

Lesotho - Demographic and Health Survey 2014

Lesotho Ministry of Health (MOH) - Government of Lesotho

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Sampling

Sampling Procedure

Sample Design

The sampling frame used for the 2014 LDHS is an updated frame from the 2006 Lesotho Population and Housing Census (PHC) provided by the Lesotho Bureau of Statistics (BOS). The sampling frame excluded nomadic and institutional populations such as persons in hotels, barracks, and prisons.

The 2014 LDHS followed a two-stage sample design and was intended to allow estimates of key indicators at the national level as well as in urban and rural areas, four ecological zones, and each of Lesotho's 10 districts. The first stage involved selecting sample points (clusters) consisting of enumeration areas (EAs) delineated for the 2006 PHC. A total of 400 clusters were selected, 118 in urban areas and 282 in rural areas.

The second stage involved systematic sampling of households. A household listing operation was undertaken in all of the selected EAs in July 2014, and households to be included in the survey were randomly selected from these lists. About 25 households were selected from each sample point, for a total sample size of 9,942 households. Because of the approximately equal sample sizes in each district, 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.

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

Response Rate

A total of 9,942 households were selected for the sample, of which 9,543 were occupied. Of the occupied households, 9,402 were successfully interviewed, yielding a response rate of 99%. This compares favourably to the 2009 LDHS response rate (98%).

In the interviewed households, 6,818 eligible women were identified for individual interviews; interviews were completed with 6,621 women, yielding a response rate of 97%. In the subsample of households selected for the male survey, 3,133 eligible men were identified and 2,931 were successfully interviewed, yielding a response rate of 94%. The lower response rate for men was likely due to their more frequent and longer absences from the household.

Weighting

Due to the nonproportional allocation of the sample across districts and the differential response rates, sampling weights must be used in all analyses of the 2014 LDHS results to ensure that survey results are representative at both the national and domain level.

Design weights were adjusted for household nonresponse and individual nonresponse to obtain the sampling weights for households and for women and men, respectively. Nonresponse is adjusted at the sampling stratum level. For the household sampling weight, the household design weight is multiplied by the inverse of the household response rate, by stratum. For the women's individual sampling weight, the household sampling weight is multiplied by the inverse of the women's individual response rate, by stratum. For the men's individual sampling weight, the household sampling weight for the male subsample is multiplied by the inverse of the men's individual response rate, by stratum. After adjusting for nonresponse, the sampling weights are normalised to get the final standard weights that appear in the data files. The normalisation process is aimed at obtaining a total number of unweighted cases equal to the total number of weighted cases using normalised weights at the national level, for the total number of households, women, and men. Normalisation is done by multiplying the sampling weight by the estimated total sampling fraction obtained from the survey for the household weight, the individual woman's weight, and the individual man's weight. The normalised weights are relative weights that are valid for estimating means, proportions, ratios, and rates, but they are not valid for estimating population totals or for pooled data. The sampling weights for HIV testing are calculated in a similar way, but the normalization of the HIV weights is different. The individual HIV testing weights are normalized at the national level for women and men together so that HIV prevalence estimates calculated for women and men together are valid.

For further details on sampling weight, see Appendix A.4 of the final report.

Questionnaires

Overview

Three questionnaires were used for the 2014 LDHS: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. These questionnaires, based on The DHS Program's standard Demographic and Health Survey questionnaires, were adapted to reflect the population and health issues relevant to Lesotho. Input was solicited from various stakeholders representing government ministries and agencies, nongovernmental organisations, and international donors. After the preparation of the definitive questionnaires in English, the questionnaires were translated into Sesotho.

Data Collection

Data Collection Dates

Start	End	Cycle
2014-09-22	2014-12-07	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

TRAINING OF FIELD STAFF

The MOH recruited and trained 100 people for the main fieldwork to serve as supervisors, interviewers, secondary editors, and reserve interviewers. The field staff main training took place over four weeks (6-29 August 2014) at the Khotso Lodge in Thaba-Bosiu, Lesotho. The training course consisted of instruction regarding interviewing techniques and field procedures, a detailed review of questionnaire content, instruction on how to administer the paper and electronic questionnaires, instruction in weighing and measuring children and adults, mock interviews between participants in the classroom, practice biomarker collection between participants, and practice interviews with real respondents in areas outside the 2014 sample points. In addition, participants completed limited field practice in blood pressure measurement, anthropometry, anaemia testing, and blood collection for HIV testing.

FIELDWORK

Data collection was carried out by 15 field teams, each consisting of one team supervisor, two or three female interviewers, two or three male interviewers, and one driver. All interviewers on each team also served as biomarker technicians. Electronic data files containing interview results were transferred from each interviewer's PDA to the team supervisor's tablet each day. Six senior staff members from the MOH coordinated and supervised fieldwork activities. Electronic data files were transferred to the central office every few days via the secured Internet File Streaming System (IFSS). Participants in fieldwork monitoring also included two survey technical specialists from The DHS Program.

