Malawi Demographic and Health Survey 2010

Preliminary Report

National Statistical Office
Zomba, Malawi

MEASURE DHS, ICF Macro
Calverton, Maryland, USA

The 2010 Malawi Demographic and Health Survey (2010 MDHS) was implemented by the National Statistical Office (NSO) and the Community Health Sciences Unit (CHSU) from June through November 2010. The Funding for the MDHS was provided by the Government of Malawi, National AIDS Commission (NAC), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the United Kingdom Department for International Development (DFID), the Centres for Disease Control and Prevention (CDC), and the United States Agency for International Development (USAID). ICF Macro provided technical assistance as well as funding to the project through the MEASURE DHS programme, a USAID-funded project providing support and technical assistance in the implementation of population and health surveys in countries worldwide.

Additional information about the 2010 MDHS may be obtained from the Demography and Social Statistics Division (DDS), National Statistical Office, Chimbiya Road, P.O. Box 333, Zomba, Malawi; Telephone: 265-1-524-377, 265-1-524-111; Fax: 265-1-525-130; Email: demography@statistics.gov.mw; Internet: www.nso.malawi.net.

Information about the MEASURE DHS programme may be obtained from ICF Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA; Telephone: 301-572-0200, Fax: 301-572-0999, E-mail: reports@measuredhs.com, Internet: http://www.measuredhs.com.

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FOREWORD

Malawi has taken part in four rounds of the MEASURE DHS surveys. The latest is the 2010 Malawi Demographic and Health Survey (MDHS), which was successfully completed in November 2010. As a key source of demographic and social data, the MDHS provides the country with important information to foster national development.

The 2010 MDHS will serve to update and guide the Malawi Growth and Development Strategy (MGDS). The MGDS is the overarching development strategy for the country. The Government of Malawi is fully cognisant of the need for quality statistics in policy formulation, decision-making, and targeting of resources, and in the monitoring and evaluation of the MGDS.

I would like to acknowledge the continued support received from development partners and individuals during the survey period. Specifically, I wish to thank the United Nations Children's Fund (UNICEF), the Malawi National AIDS Commission (NAC), the United Nations Population Fund (UNFPA), the United Kingdom Department for International Development (DFID), the Centres for Disease Control and Prevention (CDC), the United States Agency for International Development (USAID), and ICF Macro. I also wish to register my appreciation to government ministries and departments for their cooperation and support during the survey process.

Finally, I would like to thank staff from the National Statistical Office and ICF Macro for their professionalism and dedication in the preparation of this preliminary report.

Abbie Marambika Shawa, MP

Minister of Development Planning and Cooperation

PREFACE

The 2010 Malawi Demographic and Health Survey (MDHS) is a large, nationally representative sample survey conducted by the National Statistical Office (NSO). The 2010 MDHS covered a total of 27,000 households, involving 24,000 female and 7,000 male respondents.

The primary objective of the 2010 MDHS is to provide up-to-date information for policymakers, planners, researchers, and programme managers on fertility levels, nuptiality, fertility preferences, knowledge and use of family planning methods, breastfeeding practices, nutritional status of mothers and children, childhood illnesses and mortality, use of maternal and child health services, malaria, maternal mortality, and HIV and AIDS-related knowledge and behaviour. The survey also provides the anaemia status of women age 15-49 and children age 6-59 months. There have been four rounds of the MDHS conducted – in 1992, 2000, 2004, and 2010.

This preliminary report presents tables showing the status and trends for a selected number of indicators – current fertility, current use of contraception, vaccinations, nutritional status of children, and knowledge of HIV and AIDS among others.

The 2010 MDHS preliminary results indicate evidence of a decline in current fertility, an increase in use of modern methods of contraception, and an improvement in child nutritional status.

I wish to acknowledge the dedication and professionalism of all team members and others who worked tirelessly to produce this report. My gratitude also goes to the survey respondents who generously gave their time to provide the required information.

Charles Machinjili

Commissioner of Statistics

ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Infections
CDC	Centres for Disease Control and Prevention
CHSU	Community Health Sciences Unit
CHTTS	CSPro HIV Test Tracking System
CPR	Contraceptive Prevalence Rate
DFID	Department for International Development
HIV	Human Immunodeficiency Virus
IPT	Intermittent Preventive Treatment
ITN	Insecticide-Treated Net
IUD	Intrauterine device
IYCF	Infant and Young Child Feeding
MDG	Millennium Development Goal
MDHS	Malawi Demographic and Health Survey
MGDS	Malawi Growth and Development Strategy
NAC	National AIDS Commission
NCHS	National Centre for Health Statistics
NSO	National Statistical Office
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PAHO	Pan American Health Organization
SP	Sulfadoxine-pyrimethamine
TFR	Total Fertility Rate
UNAIDS	Joint United Nations Programmes on HIV and AIDS
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

I. INTRODUCTION

The 2010 Malawi Demographic and Health Survey (2010 MDHS) was implemented by the National Statistical Office from June through November 2010 with a nationally representative sample of more than 27,000 households. All women age 15-49 in these households and all men age 15-54 in a subsample of one-third of the households were individually interviewed.

Although the 2010 MDHS is significantly expanded in content, the survey is a follow-up to the 1992, 2000, and 2004 MDHS surveys and provides updated estimates of basic demographic and health indicators covered in these earlier surveys. Similar to the previous surveys, the 2010 MDHS includes information on violence against women and HIV testing among women age 15-49 and men age 15-54. Although previous surveys collected data at the national, regional, and select district levels, the 2010 MDHS is the first MDHS survey to collect data on basic demographic and health indicators at the district level.

This preliminary report presents a first look at selected results of the 2010 MDHS. A comprehensive analysis of the data will appear in a final report to be published later in 2011. Although the results presented here are considered provisional, they are not expected to differ significantly from those presented in the final report.

The primary objectives of the 2010 MDHS project are to provide up-to-date information on fertility levels; nuptiality; sexual activity; fertility preferences; awareness and use of family planning methods; breastfeeding practices; nutritional status of mothers and young children; early childhood mortality and maternal mortality; maternal and child health; malaria; awareness and behaviour regarding HIV/AIDS and other sexually transmitted infections; and HIV prevalence.

II. SURVEY IMPLEMENTATION

A. Sample Design

The sample for the 2010 MDHS was designed to provide population and health indicator estimates at the national, regional, and district levels. The sample design allowed for specific indicators, such as contraceptive use, to be calculated for each of the 3 regions and 27 districts (Nkhata Bay and Likoma are combined). The sampling frame used for the 2010 MDHS was the 2008 Malawi Population and Housing Census (PHC), which was provided by the National Statistical Office.

Administratively, Malawi is divided into 28 districts. Each district is subdivided into smaller administrative units. During the 2008 PHC, which was designed and carried out by the National Statistical Office, each of the districts was subdivided into enumeration areas (EAs), also referred to as clusters, where each EA as a whole was classified as urban or rural. The 2010 MDHS sample was selected using a stratified, two-stage cluster design, and EAs were the sampling units for the first stage. The 2010 MDHS sample included 849 clusters, 158 in urban areas and 691 in rural areas[1].

The 849 clusters were not allocated among the districts in proportion to their contribution to the national population because this would have left smaller districts and regions with too few clusters to represent them. For example, districts in the North region were oversampled to take into account its smaller population size. In most districts in Malawi, more than 90 percent of the population resides in rural areas, so urban areas were also oversampled.

Households comprised the second stage of sampling. A minimum sample size of 950 households was required per district to provide an acceptable level of precision for the indicators measured in the survey. A representative sample of 27,345 households was selected for the 2010 MDHS survey.

A subsample of one-third of the households was selected to conduct HIV testing for women age 15-49 and men age 15-54. In the same subsample of households, anaemia testing was conducted for children age 6-59 months and women age 15-49 years, and anthropometric measures were taken for children age 0-5 years and women age 15-49. Additionally, domestic violence questions were asked of one woman per household in the same subsample of households.

B. Questionnaires

Three questionnaires were used for the 2010 MDHS: the Household Questionnaire, the Women's Questionnaire, and the Men's Questionnaire. These questionnaires were adapted to reflect the population and health issues relevant to Malawi. Issues were identified at a series of meetings with various stakeholders from government ministries and agencies, nongovernmental organizations, and international donors. In addition to English, the questionnaires were translated into two major languages, Chichewa and Tumbuka.

The Household Questionnaire was used to list all the usual members and visitors of selected households. Some basic information was collected on the characteristics of each person listed, 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. If a child in the household had a parent who was sick for more than three consecutive months in the 12 months preceding the survey or had a parent who had died during the 12 months preceding the survey, additional questions relating to support for orphans and vulnerable children were asked. Further, if an adult in the household was sick

[1] The final survey sample included all of the selected 849 clusters. However, during fieldwork some of these clusters were found to be dramatically smaller than they were at the time of listing. The sample size did not reach the expected number of households for eight clusters, despite selecting every household in these clusters, resulting in a net decrease of 38 households between the sample design and fieldwork.

for more than three consecutive months in the 12 months preceding the survey or an adult in the household had died in the past 12 months, questions were asked relating to support for sick people or those who have died. The data on the 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. Additionally, the Household Questionnaire 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 (to assess the coverage of malaria prevention programmes). The Household Questionnaire was also used to record height and weight measurements for children age 0-59 months and women age 15-49 years.

The Women's Questionnaire was used to collect information from all women age 15-49. These women were asked questions on the following main topics:

- Background characteristics (education, residential history, media exposure, etc.)
- Birth history and childhood mortality
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Women's work and husband's background characteristics
- Women's and children's nutritional status
- Malaria prevention and treatment
- Awareness and behaviour regarding AIDS and other sexually transmitted infections (STIs)
- Adult mortality, including maternal mortality
- Domestic violence

The Men's Questionnaire was administered to all men age 15-54 in every third household in the 2010 MDHS sample. The Men's Questionnaire collected much of the same information found in the Women's Questionnaire but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health or nutrition.

C. HIV and Anaemia Testing

In a subsample of one-third of all households, blood specimens were collected for anaemia testing from children age 6-59 months and women age 15-49 years who voluntarily consented to the testing. Additionally, in every third household, blood specimens were collected for HIV testing from all women age 15-49 and men age 15-54 who consented to the test. The protocol for the blood specimen collection and testing for HIV was reviewed and approved by the Malawi Health Sciences Research Committee, the Institutional Review Board of ICF Macro, and the Centres for Disease Control and Prevention (CDC) in Atlanta.

Women and men who were interviewed in the 2010 MDHS were asked to voluntarily provide five drops of blood for HIV testing. The protocol for the blood specimen collection and analysis was based on the anonymous linked protocol developed for MEASURE DHS. This protocol allows for the merging of the HIV test results with the sociodemographic data collected in the individual questionnaires, provided that information that could potentially identify an individual is destroyed before the linking takes place.

Interviewers explained the procedure, the confidentiality of the data, and the fact that the test results would not be made available to the respondent. They also explained the option of dried blood spot (DBS) storage for use in additional testing. If a respondent consented to the HIV testing, five blood

spots from the finger prick were collected on a filter paper card to which a bar code label unique to the respondent was affixed. If the respondent did not consent to additional testing using their sample, it was indicated on the questionnaire that the respondent refused additional tests using their specimen, and the words 'no further testing' were written on the filter paper card. Each household, whether individuals consented to HIV testing or not, was given an information brochure on HIV/AIDS and a list of fixed sites providing voluntary counselling and testing (VCT) services in surrounding districts within the region.

Each DBS sample was given a bar code label, with a duplicate label attached to the Individual Questionnaire. A third copy of the same bar code was affixed to the Blood Sample Transmittal Form to track the blood samples from the field to the laboratory. DBS samples were dried overnight and packaged for storage the following morning. Samples were periodically collected in the field, along with the completed questionnaires, and transported to NSO in Zomba to be logged in, checked, and then transported to the Community Health Sciences Unit (CHSU) in Lilongwe.

Upon arrival at CHSU, each DBS sample was logged into the CSPro HIV Test Tracking System (CHTTS) database, given a laboratory number, and stored at -20˚C until tested. According to the HIV testing protocol, testing on all samples can only be conducted after all of the questionnaire data entry are completed, verified, and cleaned, and all unique identifiers are removed from the questionnaire file except the barcode number. When the 2010 MDHS Preliminary Report was printed in February 2011, HIV testing was ongoing. The testing protocol is to test all samples on the first assay test, an ELISA, Vironostika® HIV Uni-Form II Plus O, Biomerieux. A negative result is considered negative. All positives are subjected to a second ELISA test by Enzygnost® Anti-HIV 1/2 Plus, Dade Behring. Positive samples on the second test are considered positive. If the first and second tests are discordant, the sample is retested with tests 1 and 2. If on repeat of tests 1 and 2, both are negative, the sample will be rendered negative. If both are positive, the sample will be rendered positive. If there is still a discrepancy in the results after repeating tests 1 and 2, a third confirmatory test, Western Blot 2.2, Abbott Labs, will be administered. The final result will be rendered positive if the Western Blot (WB) confirms the result to be positive and rendered negative if the WB confirms it to be negative. If the Western Blot results are indeterminate, the sample will be rendered indeterminate.

