

Tanzania - HIV/AIDS and Malaria Indicator Survey 2011-2012

National Bureau of Statistics

Report generated on: June 13, 2017

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Sampling

Sampling Procedure

The sampling frame used for the 2011-12 THMIS was developed by the National Bureau of Statistics (NBS) after the 2002 Population and Housing Census (PHC) and is the same as that used for the 2010 and 2004-05 Tanzania Demographic and Health Surveys (TDHS), the 2007-2008 THMIS, and the 2003-04 Tanzania HIV and AIDS Indicator Survey (THIS). The sampling frame excluded nomadic and institutional populations such as persons in hotels, barracks, and prisons.

The 2011-12 THMIS was designed to allow estimates of key indicators for each of Tanzania's 30 regions. The sample was selected in two stages. The first stage involved selecting sample points (clusters) consisting of enumeration areas (EAs) delineated for the 2002 PHC. A total of 583 clusters were selected. On the Mainland, 30 sample points were selected in Dar es Salaam and 20 were selected in each of the other 24 regions.² In Zanzibar, 15 sample points were selected in each of the five regions.

The second stage of selection involved the systemic sampling of households. A household listing operation was undertaken in all the selected areas prior to the fieldwork. From these lists, households to be included in the survey were selected. Approximately 18 households were selected from each sample point for a total sample size of 10,496 households.

The sampling procedures are more fully described in "Tanzania HIV/AIDS and Malaria Indicator Survey 2011-2012 - Final Report" pp.4-5.

Response Rate

A total of 10,496 households were selected for the sample, from both Mainland Tanzania and Zanzibar. Of these, 10,226 were found to be occupied at the time of the survey. A total of 10,040 households were successfully interviewed, yielding a response rate of 98 percent. In the interviewed households, 11,423 women were identified as eligible for the individual interview. Completed interviews were obtained for 10,967 women, yielding a response rate of 96 percent. Of the 9,388 eligible men identified, 8,352 were successfully interviewed (89 percent response rate).

The principal reason for nonresponse among both eligible women and men was the failure to find them at home despite repeated visits to the households. The lower response rate among men than among women was due to the more frequent and longer absences of men from the households.

Weighting

Because of the approximately equal sample sizes in each region, the sample is not self-weighting at the national level, and weighting factors have been added to the data file so that the results will be proportional at the national level.

Questionnaires

Overview

Two questionnaires were used for the 2011-12 THMIS: the Household Questionnaire and the Individual Questionnaire. These questionnaires are based on the MEASURE DHS standard AIDS Indicator Survey and Malaria Indicator Survey questionnaires and were adapted to reflect the population and health issues relevant to Tanzania. Input was solicited from various stakeholders representing government ministries and agencies, nongovernmental organizations, development partners, and international donors. After the preparation of the definitive questionnaires in English, the questionnaires were translated into Kiswahili.

The Household Questionnaire was used to list all the usual members and visitors of selected households. Some basic demographic information was collected on the characteristics of each person, including his or her age, sex, education, and relationship to the head of the household. For children under age 18, survival status of the parents was determined. The data on age and sex of household members obtained in the Household Questionnaire was used to identify women and men who were eligible for the individual interview and HIV testing. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the house, ownership of various durable goods, and ownership and use of mosquito nets. The Household Questionnaire was also used to record haemoglobin and malaria testing results for children age 6-59 months.

The Individual Questionnaire was used to collect information from all eligible women and men age 15-49. These respondents were asked questions on the following topics:

- Background characteristics (education, media exposure, etc.)
- Marriage and sexual activity
- Employment
- Awareness and behaviour regarding HIV/AIDS and other sexually transmitted infections (STIs)
- Knowledge and awareness of malaria
- Other health issues

Female respondents were asked to provide their birth history for the six years preceding the interview and information about recent fever and treatment of fever for children born since January 2006.

Data Collection

Data Collection Dates

Start	End	Cycle
2011-12-16	2012-05-24	Mainland
2011-12-16	2012-04-10	Zanzibar

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

TRAINING OF FIELD STAFF

The field staff main training took place in Morogoro over three weeks (21 November to 10 December 2011). The training was conducted following MEASURE DHS training procedures, including class presentations, mock interviews, tests, and field practice. Out of a total of approximately 90 nurses who were recruited and attended the main training, 48 women and 32 men were selected as interviewers. Trainers were senior staff from NBS, OCGS-Zanzibar, NMCP, and ICF International, as well as laboratory technicians from the Muhimbili University of Health and Allied Sciences (MUHAS), and the Ifakara Health Institute (IHI) ? Bagamoyo Site.

Field practice in malaria and anaemia testing and blood collection for HIV testing was carried out towards the end of the training period. During this period, team supervisors were provided with additional training in methods of field editing, data quality control procedures, and fieldwork coordination.

FIELDWORK

Data collection was carried out by 16 field teams, each consisting of one team leader, three female interviewers, two male interviewers, and one driver. Five senior staff members from NBS coordinated and supervised the fieldwork activities. Data collection in the Mainland took place over a five-month period from 16 December 2011 to 24 May 2012. Data collection in Zanzibar took place from 16 December 2011 to 10 April 2012.

