injectors share needles and syringes.

In addition to injecting drug use, Albania faces other challenges with regard to HIV risk behaviours. It is estimated that thousands of Albanian women and girls have been working as sex workers outside the country (e.g. in western Europe or other Balkan countries) over the past 10 years. Most of them are young (20–24 years old) and have not received any sex education. During the last decade there has also been a dramatic increase in the mobility of the Albanian population. According to estimates by the National Statistical Institute of Albania, the number of migrants is approximately 600 000 people, or about 18% of the population, the largest group being men aged 20–30. HAART became available in Albania in 2003. In 2004, 15 people were on HAART treatment and as of 31 January 2008, 74 people (including 12 children) received HAART at one treatment facility in the country.”

The National Strategy of Prevention and Control of HIV/AIDS in Albania 2004 – 2010¹³

“As of end of 2003, Albania is still considered a low HIV prevalence country. However, there are major concerns that since the early 1990s, when Albania ended decades of self-enforced isolation, that HIV risk behaviors especially among youths and the large mobile populations in Albania have been steadily increasing and that there may now be a high potential risk for extensive HIV transmission in injecting drug users (IDU) who share their injecting equipment with others and in persons who have unprotected sex with multiple and concurrent sex partners. The first case of an infected person with HIV in Albania was diagnosed in May 1993 through routine HIV screening of the blood bank. Since then, up through the year 2000, about 5-10 HIV-infected persons and from 1-4 AIDS cases have been detected annually via a variety of different passive clinical and laboratory testing programs. Until end of November 2003, in Albania are reported 117 cases of persons infected with HIV/AIDS. From these persons, 42 have manifested AIDS and 37 deaths are

¹³Reference: Let’s keep Albania a low HIV prevalence country, The National Strategy of Prevention and Control of HIV/AIDS in Albania 2004 – 2010, December 2003, UNAIDS and The Institute of Public health.

counted among them. Although, based on the low numbers of the persons diagnosed with HIV/AIDS Albania can be considered a country with a low prevalence of HIV/AIDS, there is an increasing trend evident during the last three years. Starting from 2000, 75 new cases of the persons infected with HIV/AIDS were diagnosed, a number, which consists two third of all, the cases diagnosed and reported until November 2003. Sexual transmission continues to dominate the modes of HIV infection with approximately 90% of all cases. Another characteristic for Albania is that approximately 70% of HIV infections and AIDS cases (HIV/AIDS) are believed to have acquired their HIV infection outside of Albania. There is a trend towards the feminization of epidemic during the last years where the number of females is progressively increasing. The annual number of reported HIV/AIDS is small and even though the actual number of prevalent HIV/AIDS currently in Albania has to be much larger than the few reported, the estimated number and the estimated prevalence rate for all persons in Albania living with HIV are all still relatively low. Based on HIV data from blood donors and emigrant populations that together have totaled from 10,000 to 40,000 persons annually since 1993, it can be concluded that HIV prevalence in Albania is less than 1 per 1,000 of the 15-49 year old population in Albania. The total number of Albanians in the 15-49 year age group is about 1.5 million and a prevalence rate of 0.1% (1 per 1,000) would mean a total of about 1,500 HIV infections. Although estimation of the actual prevalent number of persons living with HIV in Albania cannot be precise because of the limited data, a good working estimate that is consistent with the available data would be at least a few hundred but probably less than a thousand. Based on the lower range of this estimate, the number of clinical AIDS cases and deaths that can be expected annually in Albania over the next five years will be about 20-30. As of end-2003, even HIV infection is appearing among injecting drug users and victims of trafficking still there are no indications that any epidemic (sustained or extensive) transmission of HIV has or is occurring in Albania. Extensive or epidemic heterosexual HIV transmission has not yet occurred but however, detailed information on the rapidly changing patterns and prevalence of high heterosexual risk behaviors still need to be collected to better assess the potential risk for extensive heterosexual HIV transmission all over the country. The non-epidemic type of heterosexual transmission pattern from HIV-infected persons, who acquired their infection by engaging in high HIV-risk behaviors (unprotected sex with many sex partners and/or sharing drug injecting equipment) to his or her regular sex partner, aside from those HIV infections acquired abroad, appears to be the primary mode of sexual transmission of HIV in Albania. There are insufficient data on HIV transmission in MSM in Albania but limited evidence indicates that a few MSM in Albania acquired their HIV infection outside of Albania.

Routine HIV screening of paid and volunteer donor blood started in Albania during the early 1990s. However, a few donors in the “window” period of their HIV infection may have infected several transfusion recipients in Albania during the past decade. As a result of the self-enforced isolation of Albania by the former communist regime up to the early 1990s, HIV-infected blood products that were distributed worldwide in the early-to-mid 1980s did not enter the country.”

5.1.2 Algeria

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.3 Angola

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.4 Argentina

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.5 Armenia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.6 Australia

Historical estimates for the duration of the epidemic have not been found for Australia. The epidemic is believed to have started around 1980 and the first AIDS case was diagnosed in 1982.¹⁴ The Gapminder curves for Australia (PLWH and prevalence) are scaled down versions of the United Kingdom curves. The UNAIDS/WHO estimate for 2007 is displayed in the graph. The rest of yearly estimates for Australia are for each year scaled down with the 2007 ratio of Australian PLWH to U.K. PLWH (and likewise with prevalence). The curves should be interpreted with great caution.

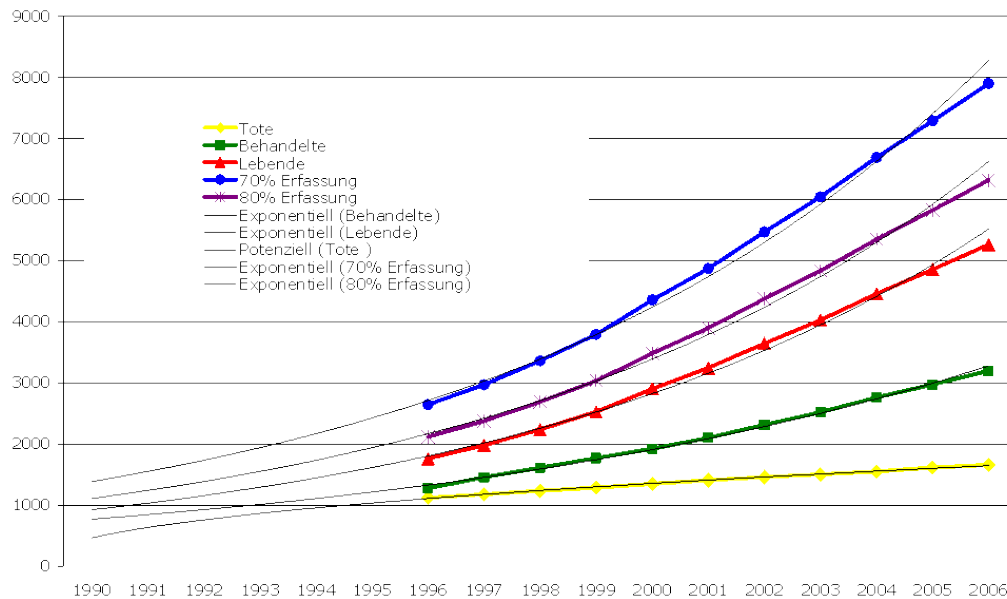
5.1.7 Austria

Number of PLWH, all ages

Estimations provided by Dr. Jean-Paul Klein at Bundesministerium für Gesundheit, Familie und Jugend (Ministry of Health) for the period 1996-2006.

¹⁴ National Centre in HIV Epidemiology and Clinical Research, (Jan 1997), Australian HIV Surveillance Update, vol 13, no. 1.

The increase during 2007 uses the same number as the increase during 2006. The number of HIV-positive persons in Austria that are not aware of their status is not known. The red, lilac and blue lines below indicate the number living with HIV assuming three different scenarios as to the proportion of persons out of all HIV positive persons who are not diagnosed (0%, 20% or 30% of the HIV-positive population). In the Gapminder graph we have shown the middle scenario (20%, lilac). The estimation is relatively crude and should be interpreted with caution. The Y-axis in the graph denotes the number of persons living with HIV, all ages.



Graph provided courtesy of Dr. Jean-Paul Klein at Bundesministerium für Gesundheit, Familie und Jugend (Ministry of Health), Vienna, Austria.

The Gapminder curve on the period before 1996 tries to mimic the shape of the modeled curve of Germany (see section on Germany). A smaller initial rise than in Germany has been chosen. This part of the curve should only be interpreted as one possible scenario among others.

Prevalence in the age group 15-49 years

These figures have been calculated based on the absolute numbers above. The Danish proportion of PLWH in the age group 15-49 years out of all PLWH (see section on Denmark) has been used to get the absolute number of infected in the 15-49 age group for all years. This number has been divided with the Austrian population in the 15-49 age group to receive prevalence values.¹⁵

5.1.8 Azerbaijan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

¹⁵ UN Statistics Division. Data in 5-year intervals. A linear trend has been assumed in between data points. Figure for 2005 is used for 2006 and 2007.

5.1.9 Bahamas

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.10 Bangladesh

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.11 Barbados

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.12 Belarus

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.13 Belgium

Number of PLWH, all ages

The curve of annual number of PLWH 1997 to 2007 takes as its starting point the UNAIDS estimate for 2007. This figure has then been revised annually for each preceding year based on the difference in the number of reported new cases minus deaths from AIDS.¹⁶ Although deaths are incompletely reported it is probable that this does not add a substantial bias as antiretrovirals during this period has lowered the mortality among PLWH substantially.

¹⁶ Data set on newly diagnosed individuals received from Stine Nielsen, WHO Europe, 2007. No of deaths from graph in EuroHIV. HIV/AIDS Surveillance in Europe. End-year report 2006. Saint-Maurice: Institut de veille sanitaire, 2007. No. 75.

The period from 1979 to 1991 builds on the shape of the evolution of number of PLWH in the EU area as modeled by Dows et al.¹⁷ The years from 1992 to 1996 build on the shape of the curve of the well modeled British curve by Philips et al.¹⁸

Prevalence in the age group 15-49

The proportion of people in this age group out of all PLWH is taken from the Danish HIV data set (see the section on Denmark for details). The size of the Belgian population in this age group is taken from United Nations Statistics Division.¹⁹

Additional information

WHO Europe, Belgium - HIV/AIDS country profile²⁰

By the end of 2006, a cumulative 18 890 HIV cases had been reported in Belgium, of which 3641 had developed AIDS, and 1830 had died. In all, 65% of the HIV cases had a known mode of transmission, 58% through heterosexual contact, 29% were infected through MSM, 6% through injecting drug use, 4% through blood transfusions (does not indicate that the transfusion actually caused the transmission, but specifies the number of people living with HIV ever having had a blood transfusion) and 3% through MTCT. For the year 2006 alone, 995 new HIV cases, 99 new AIDS cases and 15 deaths among AIDS cases were reported, the lowest number of deaths registered since 2002. Among the total reported HIV cases, 62% are male and the largest numbers of people living with HIV are aged 30-34 (men) and 25-29 (women).

Among Belgian nationals, 68% of the infected men reported having acquired HIV by having had sex with a man and 5% through injecting drug use by the end of 2006. Heterosexual transmission accounted for 25% of the cases. For women of Belgian nationality, heterosexual transmission was cited in 79% of the known cases. Among non-Belgian men and women the majority of cases are heterosexual (62% and 89% respectively). In 2006 alone, 59% of the 334 heterosexually infected cases were from countries with generalized epidemics. While AIDS incidence has continued to decline among Belgians, incidence among non-Belgians has remained relatively stable, particularly for non-residents who were diagnosed shortly after arriving in the country. Since 1997, the majority of new AIDS cases have been among non-Belgians, especially those from countries with generalized HIV/AIDS epidemics.

¹⁷ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS 1997, 11:649–662

¹⁸ HIV in the UK 1980–2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536–546

¹⁹ UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=56&yrID=2005&continue=Continue+%3E%3E. Data in 5 year intervals. A linear trend has been assumed in between data points. Figures for 2006 and 2007 uses the 2005 UN figure.

²⁰ Source: WHO/Europe. Country profiles.

http://www.euro.who.int/aids/ctryinfo/overview/20060118_6

The annual incidence rate of new HIV cases has steadily and slowly increased since 1999 (7.8 per 100 000), with a peak in 2005 (10.3 per 100 000) followed by a slight decrease in 2006 (9.5 per 100 000) Following a steady decline in the number of new cases between 1992 and 1997, there was a 54% increase in the number of new cases between 1997 and 2005.