Upon finalizing HIV testing, the HIV test results for the 2010 MDHS will be entered into a spreadsheet with a barcode as the unique identifier to the result. Data from the HIV results and linked demographic and health data will be published in the 2010 MDHS Final Report.

D. Pretest Activities

The training for the pretest took place from January through February 2010. Twelve interviewers (6 females and 6 males) and 5 supervisors were trained to administer the questionnaires. Two laboratory scientists from CHSU and the ICF Macro biomarker specialist trained interviewers to take anthropometric measurements and collect blood for anaemia and HIV testing. The pretest training for the interviewers and supervisors consisted of a project overview and review of survey objectives, techniques of interviewing, field procedures, and all sections of the household and individual questionnaires. Blood specimen collection procedures were demonstrated and practiced, and two days of field practice were held. The trainers/resource persons included professionals from NSO and ICF Macro.

The pretest fieldwork was conducted in the North, Central, and South regions of Malawi by three teams. The teams were divided according to languages spoken by team members. There was one Tumbuka team in the North and two Chichewa teams, one each in the Central and South regions. The supervisors and editors were drawn from the NSO core technical team. The teams covered 12 enumeration areas, half in urban areas and half in rural areas. At the end of fieldwork a debriefing session was held at NSO among all staff involved in the pretest, and the questionnaires were amended based on the pretest findings.

E. Training of Field Staff

NSO recruited and trained 318 people for the fieldwork to serve as supervisors, field editors, female and male interviewers, reserve interviewers, and quality control interviewers. Training of field staff for the main survey was conducted during a four-week period in May-June 2010. The training course consisted of instruction regarding interviewing techniques and field procedures, a detailed review of items on the questionnaires, instruction and practice in weighing and measuring children, mock interviews between participants in the classroom, and practice interviews with real respondents in areas outside the 2010 MDHS sample points. During this period, field editors, team supervisors, and quality control interviewers were provided with additional training in methods of field editing, data quality control procedures, and fieldwork coordination. Thirty-seven supervisors, 37 editors, 148 female interviewers and 74 male interviewers were selected to make up 37 data collection teams for the 2010 MDHS. Six people were selected to be quality control interviewers.

F. Fieldwork

Thirty-seven interviewing teams carried out data collection for the 2010 MDHS. Each team consisted of one supervisor (team leader), one field editor, four female interviewers, two male interviewers, and one driver. Six senior staff members from NSO, one ICF Macro resident advisor, and one ICF Macro consultant coordinated and supervised fieldwork activities. Data collection took place over a six-month period, from June through November 2010.

G. Data Processing

All questionnaires for the 2010 MDHS were returned to the NSO headquarters office in Zomba 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 38 data entry operators, 6 office editors, and 3 data entry supervisors. Data entry and editing were accomplished using the CSPro software. The processing of data was initiated in June 2010 and completed in December 2010.

III. RESULTS

A. Response Rates

The household and individual response rates for the 2010 MDHS are shown in Table 1. For the sample, a total of 27,307 households were selected, and of these, 25,311 were occupied. Of the 25,311 households found, 24,825 were successfully interviewed, yielding a response rate of 98 percent.

In the interviewed households, a total of 23,748 women were identified to be eligible for the individual interview, and 97 percent of them were successfully interviewed. For men, 7,783 were identified as eligible, and 92 percent of them were successfully interviewed.

Higher response rates were recorded for eligible men in the 2010 MDHS than in the 2004 MDHS (92 percent versus 86 percent).

Table 1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence, Malawi 2010

Result	Residence		Total
	Urban	Rural	
Household interviews			
Households selected	3,157	24,150	27,307
Households occupied	2,965	22,346	25,311
Households interviewed	2,909	21,916	24,825
Household response rate	98.1	98.1	98.1
Individual interviews: women			
Number of eligible women	3,179	20,569	23,748
Number of eligible women interviewed	3,068	19,952	23,020
Eligible women response rate	96.5	97.0	96.9
Individual interviews: men			
Number of eligible men	1,130	6,653	7,783
Number of eligible men interviewed	1,014	6,161	7,175
Eligible men response rate	89.7	92.6	92.2

B. Characteristics of the Respondents

Table 2 shows the distribution of women age 15-49 and men age 15-54, by background characteristics. The table shows declining proportions of women and men with advancing age, indicating that Malawi's age structure is broad based, i.e., a young age structure. A similar trend was observed in the 2004 MDHS.

Women who are in union (i.e., currently married or living with a man) constitute two-thirds of all interviewed women (67 percent), and more than half of men are currently in union (59 percent). The proportion of men who have never been married is almost double that of women who have never been married, 38 percent compared with 20 percent.

Table 2 also shows that the majority of women (81 percent) and men (79 percent) live in rural areas. By region, the majority of women and men live in the Central and South areas, while 12 percent of women and 11 percent of men live in the North. Table 2 also shows the population by district. Note that Nkhata Bay and Likoma districts have been combined into one district throughout the report tables.

Although the majority of respondents have had some education, the level of educational attainment varies by sex (85 percent of women and 93 percent of men have education). Although the attainment of primary education ranks highest among levels for both sexes, more men than women have a secondary education or higher (30 percent versus 20 percent, respectively). Fifteen percent of women and 7 percent of men are uneducated.

The distribution of respondents by religion shows that more than half of all respondents are Christians (86 percent of women and 84 percent of men), while 13 percent of women and 12 percent of men are Muslims. Less than 1 percent of women and 3 percent of men reported no religious affiliation. The Chewa is the largest ethnic group, making up one-third of female and male respondents, followed by the Lomwe (16 percent of women and 18 percent of men), and the Yao and Ngoni (13 percent of women and men for both ethnic groups).

Table 2 Background characteristics of respondents

Percent distribution of women and men by background characteristics, Malawi 2010

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	21.7	5,005	5,040	24.4	1,748	1,757
20-24	19.8	4,555	4,392	17.3	1,239	1,217
25-29	19.1	4,400	4,313	15.3	1,099	1,064
30-34	14.1	3,250	3,290	13.2	948	942
35-39	11.0	2,522	2,575	11.1	798	777
40-44	7.5	1,730	1,777	7.4	529	552
45-49	6.8	1,558	1,633	6.4	458	496
50-54	na	na	na	5.0	357	370
Marital status						
Never married	19.7	4,538	4,526	37.5	2,691	2,708
Married	58.7	13,520	13,493	49.4	3,545	3,597
Living together	8.7	2,008	1,952	9.4	673	615
Divorced/separated	9.3	2,135	2,189	3.3	235	226
Widowed	3.6	819	860	0.4	31	29
Residence						
Urban	18.7	4,302	3,068	20.9	1,497	1,014
Rural	81.3	18,718	19,952	79.1	5,678	6,161
Region						
North	11.6	2,677	4,189	11.0	788	1,293
Central	42.8	9,857	7,862	45.2	3,242	2,604
South	45.5	10,485	10,969	43.8	3,145	3,278
District						
Balaka	2.6	601	846	2.1	149	225
Blantyre	8.8	2,036	1,143	9.8	701	390
Chikhwawa	4.0	910	822	3.8	276	261
Chiradzulu	2.1	493	821	2.1	151	249
Chitipa	1.2	270	778	1.2	83	242
Dedza	6.2	1,438	866	5.4	384	230
Dowa	4.6	1,060	813	5.3	377	299
Karonga	1.9	444	788	1.9	140	254
Kasungu	5.3	1,213	908	6.4	456	348
Lilongwe	12.4	2,844	1,126	13.3	951	359
Machinga	3.1	708	776	2.8	200	227
Mangochi	6.3	1,442	801	5.7	410	220
Mchinji	3.5	813	830	3.7	265	282
Mulanje	3.7	861	864	3.5	251	256
Mwanza	0.6	140	795	0.5	38	224
Mzimba	5.8	1,336	952	5.0	361	260
Neno	0.6	132	735	0.5	38	228
Nkhata Bay and Likoma	1.4	331	820	1.6	111	276
Nkhotakota	2.4	544	817	2.6	187	285
Nsanje	1.8	423	818	1.6	117	238
Ntcheu	4.2	960	894	4.0	285	268
Ntchisi	1.5	353	819	1.6	118	285
Phalombe	2.0	459	802	2.0	142	245
Rumphi	1.3	296	851	1.3	94	261
Salima	2.8	634	789	3.0	218	248
Thyolo	4.5	1,038	863	4.0	288	246
Zomba	5.4	1,243	883	5.3	383	269
Education						
No education	15.2	3,505	3,390	6.6	477	448
Primary	64.8	14,916	15,339	63.1	4,527	4,629
Secondary	18.1	4,177	3,970	27.0	1,941	1,894
More than secondary	1.8	422	321	3.2	231	204
Religion						
Catholic	20.6	4,754	4,670	22.3	1,602	1,551
CCAP	16.6	3,823	3,684	16.7	1,199	1,159
Anglican	2.3	541	718	2.4	172	229
Seventh Day Advent/Baptist	6.7	1,541	1,653	7.1	508	521
Other Christian	39.5	9,087	9,559	35.2	2,522	2,716
Muslim	13.0	2,993	2,530	12.1	872	730
No religion	0.8	173	137	2.7	195	190
Other	0.4	95	55	1.5	104	78

Continued

Table 2—*Continued*

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Ethnic group						
Chewa	34.1	7,855	6,780	33.3	2,392	2,096
Tumbuka	9.2	2,109	2,497	8.5	611	723
Lomwe	16.3	3,743	3,731	17.9	1,287	1,273
Tonga	1.9	434	751	1.8	131	250
Yao	13.1	3,005	2,424	13.1	941	754
Sena	4.6	1,061	1,288	4.3	311	398
Nkhonde	1.0	238	377	1.0	72	123
Ngoni	12.9	2,969	3,145	12.8	920	930
Mang'anja	3.1	708	707	2.9	206	202
Nyanja	1.3	307	312	1.6	113	91
Other	2.6	591	1,008	2.6	190	335
Total	100.0	23,020	23,020	100.0	7,175	7,175

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
na = Not applicable

C. Fertility

To generate data on fertility, the birth history of each woman interviewed was recorded for the 2010 MDHS. All women who were interviewed were asked to report the total number of sons and daughters to whom they had ever given birth in their lifetime. To ensure all information was reported, women were asked separately about children still living at home, those living elsewhere, and those who had died. A complete birth history was then obtained, including information on sex, date of birth, and survival status of each child; age at death for dead children was recorded.

Table 3 shows age-specific fertility rates for women by five-year age groups; it also shows the current fertility for the three-year period preceding the 2010 MDHS. Age-specific and total fertility rates were calculated directly from the birth history data. The sum of age-specific fertility rates (known as the total fertility rate, or TFR) is a summary measure of the level of fertility. It can be interpreted as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the current observed age-specific rates. If fertility were to remain constant at current levels, a Malawian woman would bear an average of 5.7 children in her lifetime. The phenomenon of rural-urban variation in fertility also holds true, as the table indicates that rural women will give birth to two more children during their reproductive years than urban women (6.1 and 4.0, respectively).

Table 3 Current fertility

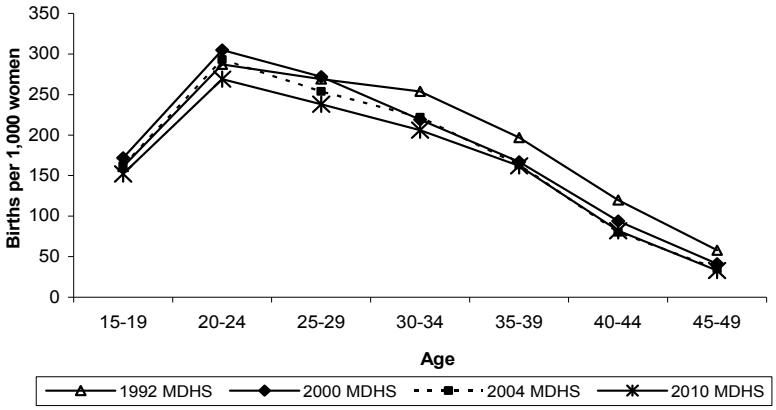
Age-specific and cumulative fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by urban-rural residence, Malawi 2010

Age group	Residence		Total
	Urban	Rural	
15-19	109	162	152
20-24	206	285	269
25-29	200	248	238
30-34	133	222	206
35-39	125	169	162
40-44	32	91	82
45-49	3	38	33
TFR	4.0	6.1	5.7
GFR	154	213	202
CBR	36.0	39.8	39.2

Note: Rates for age group 45-49 may be slightly biased due to truncation.
TFR: Total fertility rate for ages 15-49, expressed per woman
GFR: General fertility rate (births divided by the number of women age 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

The 2010 MDHS TFR estimate continues the consistent, yet gradual, decline in TFR observed in the 1992 MDHS (6.7), 2000 MDHS (6.3), and the 2004 MDHS (6.0). Age-specific fertility rates between 1992 and 2010 are shown in Figure 1. Over the past 18 years, data from the four surveys show that fertility rates peak among women in Malawi at age 20-24 and decline with age.

