

# Kenya



## Demographic and Health Survey

Key Indicators  
2014



Republic of Kenya



# Kenya Demographic and Health Survey 2014

## Key Indicators

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The 2014 Kenya Demographic and Health Survey (2014 KDHS) was implemented by the Kenya National Bureau of Statistics from May 2014 to October 2014 in partnership with the Ministry of Health, the National AIDS Control Council (NACC), the National Council for Population and Development (NCPD), and the Kenya Medical Research Institute (KEMRI). Funding for the KDHS was provided by the Government of Kenya with support from the United States Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the United Kingdom Department for International Development (DfID), the World Bank, the Danish International Development Agency (DANIDA), the United Nations Children's Fund (UNICEF), the German Development Bank (KfW), the Clinton Health Access Initiative (CHAI), the World Food Programme (WFP), and the Micronutrient Initiative (MI). ICF International provided technical assistance as well as funding to the project through The DHS Program, a USAID-funded project providing support and technical assistance in the implementation of population and health surveys in countries worldwide.

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## ABBREVIATIONS

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AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Infection
BCG	Bacille Calmette-Guerin
CBR	Crude Birth Rate
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
DPT	Diphtheria, Pertussis, and Tetanus
ENA for SMART	Emergency Nutrition Assessment software for Standardized Monitoring and Assessment of Relief and Transitions
FGC	Female Genital Cutting
FGM	Female Genital Mutilation
GFR	General Fertility Rate
HIV	Human Immunodeficiency Virus
IPTp	Intermittent Preventive Treatment during Pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide-Treated Net
IUD	Intra-Uterine Device
KDHS	Kenya Demographic and Health Survey
KFS	Kenya Fertility Survey
KHPF	Kenya Health Policy Framework
LAM	Lactational Amenorrhoea Method
NASSEP	National Survey Sample and Evaluation Programme
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PNC	Postnatal Care
RBM	Roll Back Malaria
SD	Standard Deviation
SP	Sulphadoxine-Pyrimethamine
STI	Sexually Transmitted Infection
TFR	Total Fertility Rate
WHO	World Health Organization





# INTRODUCTION

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## 1.1 BACKGROUND

The Government of Kenya is committed to the improvement of the health and welfare of its citizens. Over the years, the government has taken important steps towards this goal, emphasizing that the provision of health services should meet the basic needs of the population and be geared towards providing health services within easy reach of Kenyans. It has also placed considerable emphasis on preventive, promotive and rehabilitative health services without ignoring curative services. Among the actions taken—the development of the Kenya Health Policy Framework (KHPF 1994-2010), the launch of Vision 2030, and the enactment of a new constitution in 2010— have greatly influenced the health status of Kenyans and the structure in which health services are provided. In particular, the new constitution creates a devolved system of governance with 47 counties, each of which is responsible for providing and delivering health care services to its citizens. The devolved system is intended to make the realisation of the right to health by all Kenyans a reality (Government of Kenya, 2010).

The 2014 Kenya Demographic and Health Survey (KDHS) is a national sample survey that targeted 40,300 households designed to provide detailed information on aspects of health across Kenya and in each of the 47 counties. The KDHS is conducted every five years. The 2014 KDHS was the sixth survey of its kind to be conducted in Kenya, following those carried out in 1989, 1993, 1998, 2003, and 2008-09, and it is the first KDHS to provide information at the county level. In the 2014 KDHS, information was collected on household characteristics, education and employment, marriage and sexual activity, fertility levels and preferences, awareness and use of family planning methods, maternal and child health and survival, nutritional status, ownership and use of mosquito nets, knowledge and behaviours regarding HIV, domestic violence, female circumcision, and fistula.

The 2014 KDHS data collection was undertaken from May 2014 to October 2014 to provide information to address the planning, programme implementation, monitoring, and evaluation needs of health, family planning, and HIV/AIDS programmes. It provides programme managers and policy makers involved in these programmes with the information that they need to effectively plan and implement future interventions.

Financial support for the 2014 KDHS was provided by the Government of Kenya through the Kenya National Bureau of Statistics (KNBS), the U.S. Agency for International Development (USAID), the United Nations Children’s Fund (UNICEF), the United Nations Population Fund (UNFPA), the World Bank, the UK Department for International Development (DfID), the Danish International Development Agency (DANIDA), the German Development Bank (KfW), World Food Programme (WFP), Clinton Health Access Initiative (CHAI), and Micronutrient Initiative (MI). The Demographic and Health Surveys (DHS) Program of ICF International provided technical assistance during all phases of the survey.

