



DHS Survey Design: HIV Testing



Can we include HIV testing in our survey?

Nationally representative household surveys can be good sources of HIV prevalence, but not in all cases. The DHS Program follows UNAIDS/WHO guidance on HIV testing which includes:

...In countries where estimated HIV prevalence is <2%:

HIV testing in nationally representative household surveys such as DHS is not recommended. Even surveys with a reasonable sample size produce HIV estimates with very wide confidence intervals when prevalence is low. Because of large confidence intervals it would not be possible to definitively detect changes over time or differences across sub-groups of interest such as different age groups, and persons displaying different risk factors.

In addition, in very low prevalence settings (<1%), HIV is usually highly concentrated in specific population groups with high-risk behaviors. These population groups can be reached more efficiently using approaches other than a national household survey.

...In countries where estimated HIV prevalence is >2%,

UNAIDS recommends that stakeholders consider the following questions:

- What is the sample size needed to estimate HIV prevalence at the national and subnational levels with enough precision to be useful?
- Are there adequate human and financial resources available to include HIV testing?
- Are there significant variations in HIV prevalence within the country? If so, consider measuring HIV only in regions with high prevalence.
- How will the data be used? What kind of decisions will be made based on the HIV prevalence data? Ultimate use needs should drive discussions about whether or not to measure a

Considerations for Inclusion

Validity/Precision:

The precision of the estimates depends on the sample size and the prevalence; countries with larger sample sizes and/or higher prevalence will have more precise estimates. Where HIV prevalence is below 2%, a DHS survey is usually not the best source to understand trends, behaviors or risk factors because HIV is typically concentrated in key populations that may not be best reached by household surveys.

Effect on sample size:

Including HIV testing can require a larger sample size, especially when prevalence is expected to be low, since confidence intervals would decrease as the sample size increases. Expanding the survey age range to age 59 or 64 is advisable because the population most affected by HIV is aging over time. People who have HIV are living longer due to the wider availability of antiretroviral treatment, and new infections may still occur at older ages.

national HIV prevalence estimate, and what degree of precision is needed.

- What alternative data sources and methods are available to measure the HIV epidemic? They might guide programmatic investment decisions more effectively and not require the cost and effort associated with a household survey.
- What is the cost of adding HIV prevalence to the survey? Could this money be used instead for other HIV surveillance needs or to provide HIV-related services?

What if we have recently or are currently conducting a Population-based HIV Impact Assessment (PHIA)?

If a Population-based HIV Impact Assessment (PHIA) survey has been conducted in the past 2-3 years, is likely to overlap with the DHS, or is planned in the next 2-3 years, we strongly discourage including HIV testing in the DHS as measuring prevalence so closely in time is an inefficient use of resources. Multiple population-based HIV prevalence estimates within a close time frame can be difficult to compare, given confidence intervals and potential differences in sampling.

Do we have to return test results?

WHO and UNAIDS strongly recommend that HIV test results be returned to survey respondents. The DHS Program recommends both home-based counseling and rapid testing using the country's national HIV testing algorithm to inform participants of their HIV status and parallel laboratory testing from dried blood spots collected in the survey to provide the HIV prevalence estimate.

Resources and References:

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

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

Impact on cost:

HIV testing supplies, extra field workers, and additional training and data processing all add to the cost of the survey. Cost is even greater when sample sizes have to be increased to detect sufficient numbers of HIV-positive individuals to produce reasonably precise estimates.

Impact on quality:

Including HIV testing in a DHS greatly increases the complexity of a survey and makes it more challenging to implement all parts of the survey successfully.

Additional considerations for home-based testing

Feasibility and Acceptability:

Does the country have an adequate number of certified HIV test-counselors to staff the survey for several months? Is home-based HIV testing acceptable in the country? Are HIV testing and treatment services widely available for linking respondents to care?