

Zimbabwe - Demographic and Health Survey 2015

National Statistics Agency (ZIMSTAT) - Government of Zimbabwe

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Sampling

Sampling Procedure

The 2015 ZDHS sample was designed to yield representative information for most indicators for the country as a whole, for urban and rural areas, and for each of Zimbabwe's ten provinces: Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Matabeleland North, Matabeleland South, Midlands, Masvingo, Harare, and Bulawayo. The 2012 Zimbabwe Population Census was used as the sampling frame for the 2015 ZDHS.

Administratively, each province in Zimbabwe is divided into districts, and each district is divided into smaller administrative units called wards. During the 2012 Zimbabwe Population Census, each ward was subdivided into convenient areas, which are called census enumeration areas (EAs). The 2015 ZDHS sample was selected with a stratified, two-stage cluster design, with EAs as the sampling units for the first stage. The 2015 ZDHS sample included 400 EAs-166 in urban areas and 234 in rural areas.

The second stage of sampling included the listing exercises for all households in the survey sample. A complete listing of households was conducted for each of the 400 selected EAs in March 2015. Maps were drawn for each of the clusters and all private households were listed. The listing excluded institutional living arrangements such as army barracks, hospitals, police camps, and boarding schools. A representative sample of 11,196 households was selected for the 2015 ZDHS.

For further details on sample selection, see Appendix A of the final report.

Response Rate

A total of 11,196 households were selected for inclusion in the 2015 ZDHS and of these, 10,657 were found to be occupied. A total of 10,534 households were successfully interviewed, yielding a response rate of 99 percent.

In the interviewed households, 10,351 women were identified as eligible for the individual interview, and 96 percent of them were successfully interviewed. For men, 9,132 were identified as eligible for interview, with 92 percent successfully interviewed.

Weighting

A spreadsheet with all the sampling parameters and selection probabilities was prepared to facilitate the calculation of the design weights. Design weights were adjusted for household non-response and for individual non-response to obtain the sampling weights for the women's and men's surveys. The differences of the household sampling weights and the individual sampling weights were introduced by individual non-response. The final sampling weights were normalized to give the total number of unweighted cases equal to the total number of weighted cases at national level, for both household weights and individual weights, respectively. The normalized weights are relative weights which are valid for estimating means, proportions, and ratios, but are not valid for estimating population totals and pooled data. The sampling weights for HIV testing are calculated in a similar way; however, the normalization of the individual sampling weights is different compared with the individual sampling weights. The HIV testing weights are normalized for male and female together at national level to assure that the HIV prevalence calculated for male and female together are valid. Sampling errors have been calculated for selected indicators for the national sample; for the urban and rural areas, separately; and for each of the ten provinces.

Questionnaires

Overview

Four questionnaires were used for the 2015 ZDHS:

- Household Questionnaire,
- Woman's Questionnaire,
- Man's Questionnaire, and
- Biomarker Questionnaire.

These questionnaires were adapted from model survey instruments developed for The DHS Program to reflect the population and health issues relevant to Zimbabwe. Issues were identified at a series of meetings with various stakeholders from government ministries and agencies, research and training institutions, non-governmental organisations (NGOs), and development partners. In addition to English, the questionnaires were translated into two major languages, Shona and Ndebele. All four questionnaires were programmed into tablet computers to facilitate computer assisted personal interviewing (CAPI) for data collection, with the option to choose English, Shona, or Ndebele for each questionnaire.

Data Collection

Data Collection Dates

Start	End	Cycle
2015-07	2015-12	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Training and field staff

The ZDHS technical team, composed of ZIMSTAT staff and experts from the Ministry of Health and Child Care (MoHCC), Zimbabwe National Family Planning Council (ZNFPC), the Medical Research Council of Zimbabwe (MRCZ), UNFPA, USAID and ICF International, participated in a 3-day training of trainers (TOT), which was conducted April 20-22, 2015. Immediately following the TOT, the pretest training took place from April 23 to May 6, 2015. The pretest fieldwork was conducted May 7-9, 2015. During a 2-week period, the 15-member ZDHS technical team and 3 ICF technical specialists trained 27 participants to administer paper and electronic questionnaires with tablet computers. The ICF biomarker specialist trained the technical team and pretest participants to take anthropometric measurements, collect finger prick blood samples for haemoglobin measurement and HIV testing, and properly store the dried blood spot (DBS) specimens for HIV testing. The pretest fieldwork was conducted over 3 days, covering approximately 150 households. The ZDHS technical team conducted debriefing sessions with the pretest field staff on May 10, 2015; modifications to the questionnaires were made based on lessons learned from the exercise.

ZIMSTAT recruited and trained 120 individuals (52 females and 68 males) to serve as supervisors, interviewers, biomarker interviewers, and reserve interviewers for the main fieldwork. Field staff training for the main survey was conducted June 1-24, 2015.

