

2007 AIDS epidemic update

Prevalence

1. How many people in the world do you now estimate are living with HIV?

The percentage of the world's adult population living with HIV (known as HIV prevalence) has been levelling off, and is declining in sub-Saharan Africa.

However, the sheer number of people in the world living with HIV continues to increase. In 2007, there were an estimated 33.2 million [30.6-36.1 million] people living with HIV globally, increasing from 29.0 million [26.9 million–32.4 million] in 2001.

The current estimate of numbers of people living with HIV is a reduction of 6.3 million from last year's published estimate of 39.5 [34.1-47.1 million] people. The reduction takes into account the revised estimates for India announced in June 2007.

2. What is responsible for the downward revision in prevalence of 6.3 million?

The reduction of 6.3 million is largely due to improved and expanded surveillance, data collection and methodologies, which have allowed UNAIDS and WHO to present a more detailed and accurate picture of the global AIDS epidemic.

Roughly 70% of the difference is explained by reductions in HIV prevalence in India (which alone accounts for approximately half the revision) and several sub-Saharan African countries, including Nigeria, Mozambique, Zimbabwe, Kenya and Angola.

The remaining 30% of revisions mostly occurred in a number of sub-Saharan African countries. A decrease in incidence (the number of new HIV infections) may also be a factor, but is currently difficult to quantify.

Information from population-based surveys has been used to inform the adjustments in all countries. However, in some countries, notably Zimbabwe, Cote D'Ivoire and Kenya, the reduction in HIV prevalence is mostly due to actual declines, rather than statistical corrections.

3. Do you anticipate further revisions?

It is expected that results from any future population-based survey results in Asia and sub-Saharan Africa will only have a minor impact on global prevalence estimates. This is because the largest and most affected countries have either already conducted these surveys or, if not, have had their estimates adjusted based on information derived from national surveys from countries with similar epidemics

Based on improved methodology and better information from countries, we are confident that we are presenting the most accurate possible picture of the global AIDS epidemic.

Moving forward, UNAIDS and WHO will continue to work with partners to ensure we are working with even more complete data and improved methodology.

4. Does levelling off mean that AIDS is under control?

No. A country such as Botswana, where prevalence exceeds 15% is an example of an epidemic that has levelled off at an unacceptably high rate, a clear demonstration that not enough is being done to respond to AIDS in the country.

In addition, even if an epidemic has levelled off, it can mask a situation in which many people are becoming infected and equal numbers are dying. This is happening in a number of countries in sub-Saharan Africa.

Also, even if prevalence is level or declining, continuing new infections contribute to the estimated number of people living with HIV in a country.

This situation can also result from an increasing number of people taking antiretroviral treatment, which can lead to decreased incidence because people on treatment are less likely to transmit the virus to others.

5. Do declines in prevalence in sub-Saharan Africa show that prevention programmes are working?

We have data indicating declines in HIV transmission among young people in nine countries¹. Those trends, combined with the evidence of significant declines in HIV prevalence among young pregnant women in urban and/or rural areas of five countries² suggest that HIV prevention efforts might be having an impact in several of the most-affected countries.

Level or declining HIV prevalence can also point to other developments:

- A rate of AIDS-related deaths that exceeds the rate of new HIV infections
- Large numbers of people with HIV leaving places that are especially affected by the epidemic.

Incidence

6. How many people were newly infected with HIV in 2007?

Global HIV incidence (the number of new infections) decreased to 2.5 million [1.8-4.1 million] in 2007, down from 3.2 million [2.1-4.5 million] in 2001.

Models show that HIV incidence peaked in Africa in the late 1990s. However, it is possible that this general decline may mask some increases in the most at-risk populations, both in generalised and concentrated epidemics.

¹ Botswana, Cameroon, Chad, Kenya, Haiti, Malawi, Togo, Zambia and Zimbabwe

² Botswana, Côte d'Ivoire, Kenya, Malawi and Zimbabwe

7. Where did declines in incidence occur?

HIV incidence declined the most in sub-Saharan Africa, where a total of 1.7 million [1.4-2.4 million] people became infected with HIV in the past year, declining from 2.2 million [1.7–2.7 million] new infections in 2001.

In addition to the declines in new infections in sub-Saharan Africa between 2001 and 2007, the estimated annual number of new HIV infections decreased clearly in South and South-East Asia.