In Belgium, HIV testing is offered at all GPs, clinics, hospitals and student services. Tests are free of charge at a few sites, but generally there is a fee with reimbursement of 80% of the cost by the social security system. According to national HIV testing policies, partner notification was not mandatory, nor was there a requirement or systematic testing of any particular individuals/groups. Around 579 000 people were tested for HIV in Belgium during 2006. 8162 HIV/AIDS patients received medical care for their condition in 2006, 42% being non-nationals. By the end of 2002, 5100 people were on treatment with HAART and as of December 2006, a total number of 6450 received HAART at 9 facilities. Of the patients on HAART, 46% were non nationals, 58% were reported as heterosexually transmitted, 35% MSM and 3% IDUs. National sero-prevalence studies from 2003-2005 found HIV co-infection in 20% of STI patients infected with one of the following STIs: chlamydia, gonorrhoea, trichomonas, genital herpes, syphilis, genital warts, PID and pediculosis pubis. From 2001 through 2006 the number of mother-to-child transmission cases steadily decreased, (23 to 5 respectively)”

5.1.14 Belize

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.15 Benin

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.16 Bolivia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.17 Bosnia & Herzegovina

Few studies have been undertaken and the reporting system is not yet mature. An estimate of the course of the epidemic is therefore very hard to make. Ministry of Health in Bosnia and Herzegovina has estimated the number of HIV infected persons to 500 (496) for the year 2005.²¹ Prevalence estimates for the age group 15-49 are hard to give as reliable demographical statistics are not available after the wartime. The present population is however estimated to 3.842.537 (30.06.2005) individuals.²² This would yield an HIV prevalence for all ages at 0.013%. 77 of the total 116 registered HIV infected persons were in the group 15-49 years (66,38%).²³

Additional information

WHO Europe, Bosnia & Herzegovina - HIV/AIDS country profile²⁴

By the end of 2006, Bosnia and Herzegovina had reported a cumulative total of 133 HIV cases, including 92 people who developed AIDS and 51 who later died. For the year 2006, the authorities reported 17 new HIV cases, 4 new AIDS cases and 4 deaths among AIDS cases.

Of the total number of HIV cases with a known mode of transmission, 61% are attributed to heterosexual sex, 19% are attributed to sex between men and 16% to injecting drug use. 77% of all reported HIV infections are found in males. Although HIV prevalence in the country is relatively low and stable, studies suggest high levels of HIV risk indicators (e.g. injecting drug use and low levels of knowledge about HIV/AIDS).

It should be noted that much data were lost during the war in Bosnia and Herzegovina. Many people who lived with HIV/AIDS left the country or were lost to follow-up before treatment became available.

9 facilities in Bosnia and Herzegovina offer HIV testing. In 2006, 20 904 people were tested for HIV. 17% received pre-test/ post-test counselling. Testing is not mandatory for any particular circumstance, group or individual, the only exception being when IDUs initiate methadone maintenance therapy programmes. HIV testing is promoted on a volunteer basis for pregnant women.

A study from 2003 conducted in drug treatment centres found two cases of HIV infection among 255 IDUs.

By the end of 2002, one HIV patient was on treatment with HAART and as of the end of 2006, 19 residents were receiving HAART (14 male, 5 female). By

²¹ Personal communication with Dr Zlatko Cardaklija, Senior Adviser, Federal Ministry of Health Federation of Bosnia and Herzegovina, HIV coordinator for WHO, HIV/AIDS coordinator of Federation of B&H

²² Agency for Statistics, Bosnia and Herzegovina

²³ Personal communication with Dr Zlatko Cardaklija, Senior Adviser, Federal Ministry of Health Federation of Bosnia and Herzegovina, HIV coordinator for WHO, HIV/AIDS coordinator of Federation of B&H

²⁴ Source: WHO/Europe. Country profiles.

http://www.euro.who.int/aids/ctryinfo/overview/20060118_7

31 December 2007, 30 people in Bosnia and Herzegovina were receiving HAART. In total, 33 HIV patients were seen for medical care during 2006.

5.1.18 Botswana

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.19 Brazil

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.20 Bulgaria

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report). UNAIDS estimated the country to have less than 500 HIV positive individuals in 2005.²⁵ A considerable upward revision has taken place in the new 2008 Global report (UNAIDS/WHO), June 2008. The figure for 2007 now being 3,888 PLWH.

Additional information

WHO Europe Bulgaria - HIV/AIDS country profile²⁶

“By the end of 2006, Bulgaria had reported a cumulative total of 689 HIV cases, including 180 diagnosed as AIDS and 64 deaths among AIDS cases. The annual number of newly reported HIV infections grew from 15-20 in the early 1990s to 91 in 2006, reaching the highest reported annual case-reporting incidence since the beginning of reporting.

Among the HIV cases reported from 1986 through 2006 that had a known mode of transmission (98%), 80% had been transmitted through heterosexual contact, 10% through injecting drug use, 7% through MSM, 2% through blood transfusion and 0.9% through vertical transmission.

In 2006 the transmission pattern shifted, with a higher proportion of HIV infection transmitted through injecting drugs (38%) and MSM (11%), and a decrease in heterosexual transmission (51%)

²⁵ UNAIDS epidemiological fact sheet Dec 2006.

²⁶ WHO Europe at http://www.euro.who.int/aids/ctryinfo/overview/20060118_8

69% of Bulgaria's reported HIV cases are male. In 2004 the largest numbers of cases were registered in four major cities, Sofia (163), Bourgas (72), Varna (39) and Plovdiv (40)

An initial round of second-generation sentinel surveillance surveys among three risk groups - IDUs, sex workers (SWs) and the Roma people - was conducted in late 2004 in five major cities: Sofia (the capital), Varna, Bourgas, Plovdiv and Pleven. HIV prevalence in the three groups was 0.59% among IDUs, 0.73% among SWs and 0.30% among the Roma population. Although the data indicate that prevalence among these risk groups is still low, their vulnerability appears to be high. Surveillance data show that 63.9% of IDUs, 13.4% of the Roma and 8.7% of SWs are seropositive for hepatitis C, while the syphilis prevalence among the three groups is 2.4%, 6.7% and 21.5%, respectively.

280 HIV/AIDS patients received medical care for their condition in 2006. By the end of 2002, 86 people were on HAART treatment and as of December 2007, a total number of 221 received HAART at 3 facilities in Bulgaria. Of the patients on HAART, 70% were infected heterosexually, 21% MSM, 3% IDUs, 3% MTCT and 2% were prisoners. 4 out of the 5 IDUs receiving HAART also received opioid substitution therapy (methadone).

Provision of antiretroviral therapy is covered by the budget of the Ministry of Health and is provided free-of-charge for all patients, who meet the criteria of the European treatment guidelines.

134 facilities across Bulgaria provide HIV testing and testing is free of charge. According to national HIV testing policies, partner notification was not mandatory. Pregnant women are systematically offered an opt-in HIV test and additionally systematic provision of VCT is offered to most-at-risk groups including sex workers, prisoners, young Roma, MSM, IDUs etc. All tests were reported to have been preceded by informed consent. Around 109 668 people were tested for HIV in Bulgaria during 2006.

265 PLHIV had been tested for co-infection with hepatitis and among these 9 were co-infected with hepatitis B and 27 with hepatitis C. 35 people were diagnosed with TB/HIV co-infection by the end of 2006.”

5.1.21 Burkina Faso

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.22 Burundi

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.23 Cambodia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1985 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic and the UNAIDS/WHO value for 1990. For most Asian countries the start of the epidemic is set somewhat later than the rest of the world, 0.01% in 1985). The straight line from 1985 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.24 Cameroon

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates from 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.25 Canada

Number of PLWH, all ages

Figures for 1990 to 2007 are derived from the UNAIDS 2008 report. From the start of the epidemic until 1989, the shape of the curve comes from the public health agency of Canada where the epidemic was modeled in 2006. The Canadian model has been created through a combination of methods where the workbook method has formed one part. For a more detailed description of methods, see the downloadable reference below.²⁷

Prevalence in the age group 15-49 years

Figures for 1990 to 2007 derive from UNAIDS 2008 report. Figures up to 1989 has been calculated based on the absolute PLWH numbers above. The proportion of PLWH in the age group 15-49 years out of all PLWH has been set at 94% up to 1989, based on data from the South Alberta Region.²⁸

²⁷ Public Health Agency of Canada. *HIV/AIDS Epi Updates, August 2006*, Surveillance and Risk Assessment Division, Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada, 2006

²⁸ <http://www.calgaryhealthregion.ca/clin/sac/graphs/slide5.gif>

Canadian population in the age group 15-49 is based on data from UN's Statistics Division.²⁹

5.1.26 Central African Republic

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.27 Chad

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.28 Chile

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.29 China

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.30 Colombia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can

²⁹ UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=124&yrID=2005&continue=Continue+%3E%3E. Data in 5 year intervals. A linear trend has been assumed in between data points.

only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.31 Comoros

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.32 Congo, Democratic Republic of the

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.33 Congo, Republic of the

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.34 Costa Rica

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.35 Cote d'Ivoire

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.36 Croatia

Number of PLWH, all ages

Croatia is a low prevalence country. There is no official estimate of the number of HIV positive individuals in Croatia. The Gapminder estimate relies on information and expert opinion by Dr. Josip Begovac, University Hospital for Infectious Diseases, Zagreb and author of a recent article on HIV epidemiology

in Croatia. The proportion of undiagnosed persons out of the total number of HIV positive persons is very hard to estimate. The level chosen by Dr. Begovac is 50%. Table showing the number of PLWH under some type of hospital care in Croatia:

Year	Number in care	Estimated number of living with HIV
2000	147	294
2001	173	346
2002	209	418
2003	244	488
2004	274	548
2005	345	690

No information has been found on the epidemic before this time. The figure for 2007 is an extrapolation from 2005.

Prevalence in the age group 15-49 years

These figures have been calculated based on the absolute numbers above. The proportion of PLWH in the age group 15-49 years out of all PLWH during this period has on an ad hoc basis been set at 90%. The total Croatian population in the age group 15-49 is based on data from UN's Statistics Division.³⁰ The figure for 2007 is an extrapolation from 2005.

Additional information

WHO Croatia - HIV/AIDS country profile³¹

“By the end of 2006, Croatia had reported a cumulative total of 604 HIV cases, including 258 AIDS cases of which 123 had died. For the year 2006 itself, the republic reported 66 new HIV cases, 20 new AIDS cases and 6 deaths among AIDS patients.

The first HIV cases were registered in 1985. Of the cumulative total, 81% have been male. Where transmission route is known (68% of the cases), 8% of HIV infections have occurred through injecting drug use, while the majority of cases are attributed to sex between men (46%) followed by heterosexual contact (42%). The tendency since 2003 has been a steadily increasing proportion of transmissions reported to be related to MSM compared to heterosexual contact. Of the heterosexual cases, the majority (around 60%) were most likely infected outside of Croatia.

The incidence and prevalence, of both HIV and AIDS, is somewhat higher in the coastal areas, though the total number of AIDS cases is the highest in the capital, Zagreb.

³⁰ UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=124&yrID=2005&continue=Continue+%3E%3E. Data in 5 year intervals. A linear trend has been assumed in between data points.

³¹ WHO: http://www.euro.who.int/aids/ctryinfo/overview/20060118_9

Croatia has a low-level HIV epidemic with relatively stable epidemiological trends in recent years. Risks of HIV outbreaks are estimated as moderate. The HIV epidemic is concentrated among populations with high risk behaviour, thus found to be at a 100 times greater risk than the general population. However, the prevalence in every high risk population does not exceed 1%. While Croatia has a high estimated number of heroin injectors (more than 10 000 IDUs), systematic HIV testing of IDUs seeking treatment has shown a low HIV prevalence, around 1%, since 1991. Hepatitis B prevalence among drug users in treatment in 2004 was 19% and hepatitis C prevalence 47%. The number of opiate users that have ever been in treatment with opioid substitution therapy (OST) increased from 989 in 1995 to 4163 in 2004. Opioid substitution treatment is easily available through the primary health care system, and there are more than 2000 patients receiving methadone. A total of 108 drug users died from drug-related causes in 2004, the majority from drug overdose (75%).

Ten facilities in Croatia provide HIV testing and testing is free of charge. According to national HIV testing, neither partner notification nor testing for any particular circumstance, group or individual was mandatory. On average around 170 000 people are tested for HIV each year. All blood donations and blood products have been tested since the mid-1980s.

In total, 376 people living with HIV were seen for medical care during 2006. Croatia has a centralized system of care; all HIV/AIDS patients are treated at the University Hospital of Infectious Diseases in Zagreb. The HIV/AIDS Centre is accessible without referral. By the end of 2002, 148 people were on HAART treatment and as of June 2007, 310 HIV/AIDS patients received HAART in Croatia, 80% of them male, and the majority being fully covered by the public health system. Of those receiving HAART, 47% were thought to have been infected through heterosexual contact, 41% were reported as MSM and 8% through injecting drugs. 43% of IDUS on HAART were also receiving OST.”

5.1.37 Cuba

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.38 Cyprus (Greek part)

This estimate only concerns the Greek part of Cyprus. Based on the WHO country profile below, a rough estimate can be made based on the number of persons who tested positive, the number of diseased, and by subtracting the number of positive tests taken by visitors. Adding an EU average of 30% unknown cases and an ad hoc addition of 20 new diagnoses during 2007 would yield the Gapminder figure of 380 HIV positive individuals for 2007. Approximately 50% of the Cypriot population is between 15 and 49 years.³²

³² Middle East Cancer consortium: <http://mecc.cancer.gov/cyprus.html>

Assuming 80 % of the HIV positives to be in this group would yield a prevalence figure of 0.076 % in the 15-49 year group.

