Q+A

Q + A on India's revised AIDS estimates

1. **Why were the estimates revised downwards?**
   - India has greatly expanded and improved its surveillance system in recent years, and increased the population groups covered. More data sources were considered, including special studies and behavioural surveillance, as well as the national survey NFHS-3 which for the first time included a component on HIV.
   - Revised methodology was also used which has enabled India to produce more accurate estimates of its epidemic.
   - This improvement in the way that India collects and analyses its HIV data has enabled a much better understanding of India's AIDS epidemic and has shown that the number of people living with HIV is lower than previous estimates indicated.

2. **Why is it such a big difference?**
   - When you look at the data previously available for India you will see that the range was particularly broad (3.4-9.4 million). This indicates a high level of uncertainty around the numbers of people living with HIV in India. India's epidemic is complex due to the vastness of the country, the large numbers of people living in India (over 1 billion) and the difference in HIV prevalence in different states and in urban and rural areas. Because of this uncertainty around previous estimates, the Indian government, together with national and international partners, invested a lot of effort into obtaining more accurate information about its epidemic and has widely increased numbers and groups of people surveyed.
   - This work has resulted in much more accurate information about India's epidemic—which is reflected in the new estimates and much smaller ranges are expected.

3. **What is UNAIDS role in this work?**
   - In December 2006 the UNAIDS Reference Group on Estimates, Modelling and Projections issued recommendations for improving estimates using data from population-based surveys in concentrated epidemics.
   - As early as March 2007, as soon as early results of NFHS-3 became available, UNAIDS supported NACO to set up a Core Technical Working Group on Estimates and Projections. In the first week of June 2007, as soon as all sentinel surveillance data for 2006 became available, the UNAIDS Secretariat, WHO and NACO organized a meeting of national and international experts to discuss the detailed methodology to estimate HIV prevalence and related indicators.

- Estimates for previous years were then revised based on the new set of data. Epidemiological experts on AIDS in India, as well as key international experts have been involved in this effort.

4. What is the NFHS-3 survey?

- The NFHS-3 (National Family Health Survey 3) survey is a large population-based survey (or household survey) which was conducted in India in 2005-2006.
- The survey involved essentially going into villages and towns, going into households and surveying people present in the household on that day.
- The survey represents an entirely new source of HIV data for India as it is the first time that it has included an HIV component.
- The sample size for HIV was over 100,000 people.
- This type of survey has been conducted in many countries in Africa where it has been the basis for improving estimates.

5. What is sentinel surveillance?

- Sentinel surveillance was introduced in many parts of the world in the early 90's, but the sentinel system in India didn't get started until 1998. Sentinel surveillance are warning systems, they take settings where blood tests are being carried out, from women attending ante-natal clinics for example, and every one month or two months in a year, they test everyone who comes into that clinic.
- India has in recent years expanded its sentinel surveillance system to extend its geographical coverage and also to include groups at higher risk of HIV infection such as people who inject drugs, men who have sex with men and commercial sex workers. So India's system has improved in recent years in terms of measuring the country's HIV prevalence.

6. What methodology was used?

- The methodology involved several steps to make use of all available data sources.
- Estimates of HIV prevalence among adults (aged 15-49) were generated for 2006 for all states in India using the latest population census data in the UNAIDS recommended WORKBOOK estimation tool.
    - *WORKBOOK is a spreadsheet used to estimate and project adult HIV prevalence from surveillance data in countries with low level or concentrated epidemics. Estimates are based on prevalence in populations with high risk behaviours and populations at low risk, as well as estimates of the size of populations with high risk behaviours.*
- The adult HIV prevalence for each state was initially based on the adult HIV prevalence observed in the National Family Health Survey 3 (NFHS-3). The NFHS-3 generated state-specific HIV prevalence estimates for Andhra Pradesh, Karnataka, Maharashtra, Manipur, Tamil Nadu, and Uttar Pradesh. Using urban/rural and male/female prevalence ratios, HIV prevalence was estimated for adult women and men in urban and rural areas. For states that did not have a state-specific NFHS-3 estimate, the NFHS-3 estimate for the rest of India was

combined with the antenatal clinic prevalence of the specific state to inform the HIV prevalence among adults in those states;