Data collection took place over a 2.5-month period, from 22 September 2014 through 7 December 2014. The substantial gap between the end of the main training and the start of fieldwork was due to concerns about team safety following political disturbances on 30 August 2014. Immediately prior to the launch, the MOH conducted a two-day refresher training course for interviewers and supervisors at MOH headquarters.

Data Collectors

Name	Abbreviation	Affiliation
Lesotho Ministry of Health (MOH)	MOH	Government of Lesotho

Data Processing

Data Editing

In this survey, instead of using paper questionnaires, interviewers used personal digital assistants (PDAs) to record responses during interviews, and team supervisors managed the data using tablet computers. The PDAs and tablets were equipped with Bluetooth technology to enable remote electronic transfer of files (e.g., transfer of assignment sheets from team supervisors to interviewers and transfer of completed questionnaires from interviewers to supervisors). The computer-assisted personal interviewing (CAPI) data collection system employed in the 2014 LDHS was developed by The DHS Program using the mobile version of CSPro.

The data processing operation included secondary editing, which involved resolution of computer-identified inconsistencies and coding of open-ended questions. The data were processed by one person who took part in the main fieldwork training. Data editing was accomplished using CSPro software. Secondary editing and data processing were initiated in October 2014 and completed in February 2015.

Data Appraisal

Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling 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 2014 Lesotho Demographic and Health Survey (2014 LDHS) to minimize this type of error, nonsampling 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 2014 LDHS 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% 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 2014 LDHS 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 programs developed by ICF International. These programs use the Taylor linearisation method to estimate variances 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 linearisation 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 estimate of sampling error is 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
- Sibship size and sex ratio of siblings

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

Related Materials

Questionnaires

2014 Lesotho Demographic and Health Survey, Household Questionnaire

Title 2014 Lesotho Demographic and Health Survey, Household Questionnaire
 Author(s) Lesotho Ministry of Health
 Date 2014-09-01
 Country Lesotho
 Language English
 Filename Lesotho_2014_DHS_hh_questionnaire.pdf

2014 Lesotho Demographic and Health Survey, Biomarker Data Collection Form

Title 2014 Lesotho Demographic and Health Survey, Biomarker Data Collection Form
 Author(s) Lesotho Ministry of Health
 Date 2014-09-01
 Country Lesotho
 Language English
 Filename Lesotho_2014_DHS_biomarker_questionnaire.pdf

2014 Lesotho Demographic and Health Survey, Woman's Questionnaire

Title 2014 Lesotho Demographic and Health Survey, Woman's Questionnaire
 Author(s) Lesotho Ministry of Health
 Date 2014-09-01
 Country Lesotho
 Language English
 Filename Lesotho_2014_DHS_woman_questionnaire.pdf

2014 Lesotho Demographic and Health Survey, man's Questionnaire

Title 2014 Lesotho Demographic and Health Survey, man's Questionnaire
 Author(s) Lesotho Ministry of Health
 Date 2014-09-01
 Country Lesotho
 Language English
 Filename Lesotho_2014_DHS_man_questionnaire.pdf

Reports

Lesotho 2014 Demographic and Health Survey, Report

Title	Lesotho 2014 Demographic and Health Survey, Report
Author(s)	Ministry of Health, Maseru, Lesotho The DHS Program, ICF International, Rockville, Maryland, USA
Date	2016-05-01
Country	Lesotho
Language	English

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Filename <http://www.dhsprogram.com/pubs/pdf/FR309/FR309.pdf>

Lesotho 2014 Demographic and Health Survey, Key Findings

Title Lesotho 2014 Demographic and Health Survey, Key Findings
 Author(s) The DHS Program
 Date 2016-05-01
 Country Lesotho
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/SR230/SR230.pdf>

Fast Facts from The 2014 Lesotho Demographic and Health Survey

Title Fast Facts from The 2014 Lesotho Demographic and Health Survey
 Author(s) The DHS Program
 Date 2016-05-01
 Country Lesotho
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/DM84/DM84.pdf>

HIV Prevalence in Lesotho

Title HIV Prevalence in Lesotho
 Author(s) The DHS Program
 Date 2016-05-01
 Country Lesotho
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/DM85/DM85.pdf>

Results from the 2014 Lesotho Demographic and Health Survey, Fact Sheet

Title Results from the 2014 Lesotho Demographic and Health Survey, Fact Sheet
 Author(s) The DHS Program
 Date 2016-05-01
 Country Lesotho
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/HF57/HF57.pdf>

Other materials

Survey Presentations

Title Survey Presentations
 Author(s) The DHS Program
 Date 2016-05-01
 Country Lesotho
 Language English
 Filename <http://www.dhsprogram.com/pubs/pdf/PPT47/PPT47.zip>

Standard Recode Manual for DHS 6

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Author(s) MEASURE DHS

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Language English

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Standard Recode Map DHS-VI - Data Dictionary

Title Standard Recode Map DHS-VI - Data Dictionary

Author(s) MEASURE DHS

Date 2012-01-26

Language English

Filename http://www.dhsprogram.com/pubs/pdf/DHSG4/Recode6_Map_22March2013_DHSG4.pdf