Fieldwork

Fifteen interviewing teams conducted data collection for the 2015 ZDHS. Each team included one team supervisor, four interviewers, three biomarker interviewers, and one driver. Electronic data files were transferred each day from each interviewer's tablet computer to the team supervisor's tablet computer. The field supervisors transferred data to the central data processing office. To facilitate communication and monitoring, each field worker was assigned a unique identification number. Senior technical staff members from ZIMSTAT coordinated and supervised fieldwork activities. An ICF International technical specialist, a biomarker specialist, two data processing staff, and representatives from NMRL, MoHCC, ZNFPC, MRCZ, UNFPA, and USAID supported the fieldwork monitoring activities. Data collection took place over a 6-month period from July 6 to December 20, 2015.

Data Processing

Data Editing

CSPro was used for data editing, weighting, cleaning, and tabulation. In ZIMSTAT's central office, data received from the supervisor's tablets were registered and checked for inconsistencies and outliers. Data editing and cleaning included structure and internal consistency checks to ensure the completeness of work in the field. Any anomalies were communicated to the respective team through the technical team and the team supervisor. The corrected results were then re-sent to the central office.

Data Appraisal

Estimates of Sampling Error

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 2015

Zimbabwe DHS (ZDHS) 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 2015 ZDHS 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 between 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 2015 ZDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. Sampling errors are computed in either ISSA or 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 Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y , and x represents the total number of cases in the group or subgroup under consideration.

Note: A more detailed description of estimates of sampling errors are presented in APPENDIX B of the survey report.

Other forms of Data Appraisal

Data Quality Tables

- Household age distribution
- Age distribution of eligible and interviewed women
- Age distribution of eligible and interviewed men
- Completeness of reporting
- Births by calendar years
- Reporting of age at death in days
- Reporting of age at death in months
- Nutritional status of children based on the NCHS/CDC/WHO International Reference Population
- Completeness of information on siblings
- Sibship size and sex ratio of siblings

Note: See detailed data quality tables in APPENDIX C of the report.

Related Materials

Questionnaires

2015 Zimbabwe Demographic and Health Survey, Household Questionnaire

Title 2015 Zimbabwe Demographic and Health Survey, Household Questionnaire
 Author(s) Zimbabwe National Statistics Agency
 Date 2015-06-11
 Country Zimbabwe
 Language English
 Filename Zimbabwe_2015_DHS_hh_questionnaire.pdf

2015 Zimbabwe Demographic and Health Survey, Woman's Questionnaire

Title 2015 Zimbabwe Demographic and Health Survey, Woman's Questionnaire
 Author(s) Zimbabwe National Statistics Agency
 Date 2015-06-12
 Country Zimbabwe
 Language English
 Filename Zimbabwe_2015_DHS_woman_questionnaire.pdf

2015 Zimbabwe Demographic and Health Survey, Man's Questionnaire

Title 2015 Zimbabwe Demographic and Health Survey, Man's Questionnaire
 Author(s) Zimbabwe National Statistics Agency
 Date 2015-06-12
 Country Zimbabwe
 Language English
 Filename Zimbabwe_2015_DHS_man_questionnaire.pdf

2015 Zimbabwe Demographic and Health Survey, Biomarker Data Collection Form

Title 2015 Zimbabwe Demographic and Health Survey, Biomarker Data Collection Form
 Author(s) Zimbabwe National Statistics Agency
 Date 2015-04-14
 Country Zimbabwe
 Language English
 Filename Zimbabwe_2015_DHS_biomarker_questionnaire.pdf

Reports

Zimbabwe 2015 Demographic and Health Survey, Final Report

Title Zimbabwe 2015 Demographic and Health Survey, Final Report
 Author(s) Zimbabwe National Statistics Agency, Harare, Zimbabwe The DHS Program ICF International, Rockville, Maryland, USA
 Date 2016-11-01
 Country Zimbabwe
 Language English
 Description This report presents the detailed findings from the 2015-16 TDHS-MIS at national, zonal (as used by the MoHCDGEC), and where possible, regional levels.

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Filename <http://www.dhsprogram.com/pubs/pdf/FR322/FR322.pdf>

Zimbabwe 2015 Demographic and Health Survey, Key Findings

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 Country Zimbabwe
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/SR234/SR234.pdf>

Fast Facts from The 2015 Zimbabwe Demographic and Health Survey 2015

Title Fast Facts from The 2015 Zimbabwe Demographic and Health Survey 2015
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 Country Zimbabwe
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/DM96/DM96.pdf>

Zimbabwe 2015 Demographic and Health Survey, Fact Sheet

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 Filename <http://www.dhsprogram.com/pubs/pdf/HF58/HF58.pdf>

Other materials

Reading and Understanding Tables from the 2015 Zimbabwe Demographic and Health Survey (ZDHS)

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