Figure 1 Age-Specific Fertility Rates, Malawi 1992 - 2010



D. Family Planning

Family planning refers to a conscious effort by a couple to limit or space the number of children they want to have through the use of contraceptive methods. Information on knowledge and use of family planning methods was obtained from female respondents by asking them to mention any ways or methods by which a couple could delay or avoid pregnancy. For each method known, the respondent was asked if she had ever used it. Respondents who reported ever use of family planning were asked whether they or their partners were using a method at the time of the survey.

Contraceptive methods are classified as modern or traditional methods. Modern methods include female sterilisation, male sterilisation, pills, the intrauterine device (IUD), injectables, implants, the male condom, and the female condom). Methods such as rhythm (periodic abstinence), withdrawal, and folk methods are grouped as traditional.

Table 4 reveals that the contraceptive prevalence rate (CPR) is 46 percent among currently married women using any method of contraception, an increase from 33 percent in the 2004 MDHS. Among women using contraception, 42 percent use a modern method of contraception and 4 percent use traditional methods. With respect to specific modern methods, injectables (26 percent), female sterilisation (10 percent), pills (3 percent), and male condoms (2 percent) are the most widely used methods. The CPR increases with age, rising from 29 percent for the 15-19 age group, peaking at 54 percent for the 35-39 age group, and thereafter declining.

Table 4 further shows that family planning use is affected by place of residence, age, district, education, and the number of living children a woman has. Urban women are more likely than their rural counterparts to use a contraceptive method (54 percent compared with 45 percent, respectively). With respect to regions, CPR for any method is highest in the Central region (48 percent), with the North in the middle at 47 percent and the South at 44 percent. The pattern of usage shifts among regions when observing CPR for modern methods. Forty-five percent of women in the Central region use modern contraceptives, while 41 percent of women in the South and 39 percent of women in the North use modern contraceptives. Women in the North are more than twice as likely as women in the Central and South regions to use a traditional method of contraception (8 percent in the North and 3 percent in the Central and South regions). By district, contraceptive use is lowest in Mangochi (29 percent) and highest in Karonga (58 percent). Among modern methods, use is highest among women in Mwanza (52 percent) and lowest among women in Mangochi (27 percent). Karonga and Chitipa represent the highest proportions of women using traditional methods (13 percent each).

Table 4 Current use of contraception

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Malawi 2010

Background characteristic	Any method	Any modern method	Modern method								Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom		Periodic abstinence	Withdrawal	Folk method			
Age																	
15-19	28.8	26.4	0.0	0.0	1.6	0.0	21.4	0.4	2.8	0.2	2.4	0.0	2.0	0.4	71.2	100.0	1,171
20-24	41.8	38.0	0.6	0.0	1.8	0.2	31.8	1.0	2.6	0.1	3.8	1.0	1.9	0.9	58.2	100.0	3,469
25-29	47.8	45.0	2.8	0.0	3.2	0.4	33.7	2.1	2.7	0.1	2.8	0.6	1.7	0.4	52.2	100.0	3,718
30-34	50.4	46.0	10.0	0.1	3.8	0.4	27.0	2.2	2.6	0.1	4.3	0.9	1.9	1.5	49.6	100.0	2,636
35-39	53.5	49.1	19.7	0.3	3.3	0.2	22.0	1.2	2.1	0.2	4.4	0.8	2.3	1.3	46.5	100.0	2,040
40-44	50.4	45.0	28.5	0.0	1.5	0.0	12.8	0.4	1.7	0.1	5.4	1.4	1.1	2.9	49.6	100.0	1,339
45-49	43.4	38.2	29.1	0.0	0.6	0.3	6.4	0.1	1.5	0.2	5.2	0.9	1.4	3.0	56.6	100.0	1,155
Residence																	
Urban	53.7	49.6	12.4	0.0	3.9	0.4	27.2	2.3	3.3	0.0	4.1	1.7	1.8	0.6	46.3	100.0	2,686
Rural	44.5	40.7	9.1	0.1	2.2	0.2	25.5	1.1	2.2	0.1	3.8	0.6	1.8	1.4	55.5	100.0	12,841
Region																	
North	47.1	39.0	10.4	0.1	3.2	0.1	16.6	1.9	6.7	0.0	8.1	0.5	6.5	1.1	52.9	100.0	1,871
Central	48.0	44.6	12.0	0.1	2.4	0.2	26.7	1.4	1.6	0.1	3.4	0.8	1.5	1.0	52.0	100.0	6,678
South	44.0	40.8	7.3	0.0	2.5	0.3	27.5	1.1	2.0	0.1	3.2	0.9	0.8	1.5	56.0	100.0	6,979
District																	
Balaka	43.4	39.2	7.4	0.0	1.9	0.0	27.2	1.3	1.4	0.0	4.2	1.9	1.2	1.1	56.6	100.0	374
Blantyre	52.7	48.7	9.9	0.0	3.0	0.9	30.7	1.2	3.0	0.0	4.0	2.2	1.2	0.6	47.3	100.0	1,275
Chikhwawa	44.7	42.4	4.7	0.0	3.6	1.2	29.9	2.0	0.5	0.5	2.3	0.6	0.3	1.4	55.3	100.0	642
Chiradzulu	48.9	46.3	7.8	0.0	1.8	0.0	32.6	0.6	3.3	0.2	2.6	0.5	0.4	1.7	51.1	100.0	303
Chitipa	55.5	42.9	9.0	0.0	3.2	0.2	18.7	0.7	11.1	0.0	12.6	0.4	11.8	0.4	44.5	100.0	184
Dedza	45.5	42.5	12.3	0.2	4.8	0.3	22.8	0.9	1.2	0.1	3.0	0.7	1.0	1.3	54.5	100.0	923
Dowa	49.0	46.5	11.3	0.3	1.1	0.8	30.4	2.0	0.6	0.0	2.5	1.7	0.4	0.4	51.0	100.0	719
Karonga	58.4	45.4	12.1	0.0	1.3	0.0	19.9	3.2	8.8	0.0	13.0	0.8	11.2	1.0	41.6	100.0	297
Kasungu	51.8	44.2	8.3	0.2	2.3	0.5	28.7	1.5	2.6	0.0	7.6	0.7	5.2	1.6	48.2	100.0	867
Lilongwe	54.0	51.0	15.4	0.0	2.8	0.0	29.3	0.8	2.3	0.3	3.0	0.8	1.2	1.0	46.0	100.0	1,927
Machinga	37.1	31.1	6.4	0.0	0.4	0.3	22.4	0.6	1.0	0.0	6.0	1.0	1.7	3.3	62.9	100.0	499
Mangochi	29.3	26.6	3.7	0.0	1.8	0.0	18.8	0.7	1.5	0.2	2.7	0.3	1.4	1.0	70.7	100.0	1,053
Mchinji	46.8	43.5	11.4	0.0	1.5	0.1	26.9	2.0	1.3	0.2	3.3	0.9	1.9	0.4	53.2	100.0	553
Mulanje	47.6	45.3	10.6	0.0	1.9	0.0	30.5	0.5	1.9	0.0	2.2	0.1	0.5	1.6	52.4	100.0	561

Continued

Table 4—*Continued*

Background characteristic	Any method	Any modern method	Modern method								Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom		Periodic abstinence	Withdrawal	Folk method			
District (continued)																	
Mwanza	54.2	52.1	10.4	0.1	4.0	0.2	30.7	5.5	1.1	0.0	2.2	0.4	0.7	1.1	45.8	100.0	89
Mzimba	40.7	34.3	8.8	0.1	3.9	0.1	14.6	1.6	5.2	0.0	6.4	0.4	4.8	1.2	59.3	100.0	976
Nkhata Bay and Likoma	44.1	37.9	12.2	0.0	3.5	0.0	15.0	1.3	5.9	0.0	6.2	0.9	3.9	1.4	55.9	100.0	213
Nkhotakota	40.2	37.7	11.3	0.0	1.0	0.0	21.5	2.8	0.9	0.3	2.4	0.4	0.4	1.6	59.8	100.0	394
Nsanje	39.6	37.6	5.1	0.0	3.1	0.4	26.3	1.5	1.2	0.0	2.0	0.6	0.0	1.4	60.4	100.0	284
Ntcheu	43.8	41.6	12.9	0.0	1.2	0.1	23.9	2.4	1.0	0.0	2.3	0.6	0.8	0.9	56.2	100.0	607
Ntchisi	42.4	40.1	9.1	0.0	1.8	0.2	26.0	1.5	1.1	0.5	2.3	0.3	0.9	1.0	57.6	100.0	249
Phalombe	44.4	41.7	4.0	0.0	4.0	0.1	30.5	0.5	2.4	0.0	2.7	0.5	0.2	2.1	55.6	100.0	323
Rumphi	57.4	50.0	14.9	0.2	2.5	0.0	21.4	3.0	7.7	0.3	7.4	0.4	6.0	1.0	42.6	100.0	200
Salima	35.4	33.5	6.9	0.3	2.5	0.1	22.0	0.5	1.3	0.0	1.9	1.0	0.8	0.2	64.6	100.0	438
Thyolo	50.2	47.7	7.8	0.2	2.7	0.0	32.8	0.8	3.5	0.0	2.5	0.2	0.5	1.8	49.8	100.0	697
Zomba	43.9	40.1	8.4	0.0	2.8	0.0	25.8	1.1	1.8	0.2	3.9	0.9	0.8	2.2	56.1	100.0	793
Education																	
No education	40.3	37.1	13.5	0.0	2.1	0.2	19.8	0.4	1.1	0.0	3.1	0.5	1.1	1.5	59.7	100.0	2,826
Primary	46.0	42.1	9.4	0.1	2.2	0.2	26.5	1.2	2.4	0.1	3.9	0.6	2.0	1.3	54.0	100.0	10,231
Secondary	52.8	48.4	5.8	0.0	4.3	0.5	31.4	3.1	3.5	0.0	4.4	1.7	2.2	0.5	47.2	100.0	2,275
More than secondary	57.3	49.0	13.8	0.7	9.2	0.7	12.0	2.9	8.6	1.1	8.2	6.5	1.1	0.6	42.7	100.0	195
Living children																	
0	5.8	4.9	0.6	0.0	1.0	0.0	1.4	0.0	1.9	0.0	0.9	0.4	0.5	0.0	94.2	100.0	1,000
1-2	41.4	37.9	1.5	0.0	2.3	0.2	29.2	1.3	3.3	0.1	3.5	1.0	1.9	0.6	58.6	100.0	5,643
3-4	51.4	48.0	8.7	0.1	3.1	0.2	31.5	1.9	2.2	0.2	3.4	0.7	1.8	0.9	48.6	100.0	4,942
5+	56.4	50.7	25.0	0.1	2.5	0.3	20.2	0.9	1.5	0.0	5.7	0.8	2.1	2.8	43.6	100.0	3,943
Total	46.1	42.2	9.7	0.1	2.5	0.3	25.8	1.3	2.4	0.1	3.9	0.8	1.8	1.2	53.9	100.0	15,528

Note: If more than one method is used, only the most effective method is considered in this tabulation.

Educational attainment is associated with higher CPR. Forty percent of women without education currently use family planning compared with 57 percent of women with more than a secondary education.

Contraceptive use increases with the number of living children a woman has. Six percent of women who have no children are currently using family planning, compared with 41 percent of women with one or two children. The CPR is highest for women with five or more (56 percent). A similar pattern is observed for modern and traditional methods.

E. Fertility Preferences

Information on fertility preferences is used to assess the potential demand for family planning services for the purpose of spacing or limiting future childbearing. To elicit information on fertility preferences, several questions were asked of women (pregnant or not) on whether they want to have another child, and if so, how soon.

Table 5 shows that 12 percent of women want to have another child soon and 36 percent want to have another child later (in two or more years). Thirty-seven percent of women want no more children. When comparing the 2004 data with the 2010 MDHS data, a greater percentage of respondents reported that they were sterilised (6 and 10 percent, respectively).

Fertility preference is closely related to the number of living children. Almost three-quarters of women with no living children (74 percent) want another child soon compared with 2 percent of women with six or more children. The more children a woman has, the higher the likelihood that she does not want another child.

Table 5 Fertility preferences by number of living children

Percent distribution of currently married women by desire for children, according to number of living children, Malawi 2010

	Number of living children[1]							
Desire for children	0	1	2	3	4	5	6+	Total
Have another soon[2]	74.3	22.1	14.1	9.1	5.5	2.9	1.9	12.4
Have another later[3]	12.5	63.8	54.5	43.9	26.2	14.0	6.2	36.3
Have another, undecided when	2.6	1.6	0.8	0.6	0.6	0.6	0.5	0.9
Undecided	0.6	1.2	2.1	2.6	3.8	1.4	1.7	2.1
Want no more	4.0	9.2	25.6	36.4	51.4	58.6	61.9	37.1
Sterilised[4]	1.0	1.2	1.8	6.2	11.4	20.9	26.0	9.8
Declared infecund	4.8	0.8	1.0	1.0	0.9	1.6	1.6	1.3
Missing	0.1	0.2	0.1	0.2	0.2	0.0	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	599	2,595	3,059	2,847	2,275	1,766	2,387	15,528

[1] Includes current pregnancy
[2] Wants next birth within two years
[3] Wants to delay next birth for two or more years
[4] Includes both male and female sterilisation

F. Maternal Care

Proper care during pregnancy and delivery is important for the health of both the mother and the baby, and is the fifth Millennium Development Goal (MDG). In the 2010 MDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal care. Mothers were asked whether they had received tetanus toxoid injections while pregnant and whether they had obtained antenatal care during the pregnancy for their most recent live birth in the last five years. For each live birth over the same period, the mothers were also asked what type of assistance they received at the time of delivery. Table 6 summarizes information on the coverage of these maternal health services.