8. Did incidence decrease in all regions?

Incidence did not fall in all regions. New infections increased almost 20% in East Asia between 2001 and 2007 and Oceania also saw an increase during that period. Incidence remained roughly the same since 2001 in the Caribbean, Latin America, the Middle East and North Africa, North America and Europe.

9. How did you arrive at this incidence estimate?

Incidence (or the number of new infections per year) is not directly measured in populations. It is instead calculated from information about changes in prevalence over time, combined with an assumption about the average survival time of a person infected with HIV. New research³ indicates that this average survival time is longer than was previously assumed (increasing from 9 to 11 years).

Therefore, the difference between the estimates published by UNAIDS and WHO in 2006 and those in this year's report is due to:

- A lower estimate of global HIV prevalence
- The increase of average survival time of people living with HIV

AIDS Deaths

10. How many people died of AIDS in 2007?

AIDS is still a leading global cause of mortality, and remains the primary cause of death in sub-Saharan Africa.

Overall, the annual number of people who died due to AIDS has recently declined slightly to 2.1 million [1.9-2.4 million] in 2007. Sub-Saharan Africa remained the most affected region, where 1.6 million [1.5 million-2.0 million] AIDS deaths occurred.

The difference between this and last year's published estimates is due primarily to three factors:

- A lower estimate of global HIV prevalence
- The increase in average survival time of people living with HIV

³ Cohort studies (Alpha network)

- The impact of treatment programmes in countries, now that more than 2 million people are on antiretroviral therapy (as of end-2006)

11. What is responsible for the reduction in estimated AIDS mortality?

One major factor contributing to the slight decline in AIDS death rates is the rising number of people on treatment; at the end of 2006 there were more than 2 million people taking antiretroviral therapy in low- and middle-income countries.

Revisions

12. Why are this year's estimates lower than in 2006?

The difference in the estimated number of people living with HIV between the 2006 AND 2007 AIDS Epidemic Update report is mainly due to improved methodology. Better surveillance by countries and changes in the key epidemiological assumptions, approved by a panel of experts, were used to calculate the estimates.

13. Why did the methodology change?

UNAIDS and WHO are committed to continuing to improve understanding of the epidemic to enhance ways to prevent and treat HIV. To achieve this, and as new information becomes available, UNAIDS and WHO regularly update their estimation methodology, based on recommendations from the UNAIDS Reference Group on Estimates, Modelling and Projections.

In 2007 UNAIDS and WHO, as recommended by this group, undertook the most comprehensive overhaul of HIV and AIDS estimation methodology since 2001.

14. What changed in surveillance?

UNAIDS and WHO are now working with better information from many more countries. In the past few years a number of countries, most notably in sub-Saharan Africa and Asia, have expanded and improved their HIV surveillance systems, conducting new, more accurate studies that provide more precise information about HIV prevalence than earlier studies.

In some countries, improvements have been through an increase of sentinel surveillance sites – both in terms of the actual number of sites and in their geographical coverage. In addition, about 30 countries, mostly in Africa, have conducted national representative population-based household surveys.

The new information from population-based surveys has allowed not only for revisions to estimates for the countries that conducted them, but has also informed adjustments for other countries with similar epidemics that have not conducted these surveys.

15. What new epidemiological assumptions were made?

The software used to estimate HIV's impact has been adjusted to incorporate two key new epidemiological assumptions:

- Data from antenatal clinics is now used differently to help calculate HIV prevalence in the general population. Unlike in previous years, correcting factors based in information from population-based surveys have been applied to the data from urban sites (previously only used in rural sites).
- The average number of years that people living with HIV are estimated to survive without treatment has been increased from 9 to 11 years.

Methodology

16. What methodology was used?

UNAIDS and WHO use software to analyse epidemics using surveillance data, together with data from population-based surveys and assumptions about HIV epidemiology. In addition, UNAIDS and WHO have trained experts in countries to use these tools in analysing their data.

The methods and tools used were developed by the UNAIDS Reference Group on Estimates, Modelling and Projections. These recommendations have been published in scientific journals and are available on both UNAIDS' and the reference group's web sites (<http://www.epidem.org/>).