Additional Information

WHO Cyprus - HIV/AIDS country profile³³

“Between 1986 and the end of 2006, 518 cases of HIV/AIDS had been reported in Cyprus. By the end of 2006, 173 cases had developed AIDS, and 85 AIDS patients had died. Reports from 2004 on the total number of registered cases found that 58% were Cypriots and 42% were foreigners/visitors. The majority of the foreigners have probably left Cyprus, since the reason for which they had been tested was to obtain a work permit.

In 2006 alone, 34 new HIV cases were registered and three cases of AIDS were diagnosed. No deaths among AIDS cases were registered. The annual incidence has been relatively low and stable since the beginning of reporting in 1986, with small peaks in 1994 (38 new cases) and in 2005 (44 new cases). 77% of known HIV cases were aged 20–39 at the time of diagnosis, while 21% were younger than 25 years.

The main mode of transmission is sexual contact, where 63% of all reported cases until 2006, with known route of transmission (98%), were infected heterosexually and 33% among MSM. The remaining cases include 1% who reported having injected drugs, 2% through blood transfusions (no new cases since 1991), and less than 1% through mother-to-child transmission. Surveillance in certain population groups (e.g. inpatients, pregnant women, army conscripts and blood donors) indicates very low prevalence rates. Factors that may have a negative impact on the future course of the epidemic include:

- intense population movements to and from Cyprus and across the dividing line
- the steady increase in the trafficking and use of drugs
- the increasing number of seropositive women from abroad who come to live in Cyprus.

The information presented here concerns only part of Cyprus, due to an absence of reliable information concerning the island as a whole. Unofficial sources, however, indicate that there is low prevalence and similar protection and risk factors across the country. Efforts are being made by the Ministry of Health of Cyprus, through collaboration with Cypriot NGOs, to establish common strategies against HIV/AIDS.

151 people were on HAART at the end of 2007. HIV testing is offered free of charge in Cyprus. Partner notification is not mandatory.”

³³ WHO Europe. Cyprus country profile. Dec 2006. At: http://www.euro.who.int/aids/ctryinfo/overview/20060118_10

5.1.39 Czech Republic

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.40 Denmark

Number of PLWH, all ages

The data points between 1990 to 2007 have been received from Susan Cowen, Statens Seruminstitut, Denmark³⁴ and builds on a model incorporating several types of data including annually reported HIV diagnosis, annually reported AIDS deaths, back calculation of AIDS cases before HAART, as well as estimation of under and over reporting of HIV cases.

Table showing data points for the 1990-2007 period, including minimum and maximum values:

	min	max	mean
1990	1604	2665	2134
1991	1700	2793	2247
1992	1825	2954	2390
1993	1863	3029	2446
1994	1860	3063	2461
1995	1861	3101	2481
1996	1931	3199	2565
1997	2103	3389	2746
1998	2246	3546	2896
1999	2459	3776	3118
2000	2668	3999	3333
2001	2922	4270	3596
2002	3154	4518	3836
2003	3365	4743	4054
2004	3605	5000	4302
2005	3838	5249	4543
2006	4060	5485	4773
2007	4329	5770	5049

Gapminder has estimated the data points before 1990. This part is based on the shape of the prevalence curve for the whole EU, developed by Downs et al.³⁵ The curve before 1990 should only be interpreted as one possible scenario and might not reflect features that are specific to the Danish epidemic.

Prevalence of HIV in the age group 15-49 years and for the total population

The data points between 1990 to 2007 have been received from Susan Cowen, Statens Seruminstitut, Denmark³⁶.

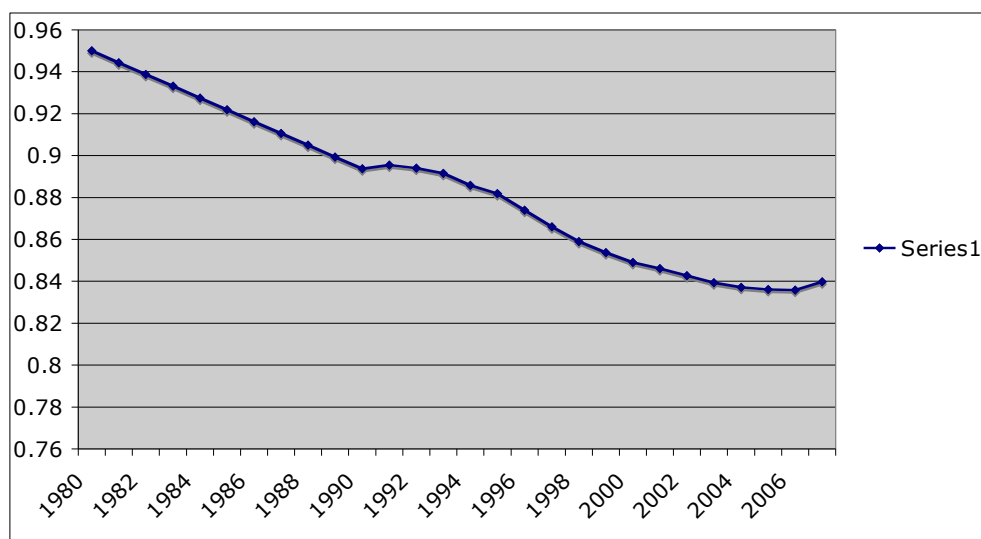
³⁴ Afdelingslæge, Epidemiologisk afdeling, Sektor for Epidemiologi, Copenhagen.

³⁵ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp*, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS 1997, 11:649–662

³⁶ Afdelingslæge, Epidemiologisk afdeling, Sektor for Epidemiologi, Copenhagen.

The period before 1990 has been estimated based on data on number of PLWH for all ages above (see above). These figures have then been multiplied by the assumed proportion of PLWH that belong to the 15-49 age group. These figures have then been divided by the total number of people living in Denmark during those years. During the early period of the epidemic up to 1989, the proportion of PLWH belonging to the 15-49 year age group has been estimated by Gapminder based on the ad hoc assumption that 95% of infected persons during the start of the epidemic belonged to the 15-49 year age group and that this gradually decreased to the value of 89% in 1990 (the first year for which there is a Danish estimate, see above). Danish age-specific population figures have been taken from the Danish statistical agency.

Proportion of PLWH in the age group 15-49. Period 1980-1989 estimated based on the assumptions above:



5.1.41 Djibouti

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.42 Dominican Republic

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.43 Ecuador

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.44 Egypt

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.45 El Salvador

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.46 Equatorial Guinea

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.47 Eritrea

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.48 Estonia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989

build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.49 Ethiopia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.50 Fiji

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.51 Finland

Number of PLWH, all ages

The curve of annual number of PLWH 1997 to 2007 takes as its starting point the UNAIDS estimate for 2007. This figure has then been revised annually for each preceding year based on the difference in the number of reported new cases minus deaths from AIDS.³⁷ Although deaths are incompletely reported it is probable that this does not add a substantial bias as antiretrovirals during this period has lowered the mortality among PLWH substantially.

The period from 1979 to 1991 builds on the shape of the curve of the number of PLWH in the EU area as modeled by Dows et al.³⁸ The years from 1992 to 1996 build on the shape of the curve of the well-modeled British curve by Philips et al.³⁹ Number of new diagnosis 2007 uses the 2006 figure. Death figures from 1997 to 2005 are used for the period 2006-2007.

Prevalence in the age group 15-49

These figures have been calculated based on the absolute numbers above. The Danish population in the age group 15-49 years out of all PLWH has been used to get the absolute number of infected individuals in the 15-49 age group for all years (see section on Denmark). These numbers have been divided with the

³⁷ Data set on newly diagnosed individuals received from Stine Nielsen, WHO Europe, 2007. No of deaths from graph in EuroHIV. HIV/AIDS Surveillance in Europe. End-year report 2006. Saint-Maurice: Institut de veille sanitaire, 2007. No. 75.

³⁸ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS1997, 11:649-662

³⁹ HIV in the UK 1980-2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536-546

Finnish population in the 15-49 age group to receive prevalence values.⁴⁰ Population sizes for the 15-49 year age group use the same number for 2006-2007 as for 2005.

Additional information

Finland - HIV/AIDS country profile⁴¹

“By the end of 2006, Finland had reported a cumulative total of 2082 HIV cases; 457 of them had developed AIDS, including 271 who had died. In 2006, 195 new HIV cases and 43 new AIDS cases were reported- the highest figures since the beginning of registration in 1986. A distinct increase in number of newly diagnosed HIV cases is evident from 2005 (138) to 2006 (195). During 2006, 3 deaths among AIDS cases were reported in Finland. 74% of Finnish PLHIV were male by the end of 2006. Of the cases with a known mode of transmission, the majority are heterosexual (44%) or MSM cases (36%), while 18% are IDUs. The majority of heterosexual cases (60%) are individuals from countries with generalized HIV epidemics, with an additional 7% people who have sexual partners from this group. Foreigners from countries with a generalized epidemic contributed 29% of the newly reported HIV cases with heterosexual transmission mode in 2006.

The annual incidence of Finnish HIV cases has been relatively low and stable, with a small peak in 1992 when 93 new cases were reported, declining to 69 cases in 1996. From 1996 to 2000 the annual incidence increased rapidly, cresting in 2000 with 145 newly reported cases. This rise was in part a result of an outbreak among IDUs that peaked in 1999 with 86 cases (60% of all HIV cases reported that year). Since 1999, the number of IDU cases has been declining, while new cases due to sexual transmission have been increasing. The recent increase in 2006 was observed in the group of sexually transmitted cases, both due to heterosexual contact and MSM.

More than 300 facilities in Finland provide HIV testing and testing is free of charge. The exact number of people tested for HIV during 2006 is not known, but is estimated to be approximately 3-400 000. According to national HIV testing policies, testing of pregnant women is done systematically with an opt-out screening programme. All blood and organ donors are required to be tested for HIV at every donation. Voluntary HIV testing is recommended for refugees and asylum seekers. Test results do not affect granting refugee or asylum status. The estimated number of people with HIV seen for medical care in 2006 was 700-800. As of August 2007 an estimated 450-550 people received HAART in Finland. The extent of co-infection with hepatitis B, hepatitis C and TB is not known, as data are collected separately. It is estimated that 60% of all IDUs are infected with hepatitis C. By the end of 2006, the cumulative number

⁴⁰UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=246&yrID=2005&continue=Continue+%3E%3E. Data in 5-year intervals. A linear trend has been assumed in between data points.

⁴¹ WHO Europe, HIV country profile at

http://www.euro.who.int/aids/ctryinfo/overview/20060118_14

of reported mother-to-child transmission was 14. In 2006 alone, HIV-positive mothers gave birth to 13 infants, of which one was confirmed to be infected with HIV. All mothers and infants received ARV prophylaxis and only one out of the 13 deliveries was a caesarean section.”

5.1.52 France

Number of PLWH, all ages

Two different estimations are available for the number of HIV positive persons in France between 1997 to 2006.^{42 43} The methods give slightly different figures with the same annual increase. The figures shown in the Gapminder graph are the average value of the two methods. The real figure can diverge substantially from these estimates. For detailed methodology regarding these two estimates with confidence intervals, see references above. The first reference is freely accessible at <http://www.invs.sante.fr/>. The increase during 2007 uses the figure for 2006.

The period from 1979 to 1991 builds on the shape of the evolution of number of PLWH in the EU area as modeled by Dows et al.⁴⁴ The years from 1992 to 1996 builds on the shape of the curve of the well modeled British curve by Philips et al.⁴⁵

Prevalence in the age group 15-49

The proportion of people in this age group out of all PLWH is taken from the Danish HIV data set (see the section on Denmark for details). The size of the French population in this age group is taken from United Nations Statistics Division.⁴⁶

Additional information

France - HIV/AIDS country profile⁴⁷

“France has the most PLHIV and the second highest estimated prevalence of HIV (after Spain), in terms of absolute numbers, in the European Union. France only began mandatory HIV case reporting at the national level in March 2003, so analysis of the French HIV epidemic over a longer period of time is

⁴² Lutte contre le VIH/sida et les infections sexuellement transmissibles en France 10 ans de surveillance 1996-2005. Institut de Veille sanitaire, March 2007.

⁴³ Including pre-AIDS mortality in back-calculation model to estimate HIV prevalence in France, 2000 Deufic-Burban Sylvie, Costagliola Dominique. Eur J Epidemiol. 2006;21(5):389-96.

⁴⁴ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp, Jean-Baptiste, Brunet and Françoise F. Hamers. AIDS1997, 11:649-662

⁴⁵ HIV in the UK 1980-2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536-546

⁴⁶UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=246&yrID=2005&continue=Continue+%3E%3E. Data in 5-year intervals. A linear trend has been assumed in between data points.

⁴⁷ Source: WHO Regional Office for Europe. Country profile. Updated June 2008

not possible. From March 2003 until December 2006, the authorities reported a total of 20 677 new HIV cases. From the beginning of the epidemic through December 2006, they have reported 62 059 AIDS cases and 34 875 deaths among AIDS cases. Underreporting is estimated to be 35% for HIV cases, 15% for AIDS cases and 20% for deaths among AIDS cases.

For the year 2006 alone, authorities reported 5750 new HIV cases, 1020 new AIDS cases and 297 deaths among AIDS cases.