Antenatal Care

Antenatal care (ANC) from a trained provider is important to monitor the pregnancy and reduce morbidity and mortality risks for the mother and child during pregnancy and delivery. According to the 2010 MDHS results, 97 percent of women who gave birth in the five years preceding the survey received antenatal care from a trained health professional at least once for their last birth. Urban women are slightly more likely than rural women to have received ANC from a health professional (98 and 96 percent, respectively). Antenatal care from a health professional is almost universal throughout Malawi and does not vary much by age or residence. The proportion of women who obtain ANC from a health professional increases with education, from 93 percent of women with no education to 100 percent of women with more than a secondary education.

Tetanus Toxoid

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of early infant death in many developing countries, often due to failure to observe hygienic procedures during delivery. Table 6 indicates that 89 percent of last births were protected against neonatal tetanus. Protection against neonatal tetanus is higher among births to mothers age 20 or older compared with teenage mothers (90 and 82 percent, respectively). Births to mothers from the Central region (90 percent) are most likely to be protected against neonatal tetanus compared with births to mothers in the South (88 percent) and North (86 percent) regions. Among the districts, births to mothers in Chiradzulu maintain the highest protection against neonatal tetanus (96 percent), while those in Phalombe have the lowest protection nationwide (79 percent).

Delivery Care

Access to proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that may lead to death or serious illness for the mother and/or baby (Van Lerberghe, W., and V. De Brouwere, 2001; WHO, 2006). Table 6 shows that although 97 percent of mothers reported that they received antenatal care for their last birth from a health professional, only 73 percent reported that their births in the last five years were delivered by a health professional. Seventy-two percent of births were delivered in a health facility. The percentage of births in a health facility has increased from 57 percent in 2004.

Eighty-five percent of births to urban mothers were attended to by a health professional and 84 percent were delivered in a health facility, compared with 71 percent and 70 percent, respectively, of births to rural women. Mothers residing in the North are the most likely to be attended to at delivery by a health professional (79 percent) and the most likely to deliver in the health facility (79 percent) compared with mothers of other zones. A wider variation exists among the districts for both the proportion of mothers that were attended by a health professional during delivery and for the proportion of mothers delivered in a health facility.

Mothers' educational status has a significant impact on whether delivery is assisted by a health professional and whether the birth is delivered at a health facility. For example, 63 percent of births to mothers with no education were attended to by a health professional compared with 98 percent of births to mothers with more than a secondary education. Interestingly, 87 percent of births to mothers with a secondary education occurred in a health facility compared with 82 percent of births to mothers with more than a secondary education.

Table 6 Maternal care indicators

Percentage of women who had a live birth in the five years preceding the survey who received antenatal care from a health professional for the last live birth and whose last live birth was protected against neonatal tetanus, and among all live births in the five years before the survey, percentage delivered by a health professional and percentage delivered in a health facility, by background characteristics, Malawi 2010

Background characteristic	Percentage with antenatal care from a health professional[1]	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a health professional	Percentage delivered in a health facility	Number of births
Mother's age at birth						
<20	97.3	81.9	2,185	76.0	74.9	3,579
20-34	96.5	90.0	9,580	73.3	71.7	13,673
35+	95.7	89.6	1,899	66.5	65.6	2,446
Residence						
Urban	98.3	89.4	2,107	85.4	83.8	2,819
Rural	96.2	88.5	11,558	70.9	69.5	16,878
Region						
North	97.8	85.5	1,595	79.3	78.6	2,310
Central	95.9	90.1	5,819	70.7	69.4	8,449
South	96.8	88.2	6,251	73.5	71.7	8,938
District						
Balaka	92.9	87.2	365	67.0	63.2	531
Blantyre	98.9	85.9	1,058	84.9	82.2	1,373
Chikhwawa	97.5	89.0	602	70.2	67.0	855
Chiradzulu	97.5	95.8	264	63.8	64.0	359
Chitipa	97.8	90.6	165	79.1	78.7	243
Dedza	95.2	82.8	856	76.7	72.9	1,228
Dowa	95.3	90.8	606	73.6	74.0	872
Karonga	99.2	83.0	268	65.3	65.4	389
Kasungu	96.3	91.4	755	60.4	60.5	1,142
Lilongwe	95.7	89.5	1,587	70.6	69.1	2,270
Machinga	95.7	88.0	462	73.3	73.7	699
Mangochi	97.5	92.0	917	69.1	67.3	1,392
Mchinji	94.9	93.0	504	74.5	74.6	733
Mulanje	95.4	85.4	508	69.2	68.9	710
Mwanza	98.0	87.5	78	74.8	74.5	107
Mzimba	96.5	83.0	808	81.7	81.0	1,181
Neno	98.0	88.2	76	67.4	68.1	112
Nkhata Bay and Likoma	99.4	94.2	184	78.1	76.4	259
Nkhotakota	94.9	91.3	349	60.5	57.1	525
Nsanje	97.6	86.4	273	73.6	72.9	398
Ntcheu	96.7	92.8	559	77.8	77.3	776
Ntchisi	96.3	93.0	216	63.7	64.0	309
Phalombe	97.2	78.6	315	72.1	70.3	495
Rumphi	99.4	86.5	169	91.6	91.0	238
Salima	98.8	93.6	388	72.4	70.9	594
Thyolo	97.4	88.2	610	79.9	75.1	844
Zomba	94.3	90.6	723	72.6	72.6	1,065
Education						
No education	93.4	88.2	2,277	62.8	61.6	3,441
Primary	96.8	88.7	9,144	72.1	70.8	13,345
Secondary	98.2	89.0	2,119	88.6	87.0	2,765
More than secondary	100.0	89.7	125	97.8	81.6	145
Total	96.5	88.7	13,664	73.0	71.5	19,697

[1] Doctor/clinical officer, nurse/midwife, patient attendant.

[2] Includes mothers with two injections during the pregnancy of the last live birth, or two or more injections (the last within three years of the last live birth), or three or more injections (the last within five years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last live birth

G. Child Health and Nutrition

The 2010 MDHS collected data on a number of key child health indicators, including childhood mortality rates, immunization of young children, infant feeding practices, and treatment practices when a child is ill.

Vaccination of Children

According to the World Health Organization, a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of DPT vaccine to prevent diphtheria, pertussis, and tetanus (DPT); at least three doses of polio vaccine; and one dose of measles vaccine. These vaccinations should be received during the first year of life. The 2010 MDHS collected information on the coverage for these vaccinations among all children born in the five years preceding the survey. In Malawi, BCG vaccine should be given at birth, and DPT and polio vaccines should be given at approximately 6, 16, and 20 weeks of age; there is also a dose of polio vaccine that should be given between 0 and14 days after birth (polio 0). Measles vaccine should be given at or soon after the child reaches nine months of age. It is also recommended that children receive the complete schedule of vaccinations before their first birthday, and that the vaccinations be recorded on a health card that is given to the parents or guardians.

In the 2010 MDHS, information on vaccination coverage was obtained in two ways—from health cards and from mother's verbal reports. All mothers were asked to show the interviewer the health cards where immunisation dates are recorded for all children born since January 2005. If the card was available, the interviewer then recorded from the cards the dates of each vaccination received into the questionnaire. If a child never received a health card, or if the mother was unable to show the card to the interviewer, the child's vaccination information was based on the mother's recall. Questions were asked for each vaccine type. She was asked to recall whether the child had received BCG, polio, DPT and measles. If she indicated that the child had received the polio or DPT vaccines, she was asked about the number of doses that the child received. The mother was then asked whether the child had received other vaccinations that were not recorded on the card, and if so, they too were noted on the questionnaire. The results presented here are based on both health card information and, for those children without a card, information provided by the mother.

Table 7 pertains to children age 12-23 months, the age by which they should have received all vaccinations. Overall, 81 percent of children ages 12-23 months are fully vaccinated. Vaccination coverage has increased by 26 percent since the 2004 MDHS estimate (64 percent). Nationally, the majority of children had a health card (81 percent). Vaccinations for BCG (97 percent), DPT 1 (97 percent), DPT 2 (96 percent), polio 1 (97 percent), and polio 2 (95 percent) are nearly universal. However, the percentage of children who go on to receive DPT 3 and polio 3 is lower, 93 percent and 86 percent, respectively. Overall, only 2 percent of children in Malawi have not received any vaccinations.

Children in rural areas are more likely than urban children to be fully vaccinated; 82 percent compared with 76 percent, respectively. Regionally, children with full vaccination coverage range from a high of 84 percent in the North and 83 percent in the South, to a low of 78 percent in the Central region. There are greater variations among districts in vaccination coverage; the percentage of children that are fully vaccinated ranges from a low of 69 percent for Lilongwe to a high of 92 percent for Chiradzulu and Mwanza.

Vaccination coverage increases with the mothers' educational attainment. Seventy-five percent of children with mothers who lack education are fully immunised contrasted with 84 percent of children with mothers who have a secondary education.

Table 7 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card seen, by background characteristics, Malawi 2010

Background characteristic	BCG	DPT			Polio				Measles	All[2]	No vacci-nations	Percentage with a vaccination card	Number of children
		1	2	3	0[1]	1	2	3					
Sex													
Male	96.6	96.6	95.4	92.7	73.8	95.8	93.3	86.1	91.7	81.1	2.0	80.6	1,895
Female	97.8	98.0	96.7	93.4	74.3	97.5	95.6	85.1	94.3	80.8	1.0	81.0	1,880
Residence													
Urban	97.8	97.8	97.1	94.1	83.8	95.8	94.3	79.3	96.0	75.8	0.7	67.7	549
Rural	97.1	97.2	95.9	92.8	72.4	96.8	94.5	86.7	92.5	81.8	1.6	83.0	3,226
Region													
North	98.7	97.7	97.3	95.2	84.2	98.2	95.1	90.0	93.4	84.2	0.6	85.2	420
Central	96.5	96.5	94.3	90.0	71.7	95.1	92.3	83.0	91.5	77.7	2.0	77.6	1,615
South	97.4	97.9	97.3	95.3	73.8	97.7	96.3	87.0	94.3	83.1	1.3	82.7	1,739
District													
Balaka	99.2	99.2	98.7	96.9	85.1	98.7	96.9	92.6	93.4	88.6	0.8	80.6	102
Blantyre	95.5	96.1	95.6	93.3	79.5	95.3	92.5	79.8	93.2	74.1	1.0	72.8	282
Chikhwawa	97.9	97.9	97.4	95.8	70.3	97.9	96.6	87.1	91.7	81.5	2.1	82.8	164
Chiradzulu	99.3	100.0	98.2	98.2	83.3	100.0	98.2	93.3	96.6	91.8	0.0	91.0	70
Chitipa	98.2	96.5	95.1	91.6	82.5	98.2	97.5	88.1	91.6	81.9	1.2	76.8	42
Dedza	97.9	96.7	95.7	92.3	69.4	97.2	96.2	89.5	91.8	84.7	1.6	88.3	242
Dowa	98.8	96.3	93.0	90.4	71.4	96.2	93.3	84.1	94.3	82.7	1.2	85.2	164
Karonga	97.8	98.3	97.9	94.3	80.0	97.7	95.7	93.0	94.1	86.6	1.1	83.0	81
Kasungu	93.6	95.6	94.5	92.5	62.9	94.0	93.4	88.1	84.4	78.4	4.4	85.2	229
Lilongwe	96.4	96.4	92.1	84.6	71.1	93.1	88.0	73.8	94.2	69.3	1.3	59.7	447
Machinga	97.5	97.0	96.2	94.1	72.1	98.7	96.8	90.0	94.4	86.5	1.3	87.0	143
Mangochi	95.6	97.7	97.7	94.5	71.4	97.7	97.7	81.0	94.0	76.4	1.7	77.2	256
Mchinji	98.9	98.9	98.9	97.8	90.2	99.4	99.4	91.5	93.3	86.7	0.6	87.1	138
Mulanje	100.0	100.0	98.6	98.2	49.4	100.0	98.1	93.4	95.1	90.7	0.0	90.0	126
Mwanza	100.0	100.0	99.1	99.1	91.4	99.4	99.4	97.8	95.4	92.3	0.0	90.6	20
Mzimba	99.4	97.7	97.7	96.2	85.4	98.4	93.0	88.1	93.3	82.0	0.0	87.3	203
Neno	96.9	98.4	98.4	93.8	83.9	96.9	96.3	93.2	91.0	87.1	1.0	95.5	23
Nkhata Bay and Likoma	98.7	98.0	96.7	96.1	85.2	98.0	98.0	91.7	94.2	87.1	0.7	83.6	51
Nkhotakota	98.4	98.0	94.6	85.5	79.3	94.5	88.4	78.6	88.2	71.7	1.6	75.6	91
Nsanje	97.9	98.5	97.6	96.1	78.4	97.4	96.1	77.7	97.0	76.2	1.5	81.8	77
Ntcheu	92.2	93.5	93.5	92.5	72.2	93.5	91.6	90.6	92.7	86.6	4.9	88.6	132
Ntchisi	97.1	97.3	95.1	93.4	63.1	97.7	94.5	81.0	85.4	72.0	1.7	79.4	54
Phalombe	97.1	98.2	98.2	94.4	76.5	97.8	96.2	92.8	95.0	87.0	1.8	86.6	98
Rumphi	97.9	97.9	97.4	94.3	87.1	98.5	97.7	92.9	92.9	88.9	1.5	89.9	44
Salima	97.3	98.3	96.6	90.7	72.2	95.3	92.0	79.3	91.8	73.2	0.7	75.7	117
Thyolo	97.9	96.8	96.3	95.2	78.6	97.7	97.2	88.1	94.9	86.7	2.1	87.2	156
Zomba	98.2	98.8	98.2	95.6	70.2	97.3	96.3	91.0	95.9	88.8	1.2	86.4	221
Education													
No education	95.1	95.2	93.7	88.1	64.9	94.8	93.0	83.2	89.2	75.3	2.2	78.2	627
Primary	97.3	97.4	96.0	93.3	73.8	96.7	94.1	85.5	93.3	81.5	1.6	81.0	2,545
Secondary	99.2	99.2	98.8	97.0	84.8	98.1	97.2	88.0	95.2	83.5	0.6	82.1	571
More than secondary	*	*	*	*	*	*	*	*	*	*	*	*	30
Total	97.2	97.3	96.0	93.0	74.1	96.6	94.5	85.6	93.0	80.9	1.5	80.8	3,774