Data Collectors

Name	Abbreviation	Affiliation
National Bureau of Statistics	NBS	

SUPERVISION

Main training participants also included 16 team supervisors from NBS and the Office of Chief Government Statistician-Zanzibar (OCGS) who were provided with additional training in methods of field editing, data quality control procedures, and fieldwork coordination.

Data Processing

Other Processing

All questionnaires for the THMIS were returned to the NBS central office in Dar es Salaam for data processing, which consisted of office editing, coding of open-ended questions, data entry, and editing computer-identified errors. The data were processed by a team of 10 data entry clerks, two data editors, one data entry supervisor, and one administrator of questionnaires; the latter checked that the clusters were completed according to the sample selection and that all members of the household eligible for individual interview were identified. One data editor had the additional responsibility of receiving the blood samples from the field and checking them before sending them to the appropriate laboratory. Data entry and editing were accomplished using CPro software. The process of office editing and data processing was initiated mid-January 2012 and completed in late June 2012.

Data Appraisal

Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: non-sampling errors and sampling errors. Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2011-12 Tanzania HIV/AIDS and Malaria Indicator Survey (2011-12 THMIS) to minimize this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2011-12 THMIS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2011-12 THMIS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed by SAS, using programs developed by ICF International. These programs use the Taylor linearization method of variance estimation for survey estimates that are means, proportions, or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The estimates of sampling error are more fully described in appendix B in document "Tanzania HIV/AIDS and Malaria Indicator Survey 2011-2012 - Final Report" pp.199-200.

Other forms of Data Appraisal

A series of data quality tables are available to review the quality of the data and include the following:

- Age distribution of the household population
- Age distribution of eligible and interviewed women
- Age distribution of eligible and interviewed men
- Completeness of reporting

The results of each of these data quality tables are shown in appendix C in document "Tanzania HIV/AIDS and Malaria Indicator Survey 2011-2012 - Final Report" pp.227-229.

Related Materials

Questionnaires

Tanzania HIV/AIDS Indicator Survey 2011-12 - Questionnaire

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Questionnaire
 Author(s) National Bureau of Statistics
 Date 2013-03-01
 Country Tanzania
 Language English
 Filename TZA_2011_2012_AIS_questionnaire.pdf

Reports

Tanzania HIV/AIDS Indicator Survey 2011-12 - Final Report

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Final Report
 Author(s) National Bureau of Statistics
 Date 2013-03-01
 Country Tanzania
 Language English
 Filename <http://www.measuredhs.com/pubs/pdf/AIS11/AIS11.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - Key Findings (English)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Key Findings (English)
 Country Tanzania
 Language English
 Filename <http://www.measuredhs.com/pubs/pdf/SR196/SR196.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - Key Findings (Kiswahili)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Key Findings (Kiswahili)
 Country Tanzania
 Language Kiswahili
 Filename <http://www.measuredhs.com/pubs/pdf/SR196/SR196.Kiswahili.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Fact Sheet (English)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Fact Sheet (English)
 Country Tanzania
 Language English
 Filename <http://www.measuredhs.com/pubs/pdf/HF43/HF43.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Fact Sheet (Kiswahili)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Fact Sheet (Kiswahili)
 Country Tanzania
 Language Kiswahili
 Filename <http://www.measuredhs.com/pubs/pdf/HF43/HF43.Kiswahili.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - Survey Presentations (English)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Survey Presentations (English)
 Country Tanzania
 Language English
 Filename http://www.measuredhs.com/pubs/pdf/PPT33/PPT33_English.zip

Tanzania HIV/AIDS Indicator Survey 2011-12 - Survey Presentations (Kiswahili)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Survey Presentations (Kiswahili)
 Country Tanzania
 Language Kiswahili
 Filename http://www.measuredhs.com/pubs/pdf/PPT33/PPT33_Kiswahili.zip

Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Malaria Fact Sheet (English)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Malaria Fact Sheet (English)
 Country Tanzania
 Language English
 Filename <http://dhsprogram.com/pubs/pdf/MF8/MF8.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Malaria Fact Sheet (Kiswahili)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - HIV Malaria Fact Sheet (Kiswahili)
 Country Tanzania
 Language Kiswahili
 Filename <http://www.measuredhs.com/pubs/pdf/MF8/MF8.Kiswahili.pdf>

Technical documents

Tanzania HIV/AIDS Indicator Survey 2011-12 - Reading AIS Tables (English)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Reading AIS Tables (English)
 Country Tanzania
 Language English
 Filename <http://www.measuredhs.com/pubs/pdf/DM30/DM30.pdf>

Tanzania HIV/AIDS Indicator Survey 2011-12 - Reading AIS Tables (Kiswahili)

Title Tanzania HIV/AIDS Indicator Survey 2011-12 - Reading AIS Tables (Kiswahili)
 Country Tanzania
 Language Kiswahili
 Filename http://www.measuredhs.com/pubs/pdf/DM30/Reading_DHS_Tables_TanzaniaHMIS_KISW.pdf