Since HIV reporting began in 2003, 60% of cases have been male, and 93% were 25 years or older. Among the cases with a known mode of transmission, 30% were caused by men having sex with men, 64% by heterosexual contact and 4% by injecting drug use. Of the 5750 new HIV cases reported with known mode of transmission in 2006, 61% were transmitted through heterosexual contact of which about half were from sub-Saharan Africa. The number of new diagnoses has decreased since 2003 in foreign women, and since 2005 in foreign men. 33% were infected through MSM and 4% through injecting drugs in 2006. The estimated number of PLHIV in France is 130 000.

Of the cumulative reported AIDS cases since the beginning of the epidemic, 21% have been among IDUs, while 41% were in MSM and 25% were due to heterosexual contact. An estimated 110 000 IDUs are currently on opioid substitution treatment.

T

he decrease in the percentage of AIDS cases in drug users, which must be compared to the low proportion of IDUs in the HIV diagnoses for 2003-2006, confirms the reduction of HIV transmission in this population. Among HIV-positive IDUs, a large proportion was screened early, long before acquiring AIDS.

In conjunction with the introduction of a mandatory reporting system for HIV, virological surveillance of recent infections (defined as less than 6 months old) was set up to contribute to a measure of HIV incidence. The proportion of recent infections among all new diagnoses in 2003 was 31%. In 2006, one fourth of newly diagnosed patients had been infected within the last six months. Accounting for reporting delays and under-reporting, the total number of newly diagnosed HIV cases is estimated to be 6300 in 2006, declining since 2004.

5 000 000 people were tested for HIV in France in 2006. Testing is free of charge or almost fully reimbursed by health insurance and is offered by all general practitioners. HIV testing is systematically offered when getting married, at imprisonment and to pregnant women.

The number of new diagnoses in homosexual men has increased between 2003 and 2005, and stabilized in 2006. Homo/bisexual men have accounted for 30% of the total number of new HIV diagnoses, of whom 41% were infected during the last 6 months. According to a standardized national self-reporting study of gay men's sexual behaviour, the number of reported acts of unprotected anal intercourse in the previous year doubled between 1997 and 2004 among both seropositive and seronegative men. Thirteen per cent of the respondents

reported being HIV-positive and another 17% being of unknown HIV status; 86% reported having been tested for HIV at least once in their lifetime. In addition, 10% of the respondents reported contracting an STI other than HIV in the past 12 months: 30% of them had gonorrhoea and 20% syphilis, an increase of 100% and 300%, respectively, since 1997. In a survey among MSM syphilis patients 49% of syphilis cases had a concomitant HIV infection. The proportion of syphilis cases with HIV infection decreased over time, from 60% in 2000 to 33% in 2003.

By the end of 2004, 52 600 people were on HAART treatment. Out of an estimated 85 000 patients seen for HIV/AIDS care in 2005, 58 000 were on HAART. The number of PLHIV seen for care in France includes an increasing proportion of women (32% in 2005), in particular from sub-Saharan Africa as well as an increasing percentage of patients over 50 years of age (22% in 2005). In 2005, 42% of those seen for care were infected through heterosexual transmission, 34% through homosexual transmission and 13% through injecting drug use. The median CD4 level at time of entry into care was in 2005 was 443, but delayed access to care is still common in France (33%). By the end of 2006, the cumulative number of reported mother-to-child transmission was 180. In 2006 alone, HIV-positive mothers gave birth to 1500 infants, of which 34 were confirmed to be infected with HIV. According to reports, about 98% of the mothers and the infants received ARV prophylaxis and 45% had a vaginal delivery.”

5.1.53 Gabon

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.54 Gambia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.55 Georgia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.56 Germany

Number of PLWH, all ages

Data is derived from the Robert Koch Institute, Model of HIV epidemic in Germany, RKI, 2006, courtesy of Dr Ulrich Marcus HIV/ STI/ Bloodborne Infections Surveillance, Robert Koch-Institute. The model, including the historical estimates, is revised annually and constitutes the best figures available for Germany. We have unfortunately not been able to obtain details of the methodology used. For additional information see: <http://www.rki.de/>. The PLWH increase during 2006 is used also for 2007.

Prevalence in the age group 15-49 years

These figures have been calculated based on the absolute numbers above. The Danish proportion of PLWH in the age group 15-49 years out of all PLWH (see section on Denmark) has been used to get the absolute number of infected in the 15-49 age group for all years. This number has been divided with the German population in the 15-49 age group to receive prevalence values.⁴⁸

Additional information

Germany - HIV/AIDS country profile⁴⁹

“By the end of 2006, Germany had reported a cumulative total of 29 017 HIV infections, and a total of 24 908 cases of AIDS of which 13 516 had died. In the year 2006 alone, the country reported 2718 new HIV cases, the highest reported annual incidence since HIV reporting began in 1993. The increase is reported in three transmission groups: IDUs, heterosexuals and MSM, but is most pronounced among MSM infected domestically. Each year there are about 10-20 HIV infections in children, constituting 0.8% of all new infections. The reported number of newly diagnosed AIDS cases during 2006 was 369 and 73 deaths among AIDS cases were registered.

About half of all reported infections for which the transmission route is known are found in MSM, a rate that has been on the rise since 2001. Syphilis rates have also increased among MSM in recent years. An additional 35% of the HIV cases are heterosexually transmitted. About 20% of all HIV infections are found in migrants from high-prevalence countries. Of those transmitted through heterosexual contact in 2006, 45% were from countries with a generalized epidemic. The number and percentage of infected IDUs decreased in the 1990s, the numbers since stabilized, but increased slightly during 2006. IDUs account for about 12% of all infections to date with a known mode of transmission.

HIV prevalence is low in the general population, particularly outside metropolitan areas. In Berlin, one of the five German cities with the highest AIDS prevalence, pregnant women have an HIV prevalence of less than 0.1%.

⁴⁸ UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1980&HYrID=1985&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=276&yrID=2005&continue=Continue+%3E%3E. Data in 5 year intervals. A linear trend has been assumed in between data points.

⁴⁹ Source: WHO Regional Office for Europe. Country profile. Updated June 2008

As in other western European countries, prevalence among non-IDU sex workers is similar to that found in general population.

In a study among STI patients diagnosed with gonorrhoea, chlamydia, syphilis or trichomoniasis, MSM were coinfecting with HIV in almost half of the cases, while only one out of 290 sex workers were coinfecting with HIV. 10 out of 228 young people (>25 years of age) were coinfecting with HIV. Several thousands facilities in Germany provide HIV testing and approximately 2 000 000 people were tested for HIV in 2006. HIV testing is systematic among blood donors and recommended for pregnant women. Laboratories (since 1987) and clinicians (since 1998) anonymously report newly diagnosed HIV cases to a national database. Since 1993, HIV laboratory reports have differentiated between newly diagnosed infections and already diagnosed patients. Clinician reports are available for more than 90% of the new cases since 1998 and contain a name-based code to allow detection of duplicate reports.

By the end of 2007, German authorities estimated that a total 86 000 HIV infections have occurred since the start of the epidemic and that approximately 59 000 PLHIV live in Germany.

30 000-35 000 people with HIV were seen regularly for medical care for their condition during 2006. The number of patients receiving HAART increased from 18 000 in 2002 to 27 000 by December 2006 (65% MSM, 16% IDUs and 16% heterosexuals). Of those tested for coinfections with hepatitis B/C (approximately two-thirds of all PLHIV seen for medical care in 2006), 53% were hepatitis B coinfecting and 37% hepatitis C coinfecting.

By the end of 2006, the cumulative number of reported mother-to-child transmission was 177. In 2006 alone, HIV infected mothers gave birth to 250-300 infants, of which 14 were confirmed to be infected with HIV. According to reports, more than 95% of the mothers and the infants received ARV prophylaxis and 20-30% had a vaginal delivery.”

5.1.57 Ghana

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.58 Greece

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%.

Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.59 Guam

Data from HIV/AIDS surveillance report. Cases of HIV infection and AIDS in the United States and Dependent Areas, 2005. HIV/AIDS Surveillance Report, Volume 17, Revised Edition, June 2007. Prevalence based on the assumption that 90% of PLWH belong to the age group 15-49 years.⁵⁰

5.1.60 Guatemala

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.61 Guinea

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.62 Guinea-Bissau

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.63 Guyana

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%.

⁵⁰ Size of total population 15-49 years of age taken from UN Statistics Division.

Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.64 Haiti

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.65 Honduras

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.66 Hungary

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.67 Iceland

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. The relatively straight curve between 1990 and 2007 is quite different from the West European and North American curves and Gapminder has not been able to confirm how well the modeling of the Icelandic curves has been performed.

5.1.68 India

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.69 Indonesia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.70 Iran

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.71 Ireland

Number of PLWH, all ages

HIV and AIDS diagnoses are not subjected to mandatory reporting by clinicians in Ireland. New cases of HIV can, however, be estimated from data from the two laboratories performing confirmatory testing of HIV on Ireland.

The curve of annual number of PLWH 1997 to 2007 takes as its starting point the UNAIDS estimate for 2007. This figure has then been revised annually for each preceding year based on the difference in the number of reported new cases minus deaths from AIDS.⁵¹ Although deaths are incompletely reported it is probable that this does not add a substantial bias as antiretrovirals during this period has lowered the mortality among PLWH substantially.

The period from 1979 to 1996 builds on the shape of the curve of number of PLWH in the U.K. (see U.K. section).

Prevalence in the age group 15-49

The prevalence builds on the absolute numbers of PLWH above. The proportion of people in this age group out of all PLWH uses the same assumption as in the U.K. data set (see section on U.K.). Population of the 15-49 year age group taken from U.S. Census Bureau International Data Base.⁵²

Additional information

Ireland - HIV/AIDS country profile⁵³

“By the end of 2006, Ireland had reported a cumulative total of 4419 HIV cases; these reports included 909 people who had developed AIDS, of whom 397 had died. Among all the HIV cases reported with a known mode of transmission (93%), approximately 40% had been infected through heterosexual contact, 32% through injecting drug use and 23% among men who have sex with men. For the year 2006, the country reported 337 new HIV

⁵¹ Data set on newly diagnosed individuals received from Stine Nielsen, WHO Europe, 2007. No of deaths from graph in EuroHIV. HIV/AIDS Surveillance in Europe. End-year report 2006. Saint-Maurice: Institut de veille sanitaire, 2007. No. 75. The average value during 1997-2006 (2 deaths/million inhab. taken from graph p 58) has been multiplied with the average pop size of Ireland during the period. Pop. Sizes during this period taken from US Census Bureau, International Database. New diagnosis for 2006 is used also for 2007 for lack of data, as is number of deaths for 2005 used for 2006-2007.

⁵² Figure for 2005 is used for 2006 and 2007.

⁵³ WHO Europe, HIV country profile at:

http://www.euro.who.int/aids/ctryinfo/overview/20060118_21

infections, 24 new AIDS cases and 3 deaths among AIDS cases - the lowest reported number of deaths since 1985.

The majority of all new HIV infections in 2006 are still reported to be acquired through heterosexual contact (54%), MSM account for 27% and IDUs 18%. Prevalence surveillance studies based on self reported HIV status conducted in 2000-2004 at gay venues found an HIV prevalence of 5% among MSM. Of the 169 cases acquired through heterosexual contact in 2006, the majority (65%) were from a country with generalized HIV epidemic. The number of new diagnoses among IDUs increased from 49 in 2003 to 71 in 2004, 66 in 2005 and decreased further in 2006 to 47 cases, highlighting the need for maintaining harm-reduction measures. In addition, 83 newly diagnosed cases were reported among MSM in 2006- the highest reported figure since start of data collection in 1986. HIV testing is systematically offered to pregnant women and to refugees.

HAART is free and available to everyone who needs it in Ireland. Approximately 1600 people were estimated to be on HAART as of the end of 2005.

By the end of 2006, the cumulative number of reported mother-to-child transmission cases was 37. In 2006 alone, HIV infected mothers gave birth to 115 infants, of which 2 were confirmed to be infected with HIV.

5.1.72 Israel

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 builds on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

Additional information

WHO Europe, Israel - HIV/AIDS country profile⁵⁴

“By the end of 2006, Israeli authorities had reported a cumulative total of 4999 HIV cases; they also had reported that 1092 of the infected individuals had developed AIDS, including 653 who had died. Among the HIV cases with a known mode of transmission (87%), the majority (61%) has been infected heterosexually, followed by sex between men (18%), IDU (15%) and MTCT (3%). For the year 2006, 336 new HIV cases, 67 new AIDS cases and 19 deaths among AIDS cases were reported – the lowest reported number of deaths among AIDS cases since 1989.

Almost half of all new HIV cases in 2006 were found in persons originating from a country with a generalized HIV epidemic.