Note: An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

Childhood Acute Respiratory Infection, Fever, and Diarrhoea

Acute respiratory infection (ARI), fever, and dehydration from diarrhoea are important contributing causes of childhood morbidity and mortality in developing countries (WHO, 2003). Prompt medical attention when a child has the symptoms of these illnesses is, therefore, crucial in reducing child deaths. In the 2010 MDHS, for each child under age 5, mothers were asked if the child had experienced an episode of diarrhoea, a cough accompanied by short, rapid breathing (symptoms of ARI), or fever in the two weeks preceding the survey. Information was also collected on the percentage of episodes in which mothers sought treatment for their children. It should be noted that the morbidity data collected are subjective because they are based on a mother's perception of illnesses without validation by medical personnel.

According to the data presented in Table 8, treatment from a health facility or provider was sought for 66 percent of the children with ARI symptoms and 59 percent of the children with fever symptoms. Fifty-seven percent of children with diarrhoea were taken for treatment to a health facility or health provider, and 69 percent of children with diarrhoea received solution for oral rehydration therapy from ORS packets or ORS solutions. Children of urban and rural mothers are almost equally likely to be taken to a health facility or health provider when they are sick with symptoms of ARI, fever, or diarrhoea. The likelihood of a child being taken to a health facility or health provider for treatment when sick with any of these three conditions increases with an increasing level of educational attainment by the mother. For example, 54 percent of children of uneducated mothers who are sick with diarrhoea are taken to a health facility or provider for treatment compared with 61 percent of children whose mothers have a secondary education. There is little variation by education of the mother in the proportion of children with diarrhoea who are given ORS.

Table 8 Treatment for acute respiratory infection, fever, and diarrhoea

Among children under 5 years who were sick with a cough accompanied by short, rapid breathing or with difficulty breathing due to chest congestion (symptoms of acute respiratory infection-ARI) or with fever in the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider, and among children under 5 years who were sick with diarrhoea during the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider, percentage given a solution made from oral rehydration salt (ORS) packets or given pre-packaged ORS liquids, by background characteristics, Malawi 2010

Background characteristic	Children with symptoms of ARI		Children with fever		Children with diarrhoea		
	Percentage for whom treatment was sought from a health facility/ provider[1]	Number with ARI	Percentage for whom treatment was sought from a health facility/ provider[1]	Number with fever	Percentage for whom treatment was sought from a health facility/ provider[1]	Percentage given solution from ORS packet[2]	Number with diarrhoea
Age in months							
<6	59.5	101	53.0	407	44.0	39.6	153
6-11	75.0	193	63.4	889	56.8	67.3	779
12-23	67.4	268	61.3	1,545	59.6	73.1	1,139
24-35	65.8	252	60.4	1,359	59.0	71.5	575
36-47	60.3	203	55.7	1,091	55.6	68.3	312
48-59	62.8	204	57.7	924	54.5	68.5	200
Sex							
Male	65.9	628	59.0	3,161	56.7	68.4	1,627
Female	65.4	594	59.7	3,053	58.0	69.6	1,531
Residence							
Urban	67.0	168	67.7	786	54.6	71.5	467
Rural	65.5	1,053	58.2	5,428	57.8	68.6	2,691
Region							
North	73.5	179	66.5	626	67.0	73.0	310
Central	62.5	618	56.9	2,954	51.5	68.9	1,545
South	67.0	423	60.4	2,634	61.9	68.1	1,302
District							
Balaka	*	17	56.8	130	64.6	65.4	66
Blantyre	(70.8)	66	59.8	408	61.6	74.7	202
Chikhwawa	*	18	69.4	144	67.4	74.4	87
Chiradzulu	(66.9)	18	66.8	107	56.2	68.6	55
Chitipa	(94.2)	13	65.5	41	68.1	75.2	27
Dedza	(33.7)	75	48.4	461	47.0	62.1	216
Dowa	(58.9)	54	52.6	274	56.5	64.4	166
Karonga	68.0	27	64.1	80	72.8	74.8	42
Kasungu	71.3	139	58.1	577	48.9	63.2	286
Lilongwe	65.8	153	60.5	652	45.8	76.7	428
Machinga	(57.9)	36	53.2	231	53.7	63.6	122
Mangochi	(46.6)	75	50.6	329	55.6	58.9	140
Mchinji	(55.5)	28	59.6	248	54.5	77.0	110
Mulanje	(62.4)	37	59.4	268	53.9	62.3	122
Mwanza	(84.0)	6	76.7	35	75.0	79.2	15
Mzimba	70.1	104	65.0	376	63.9	70.3	190
Neno	(79.8)	6	74.2	28	73.3	79.8	19
Nkhata Bay and Likoma	(76.6)	13	70.9	61	(74.1)	(82.2)	15
Nkhotakota	72.0	37	58.0	223	70.0	72.9	89
Nsanje	(75.9)	18	68.1	123	74.9	64.1	60
Ntcheu	(67.7)	43	61.9	191	52.3	61.4	96
Ntchisi	(69.7)	21	62.4	84	63.2	71.7	59
Phalombe	(81.0)	25	68.8	222	75.8	68.9	111
Rumphi	82.3	23	74.4	69	72.7	79.2	36
Salima	64.1	68	55.7	243	57.3	67.5	95
Thyolo	79.7	65	64.3	234	77.4	61.3	118
Zomba	(66.8)	38	58.4	377	51.5	75.7	185
Education							
No education	65.2	185	53.1	952	53.7	69.5	524
Primary	64.5	865	59.2	4,429	57.4	68.3	2,194
Secondary	71.5	164	67.6	791	61.4	72.0	422
More than secondary	*	7	(65.5)	42	*	*	19
Total	65.7	1,221	59.4	6,214	57.3	69.0	3,158

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Excludes pharmacy, shop, and traditional practitioner
[2] Includes ORS from packets and pre-packaged ORS liquids

Infant and Young Child Feeding Practices

Breastfeeding is sufficient and beneficial for infant nutrition in the first 6 months of life. Breastfeeding immediately after birth also helps the uterus retract, hence reducing the mother's postpartum blood loss. Supplementing breast milk before the child is 4 months of age is discouraged because it may inhibit breastfeeding and expose the newborn infant to illness. At a later stage of the baby's development, breast milk should be supplemented by other liquids and eventually by solid or mushy food to provide adequate nourishment (PAHO, 2002).

The 2010 MDHS collected data on infant and young child feeding (IYCF) practices for all children born in the five years preceding the survey. As shown in Table 9, 72 percent of children under 6 months are exclusively breastfed. This represents a sizeable increase over 2004, when 53 percent of children under the age of 6 months were exclusively breastfed. In addition to breast milk, 4 percent of infants age 0-5 months are given plain water only, while 2 percent are given non-milk liquids and juice, and 3 percent are given milk other than breast milk. Furthermore, 18 percent of infants age 0-5 months are given complementary foods. By age 6-9 months, 87 percent of infants are given complementary foods. Two percent of infants age 0-5 months are fed using a bottle with a nipple, a practice that is discouraged because of the risk of illness to the child.

Table 9 Breastfeeding status by age

Among youngest children under 3 years living with their mother, percent distribution by breastfeeding status and percentage currently breastfeeding; and among all children under 3 years, percentage using a bottle with a nipple, according to age in months, Malawi 2010

	Breastfeeding and consuming:										
Age in months	Not breast-feeding	Exclusively breastfed	Plain water only	Non-milk liquids/ juice	Other milk	Comple-mentary food	Total	Percentage currently breast-feeding	Number of youngest children under 3 years	Percentage using a bottle with a nipple[1]	Number of all children under 3 years
0-1	0.0	92.9	1.6	1.3	2.4	1.9	100.0	100.0	465	1.4	477
2-3	0.9	82.1	4.7	1.3	2.7	8.3	100.0	99.1	649	1.4	661
4-5	0.7	41.8	6.6	3.0	3.1	44.9	100.0	99.3	542	2.9	561
6-8	2.0	6.7	3.5	1.5	0.3	85.9	100.0	98.0	1,075	4.3	1,088
9-11	1.6	0.8	2.6	1.1	0.1	93.7	100.0	98.4	917	3.2	930
12-17	4.9	0.7	1.4	0.1	0.1	92.8	100.0	95.1	1,685	6.0	1,718
18-23	19.9	0.2	0.6	0.1	0.1	79.2	100.0	80.1	1,950	3.6	2,056
24-35	77.4	2.1	0.2	0.0	0.0	20.3	100.0	22.6	2,874	2.1	3,675
0-3	0.5	86.6	3.4	1.3	2.6	5.6	100.0	99.5	1,114	1.4	1,137
0-5	0.6	71.9	4.4	1.9	2.8	18.4	100.0	99.4	1,656	1.9	1,698
6-9	1.9	5.6	3.3	1.5	0.3	87.4	100.0	98.1	1,352	3.6	1,368
12-15	3.9	0.9	1.3	0.2	0.1	93.7	100.0	96.1	1,154	6.8	1,178
12-23	12.9	0.4	0.9	0.1	0.1	85.5	100.0	87.1	3,635	4.7	3,774
20-23	23.2	0.2	0.6	0.0	0.0	76.0	100.0	76.8	1,246	2.8	1,331

Note: Breastfeeding status refers to a '24-hour' period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids/juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Any children who get complementary food are classified in that category as long as they are breastfeeding as well. A breastfeeding child who receives other milk but not complementary foods is classified in the Other Milk category. Children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water.

[1] Based on all children under 3 years

Nutritional Status of Children

Anthropometric indicators for young children were collected in the 2010 MDHS to provide outcome measures of nutritional status. As recommended by the World Health Organization, evaluation of nutritional status in this report is based on the comparison of three indices for the children in this survey with indices reported for a reference population of well-nourished children. (WHO Multicentre Growth Reference Study Group, 2006) The indices are expressed as standard deviation units from the median for the reference group. Children who fall below minus two standard deviations (-2 SD) from the median of the reference population are regarded as moderately malnourished, while those who fall below minus three standard deviations (-3 SD) from the median of the reference population are considered severely malnourished. Marked differences, especially with regard to height-for-age and weight-for-age are often seen between different subgroups of children within a country.

Table 10 shows nutritional status for children under 5 years of age, according to the three anthropometric indices, by background characteristics. Height-for-age is the measure of linear growth. A child who is below minus two standard deviations from the reference mean for height-for-age is considered short for his/her age, or stunted, a condition reflecting the cumulative effect of chronic malnutrition. The percentage of children who are stunted (below -2 SD) is 47 percent. In the 2010 MDHS survey, results show a higher proportion of males (51 percent) than females (43 percent) are stunted. In rural areas, 48 percent of children are stunted, versus 41 percent of children in urban areas. Almost half of children in each of the three regions of Malawi are stunted (45 percent in the North, 47 percent in Central, and 48 percent in the South). Among districts, stunting is highest among children in Chiradzulu (57 percent) and lowest among children in Karonga (38 percent). Stunting decreases as level of mother's education increases, from a high of 53 percent among children of uneducated mothers to a low of 39 percent among children of mothers with a secondary education.