17. Do you expect to make more changes to the methodology?

UNAIDS and WHO are committed to constantly improving understanding of the epidemic to enhance ways to prevent and treat HIV. UNAIDS and WHO will continue to update their methodology as new data becomes available from research studies and surveillance data from countries.

18. What was the outcome of the consultation on the HIV estimation methodology that was held in Geneva?

From 14-15 November 2007, UNAIDS and WHO convened an international consultation on HIV estimates, bringing together more than 30 global experts to review the processes, methodologies and tools used by UNAIDS and WHO to produce country-, regional- and global-level HIV estimates.

The consultation recognised that UNAIDS/WHO's 2007 estimates are based on the best available data and methodologies and made a number of recommendations, including that:

- Regular independent scientific review of the estimation process and methodologies should take place, involving experts not directly involved in producing methodologies and estimates
- Countries should be encouraged to collect better quality data and receive more assistance. Data should come from a range of carefully considered sources, such as sentinel surveillance sites, as well as population-based surveys, and surveillance of most at-risk populations must be strengthened

- Country ownership should continue to be a key feature of HIV surveillance and data collection, with training involving a wide range of stakeholders including local epidemiologists, civil society and government representatives
- Surveillance should be integral to the design, implementation and evaluation of in-country HIV programmes. UNAIDS and WHO should build capacity of country counterparts to analyse surveillance data
- Special studies may be required to assess aspects such as AIDS-specific mortality rates and the quality and coverage of treatment resources
- UNAIDS and WHO will release the global 2007 HIV estimates on 21 November 2007 in time for World AIDS Day. UNAIDS and WHO will continue to work with experts and country counterparts to systematically review the methods used to derive HIV estimates and ensure they reflect up to date scientific evidence and research

Impact of the revisions

19. How confident are you that your estimates are accurate?

Based on improved methodology and the better information countries have made available, we are confident that we are presenting the most accurate picture possible of the global AIDS epidemic.

Moving forward, we will continue to engage with our partners to ensure we are working with even more complete data and better methodology and tools.

20. UNAIDS and WHO have made a number of strong programmatic recommendations since 2001 – do the revised estimates invalidate these?

No. UNAIDS and WHO will continue to review and update specific guidance to countries as necessary – but the fundamental recommendations remain unchanged.

Countries must continue to improve their understanding of their epidemics and make bold strides in approaching often-sensitive subjects such as sex work, drug use, and sex between men.

All countries must also work to ensure that health systems and communities are equipped to provide comprehensive HIV prevention, treatment, care and support to all those in need.

21. How do you expect donors to react to the revisions?

UNAIDS and WHO will work closely with donors to communicate that these revisions should be considered an important step towards providing higher-quality information about the epidemic – and that the need to fully fund the AIDS response must remain a global priority.

22. Some critics have alleged that UNAIDS overstates the epidemic in order to raise money and awareness for AIDS – do these developments prove their point?

UNAIDS and WHO have always made public the approaches and tools used to assess the global AIDS epidemic and pushed the world to pursue a comprehensive, effective, and sustainable response. We do not exaggerate data for the sake of advocacy, nor are these data influenced by political or fundraising agendas.

Resource needs

23. Do these revisions affect UNAIDS' resource needs estimates released in September?

Projected financial needs for AIDS will be somewhat lower this year, and may be further reduced in coming years.

Based on additional information about HIV prevalence made available by countries since the resource needs assessment was published September, we have lowered the estimates of numbers of people needing antiretroviral therapy and determined that the epidemic is not growing as quickly as earlier predicted.

Future resource requirements will depend not only on adjustments in estimates of the number of people needing treatment. Technical issues, such as optimal choices of first- and second-line therapy and recommendations about when to start therapy, will also play an important role.

24. Was UNAIDS aware there would be revisions when it was first developing the resource needs analysis? If so, why weren't they taken into account then?

While developing the resource needs report, UNAIDS was aware of substantial reductions in estimates of epidemics in India and five other sub-Saharan African countries. Resource needs estimates were adjusted downwards accordingly.

The final epidemiological estimates were only made available after the resource needs assessment was published, and not all the revised epidemiological estimates were reflected in the original calculations. However, these revisions do not substantially change the ranges provided for the resources needs.

25. Will you publish a revised resource needs assessment?

An updated version of the resource needs assessment is currently in development, incorporating all the information from the *2007 AIDS epidemic update* report.