⁵⁴ WHO Europe, HIV country profile at:
http://www.euro.who.int/aids/ctryinfo/overview/20060118_22

An Israeli HIV/AIDS registry has been in operation since the beginning of the epidemic. In 2006, 246 908 people were tested for HIV in Israel. HIV testing is systematic among blood donors, prisoners at entry, certain groups of immigrants from high-prevalence countries and among IDUs before initiating detoxification programmes. Testing, which is confidential and free to anyone requesting it, is carried out at seven designated AIDS centres throughout the country, together with four Health Maintenance Organization clinics. Blood samples for testing can be drawn by any physician. HIV testing for minors, which was legalized in 1996, does not require parental consent. Since the mid-1990s, there has been a slight but steady increase in the annual incidence of new HIV cases, roughly stabilizing since 2001. The male to female ratio is 1.8:1 among identified PLHIV. The relative proportion of female PLHIV born in high-endemic countries (such as those in sub-Saharan Africa) is also increasing.

By the end of 2006, a total of 144 cases of mother-to-child transmission had been reported. In 2006, 30-40% of all registered pregnant women were counselled and offered an HIV test. For the year 2006, 13 were confirmed to be infected with HIV through MTCT.

As in western Europe, the introduction of HAART has been reflected in a decrease in the death rate among Israeli HIV/AIDS patients. In 2006, between 3800 HIV/AIDS patients were seen for care. The number of patients receiving HAART increased from 2046 in 2004 to 2431 by the end of 2006. Of those receiving HAART, 67% were transmitted through heterosexual contact, 15% through MSM and 12% through injecting drugs.”

5.1.73 Italy

No national level reporting of new positive cases exists. The epidemic has been substantially different from countries that have made good models of the evolution of the epidemic, precluding the possibility of drawing inferences from them. For lack of other information, the program draws a straight curve between the ad hoc starting date (0.01% 1979) up to the 2007 UNAIDS/WHO figure.

Additional information

Italy - HIV/AIDS country profile⁵⁵

“By the end of 2006, Italy had reported a cumulative total of 57 375 AIDS cases, including 35 077 people who had died. For the year 2006, 1126 new AIDS cases and 254 deaths among AIDS cases were reported. HIV reporting exists in only 10 regions/provinces of the country's 20 regions (Bolzano, Friuli Venezia-Giulia, Lazio, Liguria, Modena, Piemonte, Rimini, Sassari, Trento, Veneto). The 10 regions constituted 34% of total population in 2005, but great variations are seen between the different regions, which makes analysis of the national epidemic difficult. The most recent estimate for the cumulative number of people living with HIV/AIDS in Italy is 180 000 (90 000 - 250 000). Data on the reported cumulative HIV cases for the 10 regions from 2002

⁵⁵ WHO Europe. http://www.euro.who.int/aids/ctryinfo/overview/20060118_23

through 2005 was 6322. This data imply a stabile sexual transmission and a slowly overall decreasing rate of HIV infection in these regions from 2002 to 2005. The decrease in number of HIV infections is mainly evident in the group of IDUs.

The annual incidence of AIDS cases peaked in 1995, when more than 5500 cases were registered. The ensuing decline in new AIDS cases and AIDS deaths was primarily due to increasing use of HAART. In recent years, the incidence of reported AIDS cases stabilized at around 1600 per year, and decreased even further in 2006 to 1126 reported new AIDS cases.

Early on in the epidemic, the main route of transmission was through injecting drug use. Of the cumulative reported AIDS cases, 58% were infected through IDU, 16% through MSM and 21% through heterosexual contact. However, in recent years the new reported AIDS cases imply that transmission was predominantly due to sexual contact. In 2006, around 42% of new AIDS cases were among cases infected through heterosexual sex, 21% among men having sex with men and 29% among injecting drug users. In 1994, less than 2% of AIDS cases were found in foreigners, whereas in 2006, about 20% were among non-Italians.

Studies among IDUs attending 510 different public drug treatment centres in Campania, Lazio, Lombardy, Sardinia and Tuscany regions, show a relatively stable HIV prevalence of 14-16% between 1997 and 2004. The prevalence was at its highest level the first year of reporting – in 1990 - with 31% of IDUs being infected. Hereafter the prevalence steadily declined to 16% in the year 1997.

AIDS incidence in Italy varies greatly by region. The cities of Rome and Milan have the highest annual AIDS incidence rates (4.9 and 4.8 AIDS cases per 100 000, respectively), followed by Genoa (4.1/100 000) and Bologna (3.7/100 000).

The total number of people tested for HIV in 2006 was not reported, but tests were carried out at 524 testing facilities across the country. HIV testing is systematically offered to pregnant women, IDUs and in circumstances of adoption and is required for blood and tissue donors. The frequency of pre- and post-test counselling is not known.

By the end of 2006, the cumulative number of reported mother-to-child transmission cases was 77. In 2006 alone, HIV infected mothers gave birth to 450 infants, of which 9 were confirmed to be infected with HIV. More than 97% of the mothers and 94% of the infants were reported to have received ARV prophylaxis.

In 2006, 90 000 PLHIV were seen for care in Italy. There is currently no national HAART monitoring system implemented in Italy, which means that there is no exact national data about the number of people receiving HAART.”

5.1.74 Jamaica

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.75 Japan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.76 Kazakhstan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.77 Kenya

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.78 Korea, Democratic People's Republic of (North Korea)

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.79 Korea, Republic of (South Korea)

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.80 Kyrgyzstan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.81 Laos

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.82 Latvia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.83 Lebanon

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.84 Lesotho

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.85 Liberia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.86 Lithuania

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.87 Luxembourg

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.88 Macedonia, Former Yugoslav Republic of

Prevalence below 0.01% and for technical reasons therefore not included in Gapminder World.

Additional information

The former Yugoslav Republic of Macedonia - HIV/AIDS country profile⁵⁶

“By the end of 2006, authorities in the former Yugoslav Republic of Macedonia had reported a cumulative total of 96 HIV cases. They also reported that 69 infected individuals had developed AIDS, including 55 who died. For the year 2006, they reported 17 new HIV cases, 6 new AIDS cases and 5 deaths among AIDS cases.

The first case of HIV in the republic was reported in 1987, the first case of AIDS in 1989 and the first three AIDS deaths in 1990. HIV in the country is predominantly transmitted through heterosexual contact. As of 2006, 67% of the cumulative HIV cases were attributed to heterosexual sex, 11% to MSM, 9% to injecting drug use and 5% to vertical transmission (mother to child). As in the neighbouring countries, the vast majority of cases are concentrated in the country's major urban centres. Males represent more than twice as many reported cases as women (69% of the total).

HIV testing is offered free of charge at 16 testing facilities. According to national HIV testing policies, partner notification was not mandatory and IDUs were tested systematically for HIV, HBsAg and HCV, during evaluation for methadone treatment. Around 510 people were tested for HIV during 2006. In a behavioural study from 2007, from the total number of respondents included in the study, 47% of the SWs, 56% of the MSM and 44% of the IDUs received an HIV test within the past 12 months and knew the results.

In 2005, only 3 needle exchange programmes existed in the country providing services to 2000 IUDs. By the end of end 2007, eleven functional needle exchange programmes were operating in the country. During 2006 and 2007 a total of 2259 new IDUs have been covered with these programmes. Additionally, 1283 IDUs were on OST by end of October 2007 at 10 centres throughout the country.

33 HIV/AIDS patients received medical care for their condition in 2006. The number of patients receiving HAART increased from 2 in 2002 to 15 by the end of 2007. HAART is provided at one facility. In 2006, of 33 HIV patients tested for coinfections, two were found to be hepatitis B coinfecting and one was coinfecting with hepatitis C.

By the end of 2006, 5 cases of mother-to-child HIV transmission were reported. In 2006, no new case of MTCT was reported.”

5.1.89 Madagascar

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

⁵⁶ WHO Europe http://www.euro.who.int/aids/ctryinfo/overview/20060118_45

5.1.90 Malawi

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.91 Malaysia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.92 Maldives

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.93 Mali

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.94 Malta

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.95 Mauritania

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.96 Mauritius

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.97 Mexico

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.98 Moldova

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.99 Mongolia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.100 Morocco

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.101 Mozambique

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.102 Myanmar

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1985 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic and the UNAIDS/WHO value for 1990. For most Asian countries the start of the epidemic is set somewhat later than the rest of the world, 0.01% in 1985). The straight line from 1985 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.103 Namibia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during

1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.104 Nepal

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1985 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic and the UNAIDS/WHO value for 1990. For most Asian countries the start of the epidemic is set somewhat later than the rest of the world, 0.01% in 1985). The straight line from 1985 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.105 Netherlands, The

Number of PLWH, all ages

The curve of annual number of PLWH during 2000 to 2007 takes as its starting point the UNAIDS estimate for 2007. This figure has then been revised annually for each preceding year based on the difference in the number of reported new cases minus deaths from AIDS during 2003-2006. The annual increase of PLWH for 2006 has been used for 2007.⁵⁷ As data has been incomplete, average annual increase of PLWH during 2003-2006 has been used back to 2000.

The period from 1979 to 1991 builds on the shape of the evolution of the number of PLWH in the EU area as modeled by Dows et al.⁵⁸ The years from 1992 to 1999 builds on the shape of the curve of the well modeled British curve by Philips et al.⁵⁹

Prevalence in the age group 15-49

The proportion of people in this age group out of all PLWH is taken from the Danish HIV data set (see the section on Denmark). The size of the Dutch population in the 15-49 age group is taken from the UN Statistics Division.⁶⁰

⁵⁷ Data set on newly diagnosed individuals received from Stine Nielsen, WHO Europe, 2007. Data on deaths from AIDS taken from HIV/AIDS Surveillance in Europe. End-year report 2006. Saint-Maurice: Institut de veille sanitaire, 2007. No. 75.

⁵⁸ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS 1997, 11:649-662

⁵⁹ HIV in the UK 1980-2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536-546

⁶⁰ http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=528&yrID=2005&continue=Continue+%3E%3E

5.1.106 New Zealand

Historical estimates for the duration of the epidemic have not been found for NZ. The Gapminder curves for NZ (PLWH and prevalence) are scaled down versions of the United Kingdom curves. The UNAIDS/WHO estimate for 2007 is displayed in the graph. The rest of yearly estimates for NZ are for each year scaled down with the 2007 ratio of NZ PLWH to U.K. PLWH (and likewise with prevalence). The curves should be interpreted with great caution.

5.1.107 Nicaragua

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.108 Niger

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.109 Nigeria

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.110 Norway

Number of PLWH, all ages

Norway currently has an estimated number of 2,974 HIV positive individuals (Dec. 2007).⁶¹

The curve of annual number of PLWH 1997 to 2007 takes as its starting point the UNAIDS estimate for 2007. This figure has then been revised annually for each preceding year based on the difference in the number of reported new

⁶¹ UNAIDS 2008

cases minus deaths from AIDS.⁶² Although deaths are incompletely reported, it is probable that this does not add a substantial bias as antiretrovirals during this period have lowered the mortality among PLWH substantially.

The period from 1979 to 1991 builds on the shape of the evolution of number of PLWH in the EU area as modeled by Dows et al.⁶³ The years from 1992 to 1996 builds on the shape of the curve of the well modeled British curve by Philips et al.⁶⁴

Prevalence in the age group 15-49

The proportion of people in this age group out of all PLWH is taken from the Danish HIV data set (see the section on Denmark for details). The size of the Norwegian population in this age group is taken from United Nations Statistics Division.⁶⁵

5.1.111 Pakistan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.112 Panama

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.113 Papua New Guinea

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can

⁶² Newly diagnosed individuals taken from Folkhelseinstituttet at <http://www.msis.no/>. No of deaths from graph in EuroHIV. HIV/AIDS Surveillance in Europe. End-year report 2006. Saint-Maurice: Institut de veille sanitaire, 2007. No. 75. Yearly no of deaths are taken from a linear trend line in the graph.

⁶³ Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp*, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS1997, 11:649–662

⁶⁴ HIV in the UK 1980–2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536–546

⁶⁵ http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1980&HYrID=1985&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=578&yrID=2005&continue=Continue+%3E%3E

only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.114 Paraguay

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.115 Peru

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.116 Philippines

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.117 Poland

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.118 Portugal

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.119 Puerto Rico

Data from HIV/AIDS surveillance report: Cases of HIV infection and AIDS in the United States and Dependent Areas, 2005. HIV/AIDS Surveillance Report, Volume 17, Revised Edition, June 2007. Prevalence has been estimated based

on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from UN Statistics Division.⁶⁶

5.1.120 Qatar

Qatar has a low prevalence of HIV. Qatar National AIDS Committee estimates the number to be 78.⁶⁷ Assuming an ad hoc 90% to belong to the 15-49 age group, this would yield a prevalence of 0.014%.⁶⁸

5.1.121 Romania

Data from the 2008 Global report (UNAIDS/WHO). The health care related HIV spread in Romania is unique in Europe.

Additional information

WHO Europe HIV country profile – Romania⁶⁹

“By the end of 2006, Romanian authorities had reported a cumulative total of 6613 HIV cases. They had also reported that 10,264 of the infected individuals had developed AIDS, of which 4788 had died. Among the cumulative HIV cases with a known route of transmission (36%), approximately 50% were reported as heterosexually transmitted, 21% as “other known”, 15% through blood products, 9% MTCT, 5% due to MSM and 0.1% were infected through injecting drug use. In 2006, officials reported 180 new HIV cases, 211 AIDS cases and 157 deaths among AIDS cases. Despite two extensive reviews of the country's case-reporting, irregularities in past case-reporting still prevent accurate assessment of the number of Romanians living with HIV.