Weight-for-height describes current nutritional status. A child who is below minus two standard deviations from the reference mean for weight-for-height is considered too thin for his/her height, or wasted, a condition reflecting acute or recent nutritional deficit. Overall, 4 percent of the children are wasted, and half of them severely wasted. There is little difference by sex; however, variations exist by urban-rural residence, with 4 percent of children in rural areas being wasted compared with 2 percent of children in urban areas. Children in the Central and South regions are twice as likely to be wasted as children in the North (4 percent in the Central and South, compared with 2 percent in the North). Among districts, the lowest proportion of children who are wasted is found in Kasungu and Rumphi (1 percent each), while the highest is found in Ntcheu (10 percent). Wasting decreases with increases in mother's education; it is highest among children of uneducated mothers (5 percent) and lowest among children of mothers with a secondary education (3 percent).

Weight-for-age is a composite index of weight-for-height and height-for-age, and thus does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his/her age because s/he is stunted, wasted, or both. Weight-for-age is an overall indicator of a population's nutritional health. Thirteen percent of all children are underweight, and 3 percent of these children are severely underweight. A higher percentage of males are underweight when compared with females (14 and 12 percent, respectively). Thirteen percent of rural children are underweight compared with 10 percent of urban children. Similar to the other two indices, the Central (14 percent) and South (13 percent) regions have the greater percentages of children who are underweight compared with the North region (11 percent). There is more variation by district, with the highest proportion of children underweight in Neno (25 percent) and the lowest in Balaka, Zomba, and Rumphi (7 percent each). The percentage of children born to uneducated mothers who are underweight is twice as high as the percentage of children whose mothers have a secondary education (16 percent versus 8 percent).

In addition, the impact of weaning can be seen in younger children: data on all three indices show that the nutritional status of children deteriorates after 6 months of age, when children are being weaned.

Table 10 Nutritional status of children

Percentage of children under 5 years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Malawi 2010

Background characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	
Age in months							
<6	5.7	17.4	2.1	7.0	1.9	6.5	352
6-8	12.2	25.2	3.2	6.1	3.3	9.5	271
9-11	10.7	27.6	3.9	6.9	1.5	11.1	246
12-17	20.9	45.9	2.6	6.7	4.5	16.3	483
18-23	29.2	61.3	2.1	6.0	4.9	14.6	576
24-35	25.5	56.0	0.9	2.4	3.0	13.6	985
36-47	17.7	51.6	0.7	2.7	2.3	12.8	986
48-59	18.4	47.6	0.6	1.9	2.6	13.0	951
Sex							
Male	23.0	51.1	1.7	4.2	3.2	14.0	2,364
Female	16.3	43.3	1.3	3.8	2.8	11.7	2,485
Residence							
Urban	15.5	40.7	0.6	2.4	1.9	10.1	721
Rural	20.3	48.2	1.6	4.3	3.2	13.3	4,128
Region							
North	18.0	44.7	0.5	2.4	1.2	10.6	543
Central	19.4	47.2	1.8	4.3	3.5	13.5	2,226
South	20.2	47.6	1.4	4.0	3.0	12.8	2,080
District							
Balaka	17.1	44.8	2.6	5.7	2.3	7.4	119
Blantyre	20.5	41.6	0.0	2.2	2.3	12.7	316
Chikhwawa	16.1	49.0	0.3	2.8	1.6	11.7	224
Chiradzulu	25.7	56.6	1.5	3.4	2.7	15.1	77
Chitipa	18.6	46.6	1.0	3.7	1.2	13.8	67
Dedza	29.4	51.1	1.4	3.7	5.7	16.4	250
Dowa	20.4	51.6	1.6	3.0	2.2	11.9	287
Karonga	14.2	37.9	0.0	1.9	1.5	10.2	121
Kasungu	17.0	47.2	0.5	1.2	1.2	11.6	326
Lilongwe	17.7	45.5	4.0	6.1	5.2	13.3	589
Machinga	26.1	48.4	3.7	6.4	1.8	9.3	149
Mangochi	19.8	48.3	3.5	5.9	5.9	15.9	335
Mchinji	18.5	53.7	0.4	3.3	1.5	13.1	209
Mulanje	26.0	52.2	1.8	6.0	4.5	13.4	152
Mwanza	26.1	56.4	0.7	4.4	2.2	12.9	26
Mzimba	20.8	47.7	0.5	2.2	0.6	10.3	239
Neno	30.4	54.6	0.7	2.9	5.3	24.7	24
Nkhata Bay and Likoma	17.0	48.3	0.0	3.4	2.2	12.0	69
Nkhotakota	15.4	42.9	1.4	2.4	2.6	11.8	154
Nsanje	12.8	38.6	1.5	7.6	2.7	19.7	90
Ntcheu	19.0	42.4	1.0	9.8	2.9	17.8	199
Ntchisi	19.4	46.8	1.0	4.4	2.9	13.4	87
Phalombe	16.6	49.3	1.1	3.8	0.8	8.5	120
Rumphi	13.7	38.5	1.3	1.3	1.8	6.5	47
Salima	17.6	39.6	0.5	3.3	5.4	13.2	124
Thyolo	20.3	49.8	0.4	2.4	3.8	18.5	187
Zomba	19.6	47.8	0.4	2.0	1.6	7.3	260
Education							
No education	24.5	53.4	2.3	4.9	3.4	15.8	793
Primary	19.6	47.6	1.6	4.1	3.2	13.4	3,137
Secondary	14.0	38.8	0.4	2.7	1.6	7.7	675
More than secondary	*	*	*	*	*	*	23
Mother's status							
Mother interviewed	19.3	47.0	1.5	4.1	2.9	12.7	4,549
Mother not interviewed, but in household [2]	32.9	54.3	0.0	0.0	6.5	27.0	79
Mother not interviewed, not in household [3]	20.0	46.0	0.7	2.7	2.8	10.5	220
Total	19.6	47.1	1.5	4.0	3.0	12.8	4,849
Total 2010 NCHS/CDC/ WHO standard[4]	15.0	40.5	0.7	3.6	2.8	17.4	4,852

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used NCHS/CDC/WHO standards. An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed. The table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

[1] Includes children who are below -3 standard deviations (SD) from the International Reference Population median

[2] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

[3] Includes children whose mothers are deceased

The bottom row of the table shows the 2010 MDHS national totals calculated according to the older NCHS/CDC/WHO standard classification, which was used in the 2004 MDHS report. The data by background characteristics are not presented in this report. A comparison of the 2004 MDHS nutritional status data with the 2010 MDHS data using the previous NCHS/CDC/WHO standard classification shows that the percentage of children who are stunted has decreased from 48 percent to 41 percent, and the percentage of children who are underweight has decreased from 22 percent to 17 percent.

Anaemia Prevalence in Children

Anaemia is a serious concern for young children because it can result in impaired cognitive performance, behavioural and motor development, coordination, language development, and scholastic achievement, as well as increased morbidity from infectious diseases. Information on anaemia prevalence can be useful for developing health intervention programmes designed to prevent anaemia, such as iron fortification programmes.

Table 11 shows that 64 percent of children age 6-59 months are anaemic; 24 percent have mild anaemia, 37 percent have moderate anaemia, and 3 percent have severe anaemia. Children in rural areas (65 percent) have a higher anaemia prevalence compared with children in urban areas (53 percent). Among the districts, anaemia prevalence ranges from a high of 77 percent in Chikhwawa to a low of 46 percent in Chiradzulu.

Anaemia Prevalence in Women

A woman's nutritional status has important implications for the health status of herself and her children. A woman who has poor nutritional status has a greater risk of adverse pregnancy outcomes as well as underweight babies. Table 11 shows that 29 percent of women are anaemic; 22 percent have mild anaemia, 7 percent have moderate anaemia, and 1 percent has severe anaemia. Although there is moderate variation by urban-rural residence and region, differences vary greatly by district, ranging from a high of 51 percent having anaemia in Mangochi to a low of 18 percent in Chitipa.

Table 11 Anaemia among children and women

Percentage of children age 6-59 months and women age 15-49 years classified as having iron-deficiency anaemia, by background characteristics, Malawi 2010

Background characteristic	Any anaemia	Percentage with anaemia: Mild anaemia	Moderate anaemia	Severe anaemia	Number
		CHILDREN			
Residence					
Urban	53.2	20.8	30.0	2.4	636
Rural	65.2	24.2	37.6	3.3	3,879
Region					
North	58.5	26.4	29.8	2.3	512
Central	64.5	21.6	39.0	3.8	2,102
South	63.7	25.3	35.6	2.8	1,901
District					
Balaka	70.4	21.7	42.5	6.2	107
Blantyre	49.9	21.9	25.0	3.0	286
Chikhwawa	77.4	29.0	42.8	5.6	198
Chiradzulu	46.3	25.8	19.8	0.7	75
Chitipa	52.8	24.8	27.3	0.8	69
Dedza	65.7	19.9	43.2	2.6	253
Dowa	65.6	21.1	40.0	4.5	269
Karonga	52.6	17.9	32.9	1.8	112
Kasungu	69.5	23.5	41.6	4.4	297
Lilongwe	58.7	19.3	35.3	4.1	576
Machinga	72.3	27.5	40.7	4.1	135
Mangochi	73.4	24.2	46.5	2.7	307
Mchinji	62.0	26.9	32.0	3.0	185
Mulanje	59.6	19.2	39.4	1.0	130
Mwanza	63.6	22.7	38.7	2.2	23
Mzimba	59.1	30.5	25.6	3.1	227
Neno	73.5	35.4	32.2	5.9	25
Nkhata Bay and Likoma	74.0	24.0	47.9	2.2	60
Nkhotakota	74.1	24.8	45.2	4.2	137
Nsanje	72.7	26.2	43.7	2.7	84
Ntcheu	60.5	22.7	34.1	3.6	184
Ntchisi	55.2	23.4	29.6	2.2	80
Phalombe	60.7	24.2	35.0	1.5	110
Rumphi	58.1	32.6	23.5	2.0	44
Salima	79.8	18.7	56.4	4.7	121
Thyolo	50.6	28.0	21.6	0.9	181
Zomba	63.5	28.9	33.4	1.3	241
Total	63.5	23.7	36.5	3.2	4,515

Continued

Table 11—*Continued*

Background characteristic	Any anaemia	Percentage with anaemia: Mild anaemia	Moderate anaemia	Severe anaemia	Number
		WOMEN			
Residence					
Urban	25.3	18.3	6.5	0.5	1,415
Rural	30.0	22.4	7.0	0.6	5,907
Region					
North	26.5	20.2	5.7	0.6	834
Central	28.6	22.0	6.2	0.5	3,192
South	30.2	21.6	8.0	0.7	3,296
District					
Balaka	27.6	23.5	4.1	0.0	185
Blantyre	21.3	13.0	7.4	1.0	650
Chikhwawa	36.2	27.4	8.1	0.7	284
Chiradzulu	23.9	19.4	3.8	0.6	172
Chitipa	17.6	14.8	2.8	0.0	88
Dedza	24.5	18.3	5.4	0.8	447
Dowa	32.0	25.6	6.4	0.0	359
Karonga	24.5	19.2	4.7	0.6	149
Kasungu	34.0	25.0	8.4	0.5	423
Lilongwe	23.7	18.8	4.6	0.3	867
Machinga	31.2	21.1	9.5	0.7	205
Mangochi	50.5	32.7	15.8	1.9	420
Mchinji	23.9	20.7	3.2	0.0	282
Mulanje	24.4	17.9	6.5	0.0	292
Mwanza	23.1	18.6	4.6	0.0	42
Mzimba	27.4	20.2	6.5	0.6	398
Neno	33.2	27.2	5.4	0.5	42
Nkhata Bay and Likoma	37.2	29.1	6.6	1.4	110
Nkhotakota	38.9	30.1	7.8	1.0	180
Nsanje	47.8	37.4	10.1	0.3	137
Ntcheu	24.2	18.5	5.6	0.0	319
Ntchisi	32.4	22.5	8.8	1.2	117
Phalombe	25.5	21.9	3.1	0.6	152
Rumphi	21.8	16.0	5.8	0.0	89
Salima	44.1	30.8	11.5	1.8	198
Thyolo	18.7	14.9	3.8	0.0	313
Zomba	32.1	22.2	9.6	0.3	401
Total	29.1	21.6	6.9	0.6	7,322

Note: Table is based on children and women who stayed in the household the night before the interview. Prevalence is adjusted for altitude (for children and women) and smoking (for women) using CDC formulas (CDC, 1998). Women and children with <7.0 g/dl of haemoglobin have severe anaemia, women and children with 7.0-9.9 g/dl have moderate anaemia, and non-pregnant women with 10.0-11.9 g/dl and children and pregnant women with 10.0-10.9 g/dl have mild anaemia.