- HIV infections occurring among groups at higher risk of HIV infection, who may have been missed by the household survey, were then added to the above HIV prevalence estimates. In low prevalence states, these groups will account for a larger proportion of all people living with HIV compared to states with high prevalence. The number of people in groups at higher risk in each state was based on a combination of the estimates of the size of these groups, based on consensus estimates used in the Integrated Biological and Behavioural Assessment data, combined with HIV prevalence data from the sentinel surveillance system;
- Ranges of uncertainty were calculated around the estimated point prevalence among adults in 2006, based on the combined information from the NFHS-3 and the groups at higher risk of HIV infection;
- HIV prevalence data from consistent antenatal clinic surveillance sites over time was examined to assess the trend in HIV prevalence over time for each state, between 2001 and 2006;
- The trend over time in prevalence between 2001 and 2006, together with the point prevalence estimate for 2006, and an assessment of the start date of the epidemic, were then used to generate smoothed epidemic curves of HIV prevalence over time since the start of the epidemic for each state, using the WORKBOOK projection feature;
- Combining the trend in adult HIV prevalence over time with programmatic information about antiretroviral treatment and programmes for preventing mother to child transmission of HIV, the Spectrum software was used to estimate for each year since the start of the epidemic, the number of adults and children living with HIV, the number of new HIV infections, the number of people in need of antiretroviral treatment, the number of AIDS-related deaths, and other indicators. Ranges of uncertainty were then calculated around these estimated indicators.
    - *SPECTRUM is a suite of policy models. Each model includes a detailed user manual that not only describes how to use the software but also includes sections on data sources, interpreting and using the results, a tutorial, and a description of the methodology.*

7. What does this new data tell us?

- The new data tells us that India's epidemic, although still large in numbers, is smaller than previous estimates indicated.
- It does show some signs of a decline in HIV prevalence among sex workers in areas where focused interventions have been implemented, particularly in the southern states although overall prevalence levels among this group continues to be high.
- It also indicates that there is a slow decrease in HIV prevalence among the general population in southern states. Although more analysis is required this probably means that the number of people becoming infected with HIV is decreasing. This decrease is more perceptible in states such as Tamil Nadu where the intensity of HIV prevention efforts has been high.

8. **Will less money be needed now for the AIDS response in India?**
    - Not necessarily. India will use the new data that has become available to best inform its HIV programming. This will mean evaluating its resource needs estimates, prevention needs and treatment needs. What it will mean is that India will be better able to focus its HIV programming to where it will be most effective and making sure the money works.

9. **How does this affect the rest of the world?**
    - According to the 2006 AIDS Epidemic Update report, the estimated number of people living with HIV in 2006 was 39.5 million people.
    - The new data and analysis for India shows that the total number of people living with HIV would be lower, although still well within the range around the global estimate for 2006 (range 34.1-47.1 million).
    - Other indicators (numbers newly infected, number of deaths, number needing treatment) are likely to be affected and UNAIDS will, as it does every year, re-estimate the global epidemic in light of all new data sources available, which will be published in the AIDS epidemic update in November 2007.

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UNAIDS is an innovative joint venture of the United Nations, bringing together the efforts and resources of the UNAIDS Secretariat and ten UN system organizations in the AIDS response. The Secretariat headquarters is in Geneva, Switzerland—with staff on the ground in more than 80 countries. Coherent action on AIDS by the UN system is coordinated in countries through UN theme groups, and joint programmes on AIDS. UNAIDS' Cosponsors include UNHCR, UNICEF, WFP, UNDP, UNFPA, UNODC, ILO, UNESCO, WHO and the World Bank. Visit the UNAIDS Web site at www.unaids.org