In 1989, Romania experienced a unique major nosocomial HIV epidemic in which more than 10 000 institutionalized children contracted HIV through blood transfusions and infected needles. As a result, Romania probably has the highest number of HIV infections in central Europe. Many of the new cases of HIV infection continue to be patients born between 1987 and 1989 who were infected through unscreened blood and blood products, and the repeated use of contaminated needles. These patients present with illnesses associated with severe immune suppression. In 2002, over a third (122 of 335) of new HIV diagnoses reported were of nosocomial infections in children and adolescents that were probably acquired around 1990.

Since 1995, there has been an overall, steady decrease of newly reported HIV and AIDS cases. However, in the past five years, a modest increase among adults (25-39 years of age) has been reported, mainly related to transmission of the virus via sexual contact and injecting drug use. The increase in sexual

⁶⁶ http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=2005&HSrID=13680&HCrID=630&yrID=2005&continue=Continue+%3E%3E

⁶⁷ 29/1/2008, State of Qatar Report on the Country Progress Indicators towards Implementing the Declaration of Commitment on HIV 2008

⁶⁸ Population statistics from U.S. Census Bureau, IDB.

⁶⁹ WHO Europe country profile at:

http://www.euro.who.int/aids/ctryinfo/overview/20060118_35

transmission is correlated with a growing incidence of other STIs, particularly syphilis.

In total, approximately 191 223 people were tested for HIV in 2006 at 120 testing facilities. All Romanian citizens can benefit from two HIV tests free of charge per year. Testing is systematically offered to pregnant women, before adoption of a child, before marriage, to people working in certain professions and military recruits.

Of the PLHIV tested for coinfection with hepatitis B and C in 2006, 29% were hepatitis B coinfecting and 5% hepatitis C coinfecting. The number of patients receiving HAART was 3310 by the end of 2002. In 2006, 8641 Romanian HIV/AIDS patients received medical care for their condition, including 6790 people who were on HAART at the end of the year. Of those receiving HAART, 23% were infected through heterosexual contact and 71% were infected through blood-products and derivatives (before 1990).

By the end of 2006, the cumulative number of mother-to-child HIV transmission was 4. In 2006 alone, HIV-positive mothers gave birth to 9 infants, none of whom were infected with HIV. All mothers and infants received ARV prophylaxis and all deliveries were caesarean sections.”

5.1.122 Russia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.123 Rwanda

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.124 Saint Lucia

An estimate of the number of HIV positive persons exists from 2001 (877 person).⁷⁰ The St. Lucia health care system has reported 515 cases of HIV infection to the Ministry of Health since 1985, and 237 people have died of AIDS-related diseases (April 2006 figures). Figures for 2004 show that heterosexual transmission was the largest known mode of infection (25%).⁷¹

⁷⁰ CAREC SURVEILLANCE REPORT ISSN 0376-8851 Volume 22. Number 3. October 2002

⁷¹ Foreign and common wealth office at <http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&c id=1007029394365&a=KCountryProfile&aid=1020338239516>

Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from the UN Statistics Division.⁷²

5.1.125 Senegal

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.126 Serbia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report). Estimates for the years 1985 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (0.01% in 1985, the year of the first HIV case in Serbia) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.127 Sierra Leone

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.128 Singapore

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.129 Slovak Republic

Slovakia has a low prevalence of HIV. A rough estimate of the number of infected persons can be produced from the cumulative number of infected persons minus diseased HIV positive individuals, see below. A 30% proportion of non-diagnosed HIV positive individuals are added to the estimate (EU average). The total estimate would then end at 223 positive individuals. Prevalence is below 0.01% and for technical reasons therefore not included in Gapminder World.

⁷²http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=2000&HSrID=13680&HCrID=662&yrID=2000&continue=Continue+%3E%3E

Additional information

WHO Europe Slovakia - HIV/AIDS country profile⁷³

“By the end of 2006, Slovak authorities had reported a cumulative total of 185 HIV cases; they had also reported that 44 of the infected individuals had developed AIDS, including 29 who had died. For the year 2006, they reported 27 new HIV cases, 4 new AIDS cases and 4 deaths among AIDS cases. Slovakia has been reporting the number of new HIV and AIDS cases since 1985 and has a relatively low prevalence. The main mode of transmission in Slovakia is by MSM. 66% of the cumulative reported HIV cases have been among MSM, 32% among heterosexuals and 2% among IDUs.

Well-designed national HIV/AIDS programmes are thought to have contributed to the low prevalence of the disease among IDUs and the low incidence in non-injecting populations. A needle and syringe exchange programme has been operating in Bratislava since 1994. Annual surveillance studies in Bratislava and Kosice among an average of 700 IDUs seen for diagnostic HIV testing at drug treatment centres, have not found any HIV positive cases since 1996. Though the epidemic in Slovakia has been relatively stable, a recent increase is now evident. With 26% of the cumulative registered HIV cases reported during 2005 and 2006 alone, sexual transmission accounts for almost all cases.

80 facilities across Slovakia provide HIV testing and testing is free of charge. According to national HIV testing policies, systematic provision of HIV test to people seeking long term visa is carried out. In 2006, 80% of all pregnant women received an HIV test. Around 80 297 people were tested for HIV in Slovakia during 2006.

142 PLHIV received care for their condition in Slovakia in 2006. The number of patients receiving HAART increased from 31 in 2002 to 98 by June 2007 (82% male). Of those tested for hepatitis B and C coinfection, 4% were hepatitis B coinfecting and 5% hepatitis C coinfecting.

As of December 2006, Slovakia has not reported any cases of mother-to-child transmitted HIV infections.”

5.1.130 Slovenia

Slovenia has not made a national estimate for the number of HIV positive persons. The epidemic is of a very low level; see below. The Gapminder estimate of 274 HIV positive persons derives from the number of HIV positive persons receiving some form of medical treatment and (192), see below, and an EU average of 30% positives not diagnosed is included. Prevalence in the 15-49 age group assumes an ad hoc 90% of PLWH to belong to this age group. Population statistics from the U.S. Census Bureau, IDB. Estimates for the years 2000 to 2007 are drawn by the program as a straight line. The line goes

⁷³ WHO Europe country profile at http://www.euro.who.int/aids/ctryinfo/overview/20060118_39

between the start of the epidemic (set to 0.01% in 2000, mimicking the Croatian start) and the value above for 2007. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

Additional information

WHO Europe: Slovenia - HIV/AIDS country profile⁷⁴

“Slovenia has a low-level HIV epidemic, and the first HIV infections were reported in 1986. By the end of 2006, Slovene authorities had reported a cumulative total of 316 HIV cases. They had also reported that 130 of infected individuals had developed AIDS, including 76 who had died. Among the HIV cases with a known mode of transmission, 63% were transmitted through MSM, 25% through heterosexual contact and approximately 5% were infected through injecting drug use. In the year 2006, authorities reported 34 new HIV cases, 5 new AIDS cases and no deaths among AIDS cases.

Forty-five per cent of all HIV infections have been reported in the capital, Ljubljana. Approximately 84% of all reported cases are men, and 74% of these men were infected through MSM.

Sentinel surveillance of HIV prevalence among IDUs shows rates of less than 1% over many years. Access to both harm-reduction services and methadone substitution therapy is good in Slovenia. The epidemiological situation in Slovenia has been stable for a number of years and the risk of explosive growth is considered to be low. Recently, however, a marked increase has been evident in the number of reported HIV infections transmitted through MSM.

Any General Practice in Slovenia can provide HIV testing and testing is offered free of charge. According to national HIV testing policies, partner notification was not mandatory. HIV testing is systematically offered to military recruits and IDUs. Around 25 624 people were tested for HIV in Slovenia during 2006.

By the end of 2002, 77 people received HAART in Slovenia. During 2006, 192 HIV/AIDS patients received medical treatment for their condition and as of July 2007, 157 were on HAART (86% male). Of those tested for coinfection with hepatitis B/C and TB (all HIV/AIDS patients seen for care in 2006 according to data reported to WHO), 6% were hepatitis B coinfecting, 8% hepatitis C coinfecting and 13% TB coinfecting.

By the end of 2006, the cumulative number of mother-to-child transmission cases was 5. In 2006 no new cases of MTCT was reported.”

5.1.131 Somalia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989

⁷⁴ WHO Europe: Slovenia - HIV/AIDS country profile at http://www.euro.who.int/aids/ctryinfo/overview/20060118_40

build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.132 South Africa

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.133 Spain

No national level reporting of positive new cases exist. The epidemic has been substantially different from countries that have made good models of the evolution of the epidemic, precluding the possibility to draw inferences from them. For lack of other information, the program draws a straight curve between the ad hoc starting date (0.01% 1979) up to the 2007 UNAIDS/WHO figure.

Additional information

Spain - HIV/AIDS country profile⁷⁵

“By the end of 2006, Spanish authorities had reported a cumulative total of 73 977 cases of AIDS, and a total of 40 157 deaths among these AIDS cases. For the year 2006, they reported 1519 new AIDS cases and 198 deaths among AIDS cases, the lowest number of deaths among AIDS cases reported since the mid-1980s.

Spain does not report national HIV data, though HIV case-reporting does exist in some regions. Underreporting for deaths is thought to be around 20%. Data from the regions that do report HIV cases show that during the 1980s, HIV spread widely among IDUs and, to a much lesser extent, MSM. The large number of sexually active young adults among HIV-positive IDUs led to the infection of non-injecting sexual partners and, through vertical transmission, children. By the start of the 1990s, more than 100 000 people had already been infected with HIV, and HIV-related mortality ranked first in 1994 among the major causes of adult death and potential years of life lost. In the 1990s, intensified targeted interventions led to marked reductions in the number of newly reported cases among IDUs, MSM and female SWs.

As of December 2006, most of Spain's cumulative reported AIDS cases (63%) were IDUs. A further 16% had been infected heterosexually, and 14% were

⁷⁵ WHO Europe. http://www.euro.who.int/aids/ctryinfo/overview/20060118_41

MSM. Spain has the largest cumulative total of AIDS cases, and the largest cumulative total of IDUs with AIDS, of any European country.

In 2006, AIDS cases were still most frequently found among IDU/ex-IDUs, however a decline of 15% since 2005 was reported. The number of AIDS cases among heterosexuals decreased by 8%, while the number of reported MSM cases remained stable. The vast majority of AIDS cases are seen in Madrid and Barcelona and the proportion of AIDS cases in people whose country of origin was not Spain, reached 21.2% in 2006. Of these cases 39.5% originated from Africa, 37% from Latin America, and 20.7% from Europe.

A study among male SW's in 2002, found 12% to be infected with HIV, while a survey among SW's attending medical facilities in 18 larger cities during 2003 showed 0.7% to be infected with HIV. Sentinel surveys at HIV testing centers in the period 2000 - 2004 have shown a relatively stable HIV prevalence of approximately 5% among MSM and 9-15% among IDUs. A large proportion (almost 40%) of all people diagnosed with AIDS in 2006 was not aware that they were infected with HIV at the time of diagnosis. This tendency is most prevalent among MSM and heterosexuals.

The Spanish AIDS epidemic appears to have peaked in 1994, followed thereafter by a rapid decline in the number of annually reported cases: from 7428 new cases in 1994 to 1519 in 2006. The number of AIDS deaths peaked in the mid-1990s with approximately 5000 deaths annually. Since then, there has been a rapid decline in the number of deaths, reflecting the impact of HAART since its introduction in 1996.

3604 facilities across Spain provide HIV testing and testing is free of charge. According to national HIV testing policies, partner notification was not mandatory, nor was there a requirement or systematic testing of any particular individuals/groups.

In 2004, of all PLHIV seen for care, less than 10% were hepatitis B coinfecting and 35-45% were coinfecting with hepatitis C.

By the end of 2002, approximately 60 000 patients were receiving HAART in Spain. During 2006, about 100 000 PLHIV were seen for treatment of their condition, and an estimated 77 500 Spaniards (53% IDUs, 74% males) were receiving HAART. In addition, 34% of IDUs on HAART were also receiving opioid substitution therapy.”

5.1.134 Sri Lanka

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.135 Sudan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989

build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.136 Suriname

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.137 Swaziland

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.138 Sweden

An official estimate of the development of the number of HIV positive persons in Sweden has not previously been performed. As the Gapminder Foundation has its primary base in Sweden, a more thorough analysis of the HIV situation in Sweden has been performed. This Gapminder estimate is the first longitudinal estimate of the number of HIV positive persons in Sweden and the work has been published in the e-journal of the Swedish Institute of Infectious Diseases.⁷⁶ It should, however, be noted that the figures given here are of a later version than what is given in the former.

Number of PLWH (with or without AIDS), all ages, 1999-2007

Data sources

No official Swedish estimate exists. The total number of HIV infected individuals is estimated from the number of HIV positive individuals who are currently enrolled in the Swedish health care system. This figure is then supplemented with an estimate of the number of infected persons not connected to the health care system.