H. Early Childhood Mortality

Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life. (UNDP, 2007) Estimates of childhood mortality are based on information collected in the birth history section of the questionnaire administered to individual women. The section begins with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live with the mother, the number who live elsewhere, and the number who have died). Table 12 presents estimates for three successive five-year periods prior to the 2010 MDHS. The rates are estimated directly from the information in the birth history on a child's birth date, survivorship status, and age at death for children who died. This information is used to directly estimate the following five mortality rates:

Neonatal mortality:	the probability of dying within the first month of life
Post-neonatal mortality:	the difference between infant and neonatal mortality
Infant mortality:	the probability of dying before the first birthday
Child mortality:	the probability of dying between the first and fifth birthday
Under-5 mortality:	the probability of dying between birth and the fifth birthday

All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

Table 12 presents infant and child mortality estimates based on the data from the 2010 MDHS for the five years immediately preceding the survey (2005–2010); the infant mortality rate was 66 deaths per 1,000 live births. The estimate of child mortality (age 12 months to 4 years) is 50 deaths per 1,000 live births, while the overall under-5 mortality rate for the same period is 112 deaths per 1,000 live births. Trends in infant mortality over the 15-year period prior to the survey can also be examined from Table 12.

A comparison of mortality estimates obtained from the 2010 MDHS with the estimates from the 2004 MDHS for the 0-4 years preceding the survey shows that the rates have decreased for all categories, except neonatal mortality. The largest decrease is seen in the drop in the under-5 mortality from 133 in the 2004 MDHS to 112 deaths per 1,000 live births in the 2010 MDHS. Detailed analysis will be included in the final report.

Table 12 Early childhood mortality rates

Neonatal, post-neonatal, infant, child, and under-5 mortality rates for five-year periods preceding the survey, Malawi DHS 2010

Years preceding the survey	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
0-4	31	35	66	50	112
5-9	36	46	81	69	145
10-14	40	52	92	97	180

[1] Computed as the difference between the infant and neonatal mortality rates

I. Malaria

Malaria is one of the leading causes of death in developing countries. (WHO, 2008) The 2010 MDHS collected data on measures to prevent malaria, including the use of mosquito nets among women and children and the prophylactic use of antimalarial drugs.

Ownership of Mosquito Nets

Table 13 shows that 67 percent of households nationwide own at least one mosquito net of any type. More urban (75 percent) than rural (66 percent) households own a net. Fifty-six percent of households own at least one insecticide-treated net (ITN); and the pattern by urban-rural residence in ownership of ITNs is similar to that of ownership of a net of any type (64 and 55 percent, respectively).

Use of Mosquito Nets

Table 13 shows that about half of children under age 5 slept under a mosquito net the night before the survey (47 percent). Fifty-nine percent of children under age 5 in urban areas slept under a mosquito net the night before the survey compared with 45 percent in rural areas. In urban areas, 49 percent of children under age 5 were reported to have slept under an ITN the night before the survey compared with 38 percent in rural areas. Overall, 43 percent of pregnant women age 15-49 slept under a mosquito net the night before the survey, 50 percent in urban areas versus 42 percent in rural areas. Forty-four percent of pregnant women in urban areas and 34 percent of pregnant women in rural areas slept under an ITN the night before the survey.

Indoor Residual Spraying

Another means to reduce malaria transmission is indoor residual spraying (IRS). Specially trained staff of a government or NGO malaria control program visit a household and spray insecticide on the interior walls of a dwelling. This insecticide helps to kill mosquitoes for several months. Indoor residual spraying is not common in Malawi. In the 2010 MDHS, only 3 percent of the households had received IRS in the 12 months preceding the survey. Overall, 43 percent of children and 38 percent of pregnant women had slept on the night before the interview either under an ITN or in a household that had been sprayed with IRS in the past 12 months.

Malaria Treatment during Pregnancy

The 2010 MDHS also collected data on malaria treatment during pregnancy. WHO recommendations to prevent malaria during pregnancy include intermittent preventive treatment (IPT) with at least two doses of an effective antimalarial drug, such as sulfadoxine-pyrimethamine (SP), during routine antenatal clinic visits (WHO, 2008). Table 13 shows that 91 percent of pregnant women in Malawi took antimalarial drugs for malaria prevention during their last pregnancy in the two years preceding the survey. A higher proportion of pregnant women in urban areas took antimalarial drugs during their last pregnancy when compared with pregnant women in rural areas (95 percent versus 90 percent). For pregnant women who received IPT during an antenatal visit, there is little difference by urban-rural residence (56 percent for women in urban areas and 55 percent for women in rural areas).

Treatment of Children with Fever

Table 13 shows that overall, among children under age 5 with fever in the two weeks preceding the survey, more children in rural areas than children in urban areas took antimalarial drugs (44 and 42 percent, respectively). Also, 29 percent in rural areas and 24 percent in urban areas took the drugs the same day or the next day after developing their fever.

Table 13 Malaria indicators

Possession and use of mosquito nets, indoor residual spraying, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs, by urban-rural residence, Malawi DHS, 2010

	Residence					
	Urban		Rural		Total	
Malaria indicators	Percentage	Number	Percentage	Number	Percentage	Number
Mosquito nets						
Percentage of household with at least one mosquito net (treated or untreated)	74.8	4,116	65.8	20,709	67.3	24,825
Percentage of household with at least one Insecticide-Treated Net (ITN)	64.3	4,116	55.4	20,709	56.8	24,825
Percentage of children under 5 who slept under a mosquito net the night before the survey	59.1	2,634	45.2	16,785	47.1	19,420
Percentage of children under 5 who slept under an Insecticide-Treated Net (ITN) the night before the interview	48.5	2,634	38.1	16,785	39.5	19,420
Percentage of children under 5 who slept under an Insecticide-Treated Net (ITN) the night before the interview in a HH with ITNs	68.6	1,860	57.5	11,109	59.1	12,969
Percentage of pregnant women age 15-49 who slept under a mosquito net the night before the interview	49.9	248	42.4	1,838	43.3	2,086
Percentage of pregnant women age 15-49 who slept under an Insecticide-Treated Net (ITN) the night before the interview	43.6	248	34.2	1,838	35.3	2,086
Percentage of pregnant women age 15-49 who slept under an Insecticide-Treated Net (ITN) the night before the interview in a HH with ITNs	71.1	152	54.8	1,149	56.7	1,301
Indoor Residual Spraying (IRS)						
Proportion of surveyed households sprayed with a residual insecticide in the last 12 months	2.6	4,116	2.9	20,709	2.9	24,825
Proportion of children under 5 who slept under an ITN or in household sprayed with IRS last 12 months	51.2	2,634	41.3	16,785	42.7	19,420
Proportion of pregnant women who slept under an ITN the previous night or in household sprayed with IRS in the last 12 months	43.9	248	36.9	1,838	37.7	2,086
Preventive malaria treatment during pregnancy						
Percentage of last births in the two years preceding the survey for which the mother took antimalarial drugs for prevention during the pregnancy	94.9	1,134	90.0	6,589	90.7	7,724
Percentage of last birth in the two years preceding the survey for which the mother got Intermittent Preventive Treatment (IPT) during an antenatal visit	55.9	1,134	54.8	6,589	55.0	7,724
Treatment of fever						
Proportion of children under 5 with fever in the two weeks preceding the survey	30.7	2,567	35.1	15,444	34.5	18,013
Among children under 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs						
Any antimalarial drug	42.3	789	43.6	5,426	43.4	6,214
SP/Fansidar	0.7	789	2.1	5,426	1.9	6,214
Chloroquine	0.0	789	0.0	5,426	0.0	6,214
Amodiaquine	0.2	789	0.1	5,426	0.1	6,214
Quinine	7.1	789	4.5	5,426	4.8	6,214
ACT	34.2	789	36.5	5,426	36.2	6,214
Artesunate	0.0	789	0.0	5,426	0.0	6,214
AA/ASAQ	0.0	789	0.3	5,426	0.3	6,214
Other antimalarial	1.4	789	1.2	5,426	1.2	6,214
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs the same day/ next day after developing fever						
Any antimalarial drug	24.2	789	28.8	5,426	28.2	6,214
SP/Fansidar	0.7	789	1.5	5,426	1.4	6,214
Chloroquine	0.0	789	0.0	5,426	0.0	6,214
Amodiaquine	0.2	789	0.1	5,426	0.1	6,214
Quinine	3.7	789	2.8	5,426	2.9	6,214
ACT	19.7	789	24.5	5,426	23.9	6,214
Artesunate	0.0	789	0.0	5,426	0.0	6,214
AA/ASAQ	0.0	789	0.3	5,426	0.2	6,214
Other antimalarial	0.2	789	0.2	5,426	0.2	6,214

[1] An Insecticide-Treated Net (ITN) is a permanent net that does not require any treatment, a pretreated net obtained within the past 12 months, or a net that has been soaked with insecticide within the past 12 months.
[2] Intermittent Preventive Treatment is preventive treatment with at least two doses of PS/Fansidar during an antenatal visit.

J. HIV/AIDS Awareness, Knowledge, and Behaviour

The 2010 MDHS included a series of questions that addressed respondents' knowledge about HIV and AIDS, their awareness of modes of HIV transmission, and behaviours that can prevent the spread of HIV.

Table 14 shows that HIV awareness is universal in Malawi where 99 percent of women and men have heard of HIV or AIDS. Awareness does not vary by background characteristics.

Table 14 Knowledge of HIV or AIDS

Percentage of women and men who have heard of HIV or AIDS, by background characteristics, Malawi 2010

Background characteristic	Women		Men	
	Has heard of HIV or AIDS	Number	Has heard of HIV or AIDS	Number
Age				
15-24	99.3	9,559	98.7	2,987
15-19	99.0	5,005	98.2	1,748
20-24	99.7	4,555	99.5	1,239
25-29	99.7	4,400	99.7	1,099
30-39	99.6	5,772	100.0	1,746
40-49	99.1	3,288	99.4	986
Marital status				
Never married	99.0	4,538	98.6	2,689
Ever had sex	99.5	1,415	99.4	1,690
Never had sex	98.8	3,123	97.1	999
Married or living together	99.5	15,528	99.8	3,895
Divorced/separated/widowed	99.5	2,954	99.9	234
Residence				
Urban	99.8	4,302	99.4	1,440
Rural	99.3	18,718	99.3	5,379
Region				
North	99.4	2,677	98.9	744
Central	99.1	9,857	99.4	3,074
South	99.7	10,485	99.3	3,001
District				
Balaka	99.8	601	100.0	149
Blantyre	99.9	2,036	98.8	701
Chikhwawa	99.8	910	100.0	276
Chiradzulu	99.6	493	100.0	151
Chitipa	99.4	270	96.0	83
Dedza	96.7	1,438	97.8	384
Dowa	99.8	1,060	100.0	377
Karonga	99.4	444	98.7	140
Kasungu	99.1	1,213	99.3	456
Lilongwe	99.4	2,844	100.0	951
Machinga	99.9	708	99.3	200
Mangochi	99.5	1,442	99.0	410
Mchinji	99.9	813	99.5	265
Mulanje	100.0	861	99.6	251
Mwanza	99.7	140	99.7	38
Mzimba	99.3	1,336	99.4	361
Neno	99.2	132	99.7	38
Nkhata Bay and Likoma	99.6	331	99.4	111
Nkhotakota	99.8	544	99.4	187
Nsanje	99.6	423	99.8	117
Ntcheu	99.9	960	99.8	285
Ntchisi	99.3	353	99.1	118
Phalombe	99.5	459	98.9	142
Rumphi	99.9	296	99.6	94
Salima	99.0	634	99.0	218
Thyolo	99.9	1,038	100.0	288
Zomba	99.6	1,243	98.7	383
Education				
No education	98.4	3,505	97.3	422
Primary	99.5	14,916	99.2	4,270
Secondary	100.0	4,177	99.9	1,904
More than secondary	100.0	422	100.0	223
Total 15-49	99.4	23,020	99.3	6,818
Men 50-54	na	na	100.0	357
Total 15-54	na	na	99.3	7,175

na = Not applicable

Table 15 shows that 72 percent of women and 73 percent of men age 15-49 years know that consistent use of condoms is a means of preventing the spread of HIV. Eighty-seven percent of women and 85 percent of men know that limiting sexual intercourse to one faithful and uninfected partner can reduce the chances of contracting HIV.

Women who have never been married and have never had sex are least likely to know that using condoms and limiting sexual intercourse to one uninfected partner reduces the risk of HIV transmission (58 percent). Women who have never been married but who have had sex are most likely to know that using condoms and limiting sexual intercourse to one uninfected partner reduces the risk of HIV transmission (71 percent). Among men, those who have never been married and who have never had sex are least likely to be aware that using condoms and limiting sexually intercourse to one uninfected partner reduces the risk of HIV transmission (60 percent). On the other hand, men who have never been married but who have had sex are most likely to be aware of these prevention methods (68 percent).

Overall, women residing in urban areas are more likely to be knowledgeable about HIV prevention methods than their counterparts residing in rural areas. The same pattern is true for men. Knowledge varies by region. Greater differentials are observed in knowledge of prevention methods by district. Higher educational attainment is positively associated with increased awareness of HIV prevention methods for women. For men, knowledge of HIV prevention also increases with increasing education level, except for men with more than a secondary education. Men who are educated beyond secondary school are less knowledgeable than men with a secondary education for each of the prevention methods presented in Table 15.

