

**UNAIDS/WHO Working Group
On Global HIV/AIDS and STI Surveillance**

**Technical Guidance Note:
HIV prevalence measurement in national household surveys
for countries with low HIV prevalence
December 2010**

Purpose: To provide guidance to countries with low HIV prevalence on the inclusion of HIV prevalence measurement in national household surveys.

The UNAIDS/WHO Working Group on Global HIV/AIDS and Sexually Transmitted Infections (STI) Surveillance develops guidance to strengthen national, regional and global HIV surveillance structures. The working group has developed the attached guidance regarding HIV testing within household surveys. The guidance is in the form of a list of key questions for consideration by the technical team developing the survey plan in the country. The UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance can provide further guidance on the basis of the answers to the list of questions, on a case-by-case basis if requested. The final decision will be made by the country.

This guidance does not deal with the inclusion of tests for recent infections to estimate HIV incidence. These require additional considerations regarding sample size, locally relevant correction factors for misclassification of long-term infections as recent infections, and the collection of additional data on antiretroviral therapy and CD4 status.

Additional guidance on HIV testing in household surveys can be found at the below websites:

Guidelines for measuring national HIV prevalence in population-based surveys
<http://www.who.int/hiv/pub/surveillance/measuring/en/index.html>

Guidelines for using HIV testing technologies in surveillance: selection, evaluation and implementation
http://www.who.int/hiv/pub/surveillance/hiv_testing_technologies/en/index.html

Information from MeasuredHS on collecting HIV prevalence in household surveys
<http://www.measuredhs.com/aboutsurveys/biomarkers/start.cfm>

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Key questions when considering 1st time inclusion of HIV prevalence measurement in a national household survey

1. What is the latest national estimate of HIV prevalence among adults (ages 15-49 years)? **If less than 2% consider the below questions carefully.** Even if prevalence is more than or equal to 2%, many of the questions (including about sampling size and statistical power, cost of the survey, planned use of the results) are relevant and should be considered.

If less than 1%, do not include HIV testing. When HIV prevalence is less than 1% HIV is expected to be highly concentrated in specific groups with high risk behaviour and inclusion of HIV measurement in the survey is not expected to yield actionable results. For example, with a sample size of 10,000 and a prevalence rate of 0.7%, only approximately 70 individuals are expected to found HIV-positive in the survey. Such a small number will not allow analysis by different sub-populations (such as age groups, sex, risk factors) or comparison of trends over time.

2. How many households and individuals are needed for the survey sample size if HIV testing were not included? How many additional households and individuals will be needed to get a HIV prevalence estimate of sufficient precision at the national level and at any proposed sub-national level or by age group or sex? (See *Guidelines for measuring national HIV prevalence in population-based surveys.*) If inclusion of HIV will require a much larger sample size, will the quality of the survey be compromised? Will adequate financial and human resources be available to add HIV testing?
3. Are there significant variations in HIV prevalence within the country? If so, is the expected HIV prevalence in any of the regions more than 2%? Would it be practical to only include HIV measurement in the regions with high HIV prevalence?
4. What is the proposed use of the HIV prevalence data from the survey? What type of analysis will be conducted? (For example mathematical modeling including with Spectrum software; differences by age group, gender, residence etc; baseline for future statistical analyses of trends.)
5. What alternative data sources and methods are available to measure the HIV prevalence in the country? What alternative sources and methods are available to measure the HIV prevalence level among men? Are there other surveys of HIV prevalence among specific populations such as community surveys?
6. What is the additional cost of adding HIV prevalence measurement to the survey? How does this compare to the suggestion that approximately 5-10% of the total budget for AIDS should be spent on monitoring and evaluation? Could this money be

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used more appropriately for other HIV surveillance needs (such as for most at risk populations), other HIV prevention activities or services, or other public health needs?

7. Is another household survey with HIV testing considered/planned for the near future? If there is, merge the two initiatives, and have all stakeholders consider the above questions.

Key questions when considering repeated inclusion of HIV prevalence measurement in national household surveys

1. What is the latest national estimate of HIV prevalence among adults (ages 15-49 years)? What was the HIV prevalence estimate of the previous national survey? **If either of these is less than 2% consider the below questions carefully.** Even if prevalence is more than or equal to 2%, many of the questions (including about sampling size and statistical power, cost of the survey, planned use of the results) are relevant and should be considered.

If both of these are less than 1%, do not include HIV testing. If HIV prevalence is less than 1% HIV is expected to be highly concentrated in specific groups with high risk behaviour and repeat inclusion of HIV measurement in the survey is not expected to yield actionable results, nor will it allow the detection of significant trends with usual sample sizes. It is recommended that a repeat survey not be conducted within 5 years since the previous survey.

2. How many households and individuals are needed for the survey sample size if HIV testing were not included? How many additional households and individuals will be needed to allow the detection of significant trends in HIV prevalence at the national level and at any proposed sub-national level, including in subgroups (e.g. 15-19, 20-24, 15-24 year olds), or to estimate incidence (as per Hallett et al, AIDS 2010, 24: 147–152)? Note that additional data sources (e.g. surveillance among women attending antenatal clinics) can contribute to assessing trends in HIV prevalence. If the inclusion of HIV will require a much larger sample size, will the quality of the survey be compromised? Will adequate financial and human resources be available to add HIV testing?
3. Are there significant variations in HIV prevalence within the country? Would it be more practical to only include repeated HIV measurement in selected regions of the country, e.g. those where a HIV prevalence level of more than 2% has been measured previously?
4. What use will be made of the second (third etc) HIV prevalence measure derived from the survey? With what methods? (for example mathematical modeling

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including with Spectrum software; trends by subgroup; incidence as per Hallett et al, AIDS 2010)

5. What is the additional cost of adding the HIV prevalence measurement to the survey? How does this compare to the suggestion that approximately 5-10% of the total budget for AIDS should be spent on monitoring and evaluation? Could this money be used more appropriately for other HIV surveillance needs (such as for most at risk populations), other HIV prevention activities or services, or other public health needs?
6. How were the HIV prevalence results of the previous survey used? If underused, can it reasonably be expected that the repeat HIV prevalence measurement will be put to better use?
7. Are there alternative sources and methods to measure trends in HIV prevalence, and to estimate incidence?
8. Is another household survey with HIV testing considered/planned for the near future? If there is, merge the two initiatives, and have all stakeholders consider the above questions.

Reference:

Hallett TB, Stover J, Mishra V, Ghys PD, Gregson S, Boerma T. Estimates of HIV incidence from household-based prevalence surveys. *AIDS* 2010 Jan 2;24(1):147-52.