⁷⁶ Linus Bengtsson, Avd. för Internationell Hälsa (IHCAR), Karolinska Institutet, Anders Blaxhult, Avd för epidemiologi, SMI. Uppskattning av antalet HIV-smittade i Sverige. EPI-aktuellt – Nyhetsbrev från Avdelningen för Epidemiologi, SMI - Nr 42 (18 oktober 2007)

The number of HIV positive individuals in the Swedish health care system is gathered from two sources, clinics taking care of adult cases and clinics taking care of pediatric cases.

Since 1999, the Swedish Association of Infectious Disease Physicians (Svenska infektionsläkarföreningen) makes a yearly survey of all infectious disease- and dermatology/STI clinics in the country. This survey records the number of adult HIV infected individuals connected to each of these clinics in Sweden. Each patient has a primary connection to only one clinic. Diseased individuals or individuals who have moved can be expected to be taken off each clinic's list after a maximum of one-half to one year.⁷⁷

The number of HIV positive individuals followed at pediatric clinics in Sweden has been estimated through contacts with a senior pediatric clinician⁷⁸ at the pediatric clinic in Sweden taking care of the largest number of pediatric HIV positive cases (Karolinska Sjukhuset Huddinge).

Number of HIV positive individuals followed at infectious disease clinics or dermatology/STI clinics⁷⁹:

Year	No. of HIV+ individuals. (1 September)
99	2,602
00	2,701
01	2,850
02	2,994
03	3,201
04	3,512
05	3,764
06	4,015
07	4,157 (1 April)

Number of HIV positive individuals estimated to have been followed at pediatric clinics⁸⁰:

Year	No. of HIV+ individuals
-99	48
-00	50
-01	52
-02	54
-03	56
-04	58
-05	60
-06	62
-07	65

⁷⁷ Personal communication, Anders Blaxhult, Epidemiologist, Swedish Institute of Infectious Diseases (Svenska smittskyddsinstitutet), 10 October 2007.

⁷⁸ Assoc. Prof. Ann-Britt Bohlin, Verksamhetschef, Karolinska University Hospital, Huddinge

⁷⁹ Data received from Per Arneborn, Swedish Association of Infectious Disease Physicians (Svenska infektionsläkarföreningen)

⁸⁰ Personal communication with Assoc. Prof. Ann-Britt Bohlin, Karolinska University Hospital, Huddinge, Stockholm. Estimate for 1999- and 2007 by Ann-Britt Bohlin. Numbers for intermediate years estimated by the author.

Comment: The number for 2007 is deemed relatively accurate. In addition to these individual, another 9 are below 18 years of age but are taken care of at infectious disease clinics, thus are not included in this table. Regarding 1999, there were 54 individuals below the age of 18 infected. Estimating that the same proportion of individuals below 18 years of age was taken care of at infectious disease clinics (12%), the number taken care of at pediatric clinics is estimated to have been 48 individuals. The figures for 2000 to 2006 above are estimated by assuming the same yearly trend as for the whole period 1999 to 2007.

Estimated number of HIV positive individuals unaware of their status

Sweden has a relatively mature reporting system. 10-12% of HIV diagnoses are so called “late testers”, getting their HIV diagnosis at the same time as their AIDS diagnosis, or getting the AIDS diagnosis within 3 months of getting their HIV diagnosis. The low prevalence among blood donors and pregnant women adds to this picture. Among late testers or individuals getting their diagnosis several years after the infection, a substantial proportion are immigrants that have spent most of that time outside Sweden. On these grounds, The Swedish Institute of Infectious Diseases (Svenska Smittskyddsinstitutet) estimates that approximately 10-20% of all HIV positive individuals are unaware of their status. In the following calculation it is estimated that 15% of all adult HIV positive individuals in Sweden are unaware of their status.

Estimated number of adult HIV positive individuals unaware of their status

Year	No. of HIV+ individuals and unaware of their status
-99	459
-00	477
-01	503
-02	528
-03	565
-04	620
-05	664
-06	709
-07	734

Estimated number of HIV positive individuals diseased before diagnosis and not diagnosed after and the number of HIV positive individuals below 18 years of age not knowing their status. This number is estimated to be very small and is not considered in the overall calculation.⁸¹

Estimated number of HIV positive individuals in Sweden 1999 to 2007, all ages:

Adding up the tables above yields a yearly figure on the number of estimated positive individuals in Sweden 1999 to 2007:

Year	Estimated number of HIV positive individuals in Sweden 1999 to 2007, all ages (1 September):
-99	3,110
-00	3,230
-01	3,410
-02	3,580
-03	3,820
-04	4,190
-05	4,490
-06	4,790
-07 (1 April)	4,960

Estimated number of HIV positive individuals in Sweden before 1999, all ages

This period is harder to analyze as data are more unreliable. The Gapminder curve, back to 1990, builds on the evolution of the epidemic up to 1991, as modeled by Downs et al.⁸² Between 1991 and 1999 the shape of the well-modeled British prevalence curve is used, see Philips et al.⁸³ The shape of the

⁸¹ Personal communication, Anders Blaxhult, Epidemiologist, Swedish Institute of Infectious Diseases (Svenska smittskyddsinstitutet), 10 October 2007.

⁸² Reconstruction and prediction of the HIV/AIDS epidemic among adults in the European Union and in the low prevalence countries of central and eastern Europe Angela M. Downs, Siem H. Heisterkamp*, Jean-Baptiste Brunet and Françoise F. Hamers. AIDS 1997, 11:649–662

⁸³ HIV in the UK 1980–2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. HIV Medicine (2007), 8, 536–546

curve before 1999 should be interpreted cautiously and only shows one possible scenario.

Prevalence of HIV infection, ages 15-49

Through analyses of the age distribution of HIV positive individuals in Stockholm (used as a proxy for the whole country) this number can, however, be estimated for 2007. The age distribution of HIV infected individuals in Stockholm is derived from the largest Swedish database of infected individuals in Sweden, InfCare HIV⁸⁴ together with the age distribution of pediatric cases⁸⁵. The proportion of known infected persons in the age span 15-49 years out of all known infected individuals in Sweden has thus been determined to be 70%⁸⁶.

Records on the age distribution in previous years among PLWH has not been found. The number of HIV positive persons belonging to the 15-49 year age group is assumed to have been 95% in 1980. An ad hoc linear decrease to the present figure of 70% is assumed during the period from 1980 to 2007.

Annual deaths from AIDS

Individual clinicians fill in the causes of death for all persons in Sweden. However, it is believed that there is considerable underreporting of AIDS deaths due to the stigmatizing character of the disease.⁸⁷ What is known is that by mid 2007, approximately 7,800 individuals had received an HIV diagnosis. Out of these approximately 4200 are alive in Sweden today. The rest have either succumbed to the disease or emigrated. The majority is believed to have died in Sweden.⁸⁸

Using the annual number of reported cases and subtracting the annual increase of the number of patients within the Swedish health care system should give an indication of the number of HIV positive individuals that have either died (from all causes) or emigrated. The average figure for 1999 to 2006 of emigrated or diseased HIV positive individuals is 109. Due to the uncertainty in the figures, a yearly estimate is however not meaningful to display.

Incidence of HIV within Sweden

This measure refers to the number of new infections taking place per year within Sweden. This is estimated to have been fairly constant at approximately 140 new infections per year during the 1990 to 2005 period. This estimation is based on the number of reported new infections subtracting the number of infections thought to have taken place outside Sweden (approximately 2/3) As

⁸⁴ InfCare HIV. The InfCare HIV programme is a combined tool for clinical care, quality assurance, remote decision support and a research database. It covers most of the Swedish HIV clinics and includes 3025 patients. Data received through personal communication with Prof. Anders Sönnerborg.

⁸⁵ Information through personal communication with Assoc. Prof. Ann-Britt Bohlin, Verksamhetschef, Karolinska University Hospital, Huddinge

⁸⁶ Personal contact with Prof. Anders Sönnerborg, Karolinska University Hospital

⁸⁷ Personal communication, Anders Blaxhult, Epidemiologist, Swedish Institute of Infectious Diseases (Svenska smittskyddsinstitutet), 10 October 2007

⁸⁸ Personal communication, Anders Blaxhult, Epidemiologist, Swedish Institute of Infectious Diseases (Svenska smittskyddsinstitutet), 10 October 2007.

considerable reporting delays take place from infection to diagnosis the reported cases can only show the trend over several consecutive years.⁸⁹

Acknowledgements

Special thanks to the following persons for generous support and advice during the estimation process:

- Anders Blaxhult, Svenska Smittskyddsinstitutet
- Malin Arneborn, Svenska Smittskyddsinstitutet
- Per Arneborn, Örebro University Hospital
- Anders Sönnernborg, Karolinska University Hospital and the InfCare HIV database
- Ann-Britt Bohlin, Karolinska University Hospital

5.1.139 Switzerland

Number of PLWH, all ages

The data for these estimates are based on the difference between cumulative HIV positive notifications and death reports (with some adjustments for repeat tests and reporting delays). The estimates are not based on prevalence studies. This means the estimates are relatively crude with an estimated deviation of a minimum of 10%. The early part of the data set is highly uncertain.

There are no studies on the proportion of undiagnosed cases in Switzerland. In the estimates in this database the number of undiagnosed cases out of the total number of infected is estimated to be 30%. This figure is chosen as a middle ground between the estimates of the U.S. (25%) and the U.K. (34%).

Migration is not considered in these estimates as there is no data on this for Switzerland, i.e. migration and HIV statistics have not been possible to link and no studies have been performed. The estimates displayed here are not official estimates of the Swiss Federal Office of Public Health but are the currently best available public figures for Switzerland.⁹⁰ The PLWH figure for 2007 is taken from UNAIDS 2008 data set. The PLWH statistic for 2006 is calculated from a linear increase between 2005 and 2007.

Prevalence of HIV in the age group 15-49

Data received from the same source. The proportion of all PLWH who belong to the 15-49 age group during 2006-2007 uses this proportion from year 2005 in the Swiss data set (77%). Population size of 15-49 year-olds for 2006 and 2007 uses the figure from 2005 (as given by Martin Gebhardt, see footnote). The period from 1979 to 1985 is shown as a straight line for lack of data.

⁸⁹ Personal communication, Anders Blaxhult, Epidemiologist, Swedish Institute of Infectious Diseases (Svenska smittskyddsinstitutet), 10 October 2007.

⁹⁰ Data and description of methodologies given by Martin Gebhardt, PhD, MPH, Scientific staff Infectious Diseases Section Federal Department of Home Affairs, Federal Office of Public Health, Public Health Directorate, Bern, Switzerland.

Additional information

Switzerland - HIV/AIDS country profile⁹¹

“From 1985 to 2006, Swiss authorities reported a total of 29 353 HIV cases. They also reported that 8417 of the infected individuals had developed AIDS, including 5669 that died. Information on transmission groups has been collected since 1988, increasing from 50% of new HIV cases initially to around 80% in 2006. The cumulative number of registered cases includes an estimated 6500 unrecognized duplicate tests, mostly from the years 1985-1995. Among the cumulative HIV cases with a reported known route of transmission, approximately 41% were transmitted through heterosexual contact, 28% were infected due to MSM and 27% were infected through injecting drug use. In the year 2006, authorities reported 757 new HIV cases, 156 new AIDS cases and 56 deaths among AIDS cases. The reported HIV incidence of approximately 90-110 new cases per million population has been relatively stable since 1997 (104 per million population in 2006). Contrary to this, the number of newly reported AIDS cases and the number of deaths among AIDS cases are continuously decreasing, with 2006 showing the lowest number of reported deaths among AIDS cases since the mid 1980s.

Some 84% of all men (for whom age is known) with HIV are older than 25, as are 71% of all HIV infected women. Approximately 68% of all registered HIV cases are among men. From 1999 to 2004 there was a steady increase in the proportion of heterosexually acquired HIV in males, as opposed to infection due to MSM. In 2005 and 2006, however, the main mode of transmission among males was again reported to be through MSM (59).

Of the heterosexually transmitted cases in 2006, 40% are among people who originate from countries with generalized HIV epidemics, and about 21% among people who have partners from high-prevalence countries. Sexual partners of IDUs accounted for as much as 17% of all heterosexually transmitted infections in 2005.

The highest incidence of newly reported HIV/AIDS cases in Switzerland lies in the French-speaking part, where in the past five years, the cantons of Vaud and Geneva have had a disproportionately high number of new HIV infections (up to twice the national average). Over two thirds of all people living with HIV reside in major urban areas and it is estimated that 5% to 6% of all new HIV infections can be attributed to men having sex with a sex worker. In a self administered questionnaire survey from 2000 among MSM (readers of gay press and members of gay organisations) 11% reported to be HIV positive. In 2001-2004, 73% of all new AIDS cases did not receive antiretroviral therapy prior to AIDS diagnosis. More than 50% of IDUs had a history of interrupted antiretroviral therapy at the time of AIDS diagnosis. In more than 50% of cases, HIV infection was diagnosed less than 100 days prior to AIDS diagnosis. Again, this figure varied significantly among transmission groups, being much higher among heterosexually infected individuals (63%) and much lower among IDUs (28%).