Knowledge of HIV prevention methods has increased since 2004, especially among women. In 2004, 47 percent of women knew that HIV could be prevented by using a condom and by limiting sexual partners; this compares with 66 percent in 2010. Among men, this percentage increased from 53 percent in 2004 to 66 percent in 2010.

Table 15 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, and by having one uninfected sex partner who has no other partners, by background characteristics, Malawi 2010

	Women				Men			
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number
Age								
15-24	71.1	84.9	65.0	9,559	73.2	84.4	66.1	2,987
15-19	68.3	83.2	61.8	5,005	73.1	84.6	66.1	1,748
20-24	74.2	86.8	68.6	4,555	73.3	84.1	66.0	1,239
25-29	75.6	89.6	70.9	4,400	73.8	85.9	66.5	1,099
30-39	72.7	87.9	67.3	5,772	73.2	86.2	67.3	1,746
40-49	68.3	85.9	63.0	3,288	68.3	85.9	62.8	986
Marital status								
Never married	68.7	83.6	62.4	4,538	72.5	84.2	65.2	2,689
Ever had sex	76.2	87.9	71.4	1,415	75.9	86.0	68.1	1,690
Never had sex	65.3	81.7	58.4	3,123	66.7	81.3	60.3	999
Married or living together	72.6	87.6	67.4	15,528	72.7	86.5	66.7	3,895
Divorced/separated/ widowed	73.7	86.7	67.7	2,954	71.0	78.9	61.8	234
Residence								
Urban	75.5	89.3	70.1	4,302	73.6	90.3	69.2	1,440
Rural	71.1	86.1	65.6	18,718	72.3	84.0	65.1	5,379
Region								
North	66.8	87.1	62.2	2,677	67.9	83.9	60.5	744
Central	65.9	82.9	59.7	9,857	72.8	83.1	66.3	3,074
South	79.0	90.1	73.8	10,485	73.6	87.9	67.0	3,001
District								
Balaka	83.0	92.2	78.8	601	75.6	86.3	66.1	149
Blantyre	81.3	91.4	75.9	2,036	62.1	87.1	55.7	701
Chikhwawa	84.3	90.6	78.5	910	84.8	88.0	75.3	276
Chiradzulu	88.7	95.7	86.2	493	78.2	82.5	65.6	151
Chitipa	56.9	77.3	49.8	270	53.8	70.2	42.0	83
Dedza	68.3	85.0	64.0	1,438	68.3	77.4	57.8	384
Dowa	59.7	70.8	46.1	1,060	71.3	83.4	63.9	377
Karonga	64.1	79.9	56.3	444	76.6	91.2	71.9	140
Kasungu	55.2	81.5	50.3	1,213	70.3	88.7	65.1	456
Lilongwe	65.6	85.0	60.3	2,844	76.7	80.0	72.5	951
Machinga	75.2	81.0	63.8	708	72.9	89.2	68.3	200
Mangochi	67.7	88.1	62.8	1,442	78.7	84.6	69.9	410
Mchinji	77.6	87.9	70.5	813	74.4	90.4	70.2	265
Mulanje	82.0	92.5	78.9	861	77.4	88.5	72.7	251
Mwanza	77.4	85.3	68.9	140	75.1	92.1	71.9	38
Mzimba	66.1	90.2	63.0	1,336	63.2	78.4	52.0	361
Neno	72.1	82.7	62.7	132	85.8	93.6	81.0	38
Nkhata Bay and Likoma	79.4	91.8	75.6	331	75.6	93.7	72.9	111
Nkhotakota	67.5	84.9	63.2	544	74.4	90.0	70.8	187
Nsanje	74.6	80.0	66.4	423	80.5	85.6	72.6	117
Ntcheu	70.6	86.1	67.1	960	73.4	81.3	61.9	285
Ntchisi	69.9	78.0	59.7	353	77.2	92.6	72.8	118
Phalombe	75.9	90.6	72.1	459	65.5	85.4	59.0	142
Rumphi	69.1	87.7	64.2	296	76.6	91.4	73.3	94
Salima	67.1	81.8	59.7	634	67.8	84.4	60.4	218
Thyolo	85.2	92.6	81.5	1,038	80.0	93.7	76.9	288
Zomba	77.0	92.9	73.3	1,243	70.0	89.4	65.6	383
Education								
No education	66.2	82.6	59.8	3,505	69.7	77.4	59.8	422
Primary	71.9	86.4	66.3	14,916	72.1	83.8	64.6	4,270
Secondary	76.7	90.4	71.6	4,177	75.6	90.3	71.4	1,904
More than secondary	77.6	95.8	76.3	422	61.0	85.9	57.9	223
Total 15-49	72.0	86.7	66.4	23,020	72.6	85.3	66.0	6,818
Men 50-54	na	na	na	na	73.5	87.1	66.7	357
Total 15-54	na	na	na	na	72.6	85.4	66.0	7,175

[1] Using condoms every time they have sexual intercourse
[2] Partner who has no other partners
na = Not applicable

Respondents were also asked detailed questions about their sexual behaviour, including the number of partners they had in the 12 months preceding the survey. Women and men were also asked about condom use. The results are shown in Table 16.1 for women and Table 16.2 for men.

Table 16.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Women

Among all women age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months; among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during her lifetime for women who ever had sexual intercourse, by background characteristics, Malawi 2010

	All women		Among women who had 2+ partners in the past 12 months:		Among women who ever had sexual intercourse	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Number of women	Percentage who reported using a condom during last sexual intercourse	Number of women	Mean number of sexual partners in lifetime	Number of women
Age						
15-24	0.7	9,559	31.4	69	1.5	6,465
15-19	0.7	5,005	(41.7)	33	1.4	2,195
20-24	0.8	4,555	(22.1)	36	1.5	4,270
25-29	0.7	4,400	(42.7)	31	1.7	4,355
30-39	0.6	5,772	(14.1)	32	1.8	5,740
40-49	0.6	3,288	*	20	1.8	3,280
Marital status						
Never married	0.8	4,538	(63.2)	37	1.5	1,408
Married/living together	0.5	15,528	4.4	78	1.6	15,496
Divorced/separated/widowed	1.2	2,954	(40.3)	36	2.1	2,936
Residence						
Urban	0.9	4,302	(52.5)	39	1.8	3,602
Rural	0.6	18,718	18.7	113	1.7	16,237
Region						
North	0.5	2,677	*	15	1.5	2,304
Central	0.5	9,857	(30.4)	53	1.5	8,329
South	0.8	10,485	25.8	84	1.9	9,206
District						
Balaka	1.3	601	*	8	2.1	529
Blantyre	0.4	2,036	*	8	1.8	1,727
Chikhwawa	0.2	910	*	2	1.6	794
Chiradzulu	0.7	493	*	3	1.9	435
Chitipa	0.6	270	*	1	1.4	220
Dedza	0.6	1,438	*	8	1.5	1,220
Dowa	0.0	1,060	*	0	1.4	851
Karonga	0.7	444	*	3	1.6	381
Kasungu	0.5	1,213	*	6	1.5	1,020
Lilongwe	1.0	2,844	*	29	1.6	2,398
Machinga	1.2	708	*	8	1.9	651
Mangochi	1.0	1,442	*	14	1.9	1,300
Mchinji	0.4	813	*	3	1.6	710
Mulanje	1.0	861	*	8	2.1	769
Mwanza	0.2	140	*	0	1.5	117
Mzimba	0.6	1,336	*	8	1.4	1,172
Neno	0.2	132	*	0	1.5	112
Nkhata Bay and Likoma	0.3	331	*	1	2.0	285
Nkhotakota	0.3	544	*	1	1.6	469
Nsanje	1.3	423	*	6	1.5	364
Ntcheu	0.0	960	*	0	1.6	812
Ntchisi	0.2	353	*	1	1.3	293
Phalombe	1.0	459	*	4	1.9	412
Rumphi	0.5	296	*	1	1.5	247
Salima	0.6	634	*	4	1.6	555
Thyolo	0.8	1,038	*	8	1.9	912
Zomba	1.0	1,243	*	13	2.2	1,084
Education						
No education	0.6	3,505	*	21	1.8	3,428
Primary	0.7	14,916	19.1	100	1.7	12,782
Secondary	0.5	4,177	*	21	1.7	3,281
More than secondary	2.3	422	*	10	2.0	350
Total	0.7	23,020	27.3	151	1.7	19,839

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed.

Overall, only 1 percent of women reported that they had two or more partners in the past 12 months. Among women who had two or more partners in the past 12 months, 27 percent reported using a condom at the last sexual intercourse. Among all female respondents who have ever had sexual intercourse, the mean number of partners in their lifetime is 1.7.

Overall, 9 percent of men reported that they had two or more partners in the past 12 months. Among men who had two or more partners in the past 12 months, 25 percent reported using a condom at the last sexual intercourse. Among all male respondents who have ever had sexual intercourse, the mean number of partners in their lifetime is 3.7, twice that of women.

Older men age 40-49 are twice as likely as their younger counterparts ages 15-24 to have had two or more partners in the past 12 months (14 and 7 percent, respectively). Married men are more likely to have had two or more partners in the past 12 months (11 percent) than their never-married or formerly married counterparts (6 percent and 10 percent, respectively). Half of never-married men (51 percent) who have had two or more partners in the past 12 months reported using a condom during the last sexual intercourse, compared with 12 percent of currently married men.

A higher proportion of rural men (10 percent) than urban men (7 percent) have had two or more partners in the past 12 months. Thirty-five percent of urban men and 23 percent of rural men who had two or more partners in the past 12 months reported using a condom at their last sexual intercourse.

Men with no education are slightly more likely than other men to have had two or more partners in the past 12 months (11 percent versus 9 percent). However, they are less likely to have used a condom at last sex (13 percent versus 21 percent or higher).

Table 16.2 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Men

Among all men age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months; among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during his lifetime for men who ever had sexual intercourse, by background characteristics, Malawi 2010

Background characteristic	All men		Among men who had 2+ partners in the past 12 months:		Among men who ever had sexual intercourse	
	Percentage who had 2+ partners in the past 12 months	Number of men	Percentage who reported using a condom during last sexual intercourse	Number of men	Mean number of sexual partners in lifetime	Number of men
Age						
15-24	6.5	2,987	40.5	195	2.9	2,014
15-19	4.9	1,748	36.1	85	2.5	947
20-24	8.9	1,239	44.0	110	3.2	1,068
25-29	10.7	1,099	31.0	118	3.7	1,058
30-39	10.3	1,746	13.5	179	4.1	1,685
40-49	13.7	986	10.5	136	4.7	940
Marital status						
Never married	6.4	2,689	51.4	173	3.1	1,681
Married/living together	11.1	3,895	11.6	432	3.9	3,788
Divorced/separated/widowed	9.5	234	(66.9)	22	5.4	229
Residence						
Urban	6.6	1,440	35.2	95	3.7	1,161
Rural	9.9	5,379	22.6	531	3.7	4,537
Region						
North	9.4	744	37.3	70	3.7	592
Central	8.6	3,074	23.0	264	3.4	2,593
South	9.8	3,001	22.9	293	4.0	2,513
District						
Balaka	8.7	149	*	13	4.0	129
Blantyre	5.9	701	*	41	3.5	556
Chikhwawa	13.6	276	(25.1)	37	4.0	243
Chiradzulu	5.1	151	18.8 *	8	4.3	118
Chitipa	13.7	83	(28.1)	11	3.5	62
Dedza	11.2	384	(8.6)	43	3.0	342
Dowa	12.6	377	(14.7)	48	3.2	305
Karonga	14.9	140	(30.6)	21	6.4	110
Kasungu	6.8	456	*	31	3.3	376
Lilongwe	3.5	951	*	33	3.2	783
Machinga	9.9	200	*	20	4.5	165
Mangochi	14.7	410	(28.3)	60	5.2	348
Mchinji	10.8	265	(11.9)	29	4.0	232
Mulanje	9.9	251	*	25	4.4	221
Mwanza	8.5	38	*	3	3.1	33
Mzimba	6.3	361	*	23	3.6	296
Neno	6.2	38	*	2	3.4	32
Nkhata Bay and Likoma	11.7	111	(34.4)	13	5.1	91
Nkhotakota	19.8	187	32.2	37	4.4	162
Nsanje	12.1	117	(23.0)	14	3.9	105
Ntcheu	7.1	285	*	20	4.3	261
Ntchisi	5.5	118	*	6	3.0	102
Phalombe	10.2	142	*	15	3.8	123
Rumphi	9.6	94	(54.3)	9	3.1	75
Salima	16.2	218	(33.0)	35	4.2	199
Thyolo	10.9	288	(18.3)	31	3.9	261
Zomba	8.6	383	*	33	3.9	310
Education						
No education	10.8	422	(12.7)	45	4.2	386
Primary	9.0	4,270	21.2	384	3.6	3,511
Secondary	9.3	1,904	34.1	177	3.9	1,616
More than secondary	9.3	223	*	21	3.5	186
Total 15-49	9.2	6,818	24.6	627	3.7	5,698
Men 50-54	9.6	357	(4.2)	34	6.0	341
Total 15-54	9.2	7,175	23.5	661	3.8	6,039

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates a figure is based on fewer than 25 unweighted cases and has been suppressed.

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