⁹¹ WHO Europe HIV country profile at:
http://www.euro.who.int/aids/ctryinfo/overview/20060118_43

Mandatory anonymous laboratory-based HIV case-reporting started in 1987. It is supplemented with anonymous reporting from treating physicians. Switzerland has about 140 HIV-screening laboratories and 11 reference centres for confirmatory HIV testing.

Approximately 11 000 PLHIV were seen for care in 2005, and an estimated 8800 people were on HAART by the end of that year.

By the end of 2006, the cumulative number of mother-to-child HIV transmission cases was 160. In 2006, one new case of MTCT was recorded.”

5.1.140 Syrian Arab Republic

According to UNFPA, Syria is considered to have one of the lowest HIV prevalence rates in the Middle East and North African region. Data obtained from the National AIDS Programme showed that there were 393 HIV positive cases in the country (as of February 2006).⁹² Whether this also includes estimated numbers of undiagnosed individuals is not known. Prevalence is below 0.01% and for technical reasons therefore not included in Gapminder World. Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from the UN Statistics Division.⁹³

5.1.141 Taiwan

The number of persons infected by HIV in Taiwan is estimated at 30,000 persons. Recently a rapid spread has been seen among intravenous drug users.⁹⁴ Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from the U.S. Census Bureau.⁹⁵

5.1.142 Tajikistan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

⁹² UNFPA at http://www.unfpa.org/daseca/projects/proj_syria_upgrade.html

⁹³ http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=2005&HSrID=13680&HCrID=760&yrID=2005&continue=Continue+%3E%3E

⁹⁴ Chen YM, Kuo SH. HIV-1 in Taiwan. *Lancet*. 2007 Feb 24;369(9562):623-5.

⁹⁵ U.S. Census Bureau International Database at <http://www.census.gov/cgi-bin/ipc/idbsprd>

5.1.143 Tanzania

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.144 Thailand

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1985 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic and the UNAIDS/WHO value for 1990. For most Asian countries the start of the epidemic is set somewhat later than the rest of the world, 0.01% in 1985). The straight line from 1985 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.145 Timor-Leste

USAID estimated that Timor-Leste had 50 HIV positive individuals in 2004.⁹⁶ Prevalence is below 0.01% and for technical reasons therefore not included in Gapminder World. Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from the UN Statistics Division.⁹⁷

Additional information⁹⁸

HIV prevalence in East Timor is very low. The first case of HIV/AIDS was reported in 2001, and as of 2004, only 24 cases of the disease had been confirmed. Inadequate testing and insufficient research, however, mean that many more people could be infected than current epidemiological data indicate. Recent research by USAID's Implementing AIDS Prevention and Control (IMPACT) Project indicates that 3% of female sex workers and 1% of men who have sex with men are living with HIV. In addition, 15% of both these populations have a curable sexually transmitted infection such as gonorrhea or chlamydia that increases sexual transmission of HIV. These data were collected in mid-2003, and prevalence now is inevitably higher. Nearby countries in Southeast Asia are experiencing considerable nationwide or localized epidemics that are being fueled by high-risk behavior and high levels of population mobility; these factors also have the potential to drive up the HIV infection rate in East Timor. Indeed, many of the ingredients for an HIV epidemic are already present in East Timor. Several

⁹⁶ USAIDS at

http://www.usaid.gov/our_work/global_health/aids/Countries/ane/east_timor_05.pdf

⁹⁷http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=2005&HSrID=13680&HCrID=626&yrID=2005&continue=Continue+%3E%3E

⁹⁸ USAIDS at

http://www.usaid.gov/our_work/global_health/aids/Countries/ane/east_timor_05.pdf

social factors could exacerbate the spread of HIV, including massive social dislocation, cross-border migration, high unemployment, an ineffective HIV/AIDS awareness program, inadequate health facilities, and a low awareness of HIV/AIDS.

5.1.146 Togo

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.147 Trinidad and Tobago

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. No estimates are shown for years with prevalence below 0.01%. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.148 Tunisia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.149 Turkey

The number of PLWH is difficult to estimate and data quality has been difficult to ascertain. The Gapminder estimate for 2007 is based on the number of diagnosed infections minus the number of registered deaths and adding 30% of undiagnosed infections (EU average). This yields approximately 3400 infected. Prevalence is below 0.01% and for technical reasons therefore not included in Gapminder World. Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from U.S. Census Bureau, IDB.

Additional information

Turkey - HIV/AIDS country profile from WHO Europe⁹⁹

“From 1985 to 2006, Turkish authorities had reported a cumulative total of 2544 HIV cases. They also reported that 623 of the infected individuals had developed AIDS, of whom 140 had died. Among the reported cumulative HIV cases with a known mode of transmission, approximately 75% were infected through heterosexual contact, 12% through MSM and 7% through injecting drug use. In recent years, of cases with known modes of transmission, 70-80%

⁹⁹ WHO Europe at: http://www.euro.who.int/aids/ctryinfo/overview/20060118_46

were acquired through heterosexual contact and in 2006, 28% of reported infections were in women. For the year 2006, the authorities reported 290 new HIV cases, 31 new AIDS cases and 2 deaths among AIDS cases. To date, the country has had low, stable rates of HIV/AIDS incidence and prevalence. Sex work is common, and condom use has been shown to be low. Nonetheless, HIV prevalence among SWs has remained low. Of the 3276 female SWs, mostly non-Turks, who were tested for HIV in an Istanbul test centre in 2003, 0.5% tested positive; in 2002 the prevalence had been 0.7%). The present epidemiological stage of HIV in the country and the low level of injecting drug use, make it reasonable to assume that commercial sex work is the main driver of the epidemic. The SWs from eastern European countries, often operating as illegal SWs, and their mainly Turkish clients are considered to be the major contributors. From 1996 to 2000, almost 44 000 foreign SWs were taken into custody, and from 1996 to 2002, 23 500 were deported for being involved in illegal sex work.

Registered SWs undergo mandatory medical examination twice a week for STIs and regularly for HIV, impetigo, leprosy, tuberculosis and other diseases as recommended by Ministry of Health. Medical examination, screening and treatment of registered SWs are carried out by municipalities and financed from the funds collected from the owners of brothels.

In Turkey, 1100 facilities provide HIV testing; testing is not free of charge. According to national HIV testing policies, partner notification was not mandatory, nor was there a systematic testing of any particular individuals/groups. The number of people tested for HIV in 2006 was approximately 1 900 000. The number of HIV tests performed increased from just over 1.88 mio tests in 2005 to more than 2.43 mio tests in 2006. HIV cases were identified in all provinces, though they were mainly limited to the urban centres, with roughly half of them in Istanbul province alone.

Stigmatization and discrimination are widespread in Turkey, making vulnerable groups hard to reach and targeted prevention difficult to implement. Furthermore, MSM face severe stigmatization and very little data among this group is available. A study from 2006, revealed that 92% of the MSM practiced anal sex and only 37% declared using condoms regularly. Among IDUs, 43% were found to share needles and 60% did not use condoms during sexual intercourse. Substitution therapy for IDUs is currently not available in Turkey.

787 HIV/AIDS patients were reported to have received medical care for their condition during 2006. In 2004, 250 patients received HAART in Turkey, while at the end of 2006, 685 people were on HAART offered at 25 facilities. Of the patients on HAART about 75% were males, 84% were reported as heterosexually transmitted, 11% MSM and 2% IDUs. In 2006, of all PLHIV tested for coinfections, 7% were hepatitis B coinfecting, 7% were coinfecting with hepatitis C and 25% TB co-infected.

By the end of 2006, the cumulative number of HIV cases infected through mother-to-child transmission was 45. In 2006, two new cases of MTCT were recorded.”

5.1.150 Uganda

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.151 Ukraine

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.152 United Kingdom

Number of PLWH, all ages

The best modeling of the course of the epidemic in a high-income country is probably the work performed for the U.K. The Gapminder figures are taken from the graphs developed by Philips et al.¹⁰⁰ As figures have been manually extracted from their graph, and given slight deviations from the models, original values can be present. The model by Philips et al. simulates the clinical course of individual HIV positive persons and, together with epidemiological data, is able to draw the course of the whole epidemic. The UNAIDS figure of 77,497 HIV positive persons has been used for the end of 2007 figure. The shape of the curve during earlier years has then been taken from Philips et al. Between 2006 and 2007, the same linear trend has been assumed as during the preceding three years.

Prevalence in the age group 15-49 years

These figures have been calculated based on the absolute numbers above. The proportion of PLWH in the age group 15-49 years out of all PLWH for 2007 has been set to 87%. This figure has been calculated from the UNAIDS figures of number of PLWH, prevalence among 15-49 year olds for 2007 and the size of the 15-49 year old age group.¹⁰¹ An ad hoc linear increase to 95% has been used to get the absolute number of infected in the 15-49 age group for all years. This number has been divided with the U.K. population in the 15-49 age group to receive prevalence values.¹⁰²

¹⁰⁰ HIV in the UK 1980–2006: reconstruction using a model of HIV infection and the effect of antiretroviral therapy. AN Phillips, C Sabin, D Pillay and JD Lundgren. *HIV Medicine* (2007), 8, 536–546

¹⁰¹ International Data Base. US Census Bureau.

¹⁰² Pop size for 1991 used for preceding years because of lack of data.

5.1.153 United States

Number of PLWH, all ages

Official estimates of the course of the HIV epidemic have not been performed. At the end of 2003, an estimated 1,039,000 to 1,185,000 persons (middle value 1,120,000) in the United States were living with HIV/AIDS, with 24-27% undiagnosed and unaware of their HIV infection.¹⁰³ The Gapminder estimate for the whole of the U.S. during 2000-2007 uses the national estimate from 2003 as a starting point. The recently published annual incidence estimates by the CDC (JAMA 2008¹⁰⁴), the annual number of AIDS related deaths,¹⁰⁵ and the 2003 prevalence figure is then used to estimate annual numbers of infected individuals during the period from 2000 to 2007. AIDS deaths during the 2000-2001 is assumed to have been at the 2002 level. Incidence for 2007 is assumed to have been the same as for 2006. The period from 1979 to 1999 uses the shape of the Canadian PLWH curve and should thus be viewed with caution. More information is found at www.cdc.gov.

Prevalence in the age group 15-49 years

These figures have been calculated based on the absolute numbers above. The proportion of PLWH in the age group 15-49 years out of all PLWH has used figures from Canada (South Alberta region).¹⁰⁶ U.S. populations in the age group 15-49 for the period are based on data from UN's Statistics Division.¹⁰⁷

5.1.154 Uruguay

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 build on a backward extrapolation from the above UNAIDS/WHO data during 1990 to 1992. Estimates during 1979 to 1989 should be considered as "guesstimates" and can only hope to show one possible scenario for the development of the epidemic. For further information see section 3.2.

5.1.155 Uzbekistan

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.156 Vanuatu

Two cases of HIV had been reported up until 2005. Because of the limited

¹⁰³ Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003. National HIV Prevention Conference; June 2005; Atlanta. Abstract 595.

¹⁰⁴ Hall et al. Estimation of HIV Incidence in the United States. JAMA. 2008;300(5):520-529

¹⁰⁵ http://www.cdc.gov/hiv/topics/surveillance/united_states.htm

¹⁰⁶ <http://www.calgaryhealthregion.ca/clin/sac/graphs/slide5.gif>. Proportion up to 1996 set to 94%. A linear increase up to 2006 (79%) is then assumed. The 2006 figure is used for 2007.

¹⁰⁷ UN Statistics Division.

http://unstats.un.org/unsd/cdb/cdb_advanced_data_extract_fm.asp?HYrID=1975&HYrID=1980&HYrID=1985&HYrID=1990&HYrID=1995&HYrID=2000&HYrID=2005&HSrID=13680&HCrID=124&yrID=2005&continue=Continue+%3E%3E. Data in 5 year intervals. A linear trend has been assumed in between data points.

testing performed, the real number of infected individuals cannot be determined. For additional information see: Sexually transmitted diseases and HIV/AIDS in Vanuatu: a cause for concern and action, New Zealand Medical Journal. Vol 118 No 1220 ISSN 1175 8716.

5.1.157 Venezuela

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.158 Vietnam

Data from the 2008 Global report (UNAIDS/WHO), June 2008 (see section 2 in this report).

5.1.159 Virgin Islands (U.S.)

Data from HIV/AIDS surveillance report: Cases of HIV infection and AIDS in the United States and Dependent Areas, 2005. HIV/AIDS Surveillance Report, Volume 17, Revised Edition, June 2007. Prevalence has been estimated based on the ad hoc assumption that 90 % of all PLWH belong to the 15-49 year age group. Population data has been taken from the U.S. Census Bureau, International Database.¹⁰⁸

5.1.160 Zambia

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a complete absence of estimation for this period. For further information see section 3.2.

5.1.161 Zimbabwe

Data from the 2008 Global report (UNAIDS/WHO), June 2008 for the years 1990 to 2007 (see section 2 in this report). Estimates for the years 1979 to 1989 are drawn by the program as a straight line. The line goes between the start of the epidemic (for most countries uniformly set to 0.01% in 1979) and the UNAIDS/WHO value for 1990. The straight line from 1979 to 1990 signifies a

¹⁰⁸ <http://www.census.gov/cgi-bin/ipc/idbsprd>

complete absence of estimation for this period. For further information see section 3.2.