This Key Indicators report presents major findings from the survey. A more detailed report will be published later in the year. While considered preliminary, the findings presented here are not expected to differ significantly from those to be presented in the final report.

## **1.2 SURVEY OBJECTIVES**

The 2014 Kenya Demographic and Health Survey (KDHS) was designed to provide information to monitor and evaluate population and health status in Kenya and to be a follow-up to the previous KDHS surveys. In addition, it provides new information on indicators previously not collected in KDHS surveys, such as fistula and men's experience of domestic violence. The survey also aims to provide estimates for selected demographic and health indicators at the county level.

The specific objectives of the 2014 KDHS were to:

- Estimate fertility and childhood, maternal, and adult mortality
- Measure changes in fertility and contraceptive prevalence
- Examine basic indicators of maternal and child health
- Collect anthropometric measures for children and women
- Describe patterns of knowledge and behaviour related to transmission of HIV and other sexually transmitted infections
- Ascertain the extent and pattern of domestic violence and female circumcision

## SURVEY IMPLEMENTATION

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### 2.1 SURVEY ORGANISATION

The 2014 Kenya Demographic and Health Survey (KDHS) was a joint effort of many organisations, including:

- Kenya National Bureau of Statistics (KNBS)
- Ministry of Health (MOH)
- National AIDS Control Council (NACC)
- National Council for Population and Development (NCPD)
- Kenya Medical Research Institute (KEMRI)
- Ministry of Labour, Social Security and Services
- United States Agency for International Development (USAID/Kenya)
- ICF International
- United Nations Fund for Population Activities (UNFPA)
- Department for International Development (DfID)
- World Bank
- Danish International Development Agency (DANIDA)
- United Nations Children’s Fund (UNICEF)
- German Development Bank (KfW)
- World Food Programme (WFP)
- Clinton Health Access Initiative (CHAI)
- Micronutrient Initiative (MI)
- US Centers for Disease Control and Prevention (CDC)
- Japan International Cooperation Agency (JICA)
- Joint United Nations Programme on HIV/AIDS (UNAIDS)
- World Health Organization (WHO)

The Kenya National Bureau of Statistics (KNBS) served as the implementing agency and as such had a primary role in the planning for the survey and in the analysis and dissemination of the survey results. As the implementing agency, the Bureau took responsibility for operational matters including planning and conducting fieldwork and processing collected data. Staff from the Bureau and other partners were responsible for overseeing the day-to-day technical operations including recruitment and training of field and data processing staff and the supervision of the office and field operations. The Bureau was also responsible for organizing the writing of this report. With funding from USAID/Kenya, ICF International staff provided technical assistance. USAID/Kenya provided funding for the survey field transport in addition to other logistical support. The Ministry of Health (MOH) assisted in the review of the survey instruments and in report writing.

### 2.2 SAMPLE DESIGN AND IMPLEMENTATION

The sample for the 2014 KDHS was drawn from a master sampling frame, the Fifth National Sample Survey and Evaluation Program (NASSEP V). This is a frame that the Bureau currently operates to conduct household-based surveys throughout Kenya. The frame contains a total of 5,360 clusters split into four equal sub-samples. These clusters were drawn using a stratified probability proportional to size sampling methodology from 96,251 enumeration areas (EAs) in the 2009 Kenya Population and

Housing Census. The 2014 KDHS used two sub-samples of the NASSEP V frame that were developed in 2013. Approximately half of the clusters in these two sub-samples were updated between November 2013 and September 2014. Kenya is divided into 47 counties, which serves as devolved units of administration, created in the new constitution of 2010. In the NASSEP V frame, each of the 47 counties was stratified into urban and rural strata; in total, 92 sampling strata were created since Nairobi County and Mombasa County have only urban areas.

The 2014 KDHS was designed to produce representative estimates for most of the survey indicators at the national level, for urban and rural areas separately, at the regional (former provincial<sup>1</sup>) level, and for selected indicators at the county level. In order to meet these objectives, the sample was designed to have 40,300 households from 1,612 clusters spread across the whole country, with 995 clusters in rural areas and 617 in urban areas. Samples were selected independently in each sampling stratum, using a two stage sample design. In the first stage, the 1,612 EAs were selected with equal probability from the NASSEP V frame. The households from listing operations served as the sampling frame for the second stage of selection in which 25 households were selected from each cluster.

The interviewers visited only the preselected households, and no replacement of households was allowed during data collection. The household and woman's questionnaires were administered in all households, while the man's questionnaire was administered in every second household. Due to the non-proportional sample allocation to the sampling strata and the fixed sample take per cluster, the survey is not self-weighting. The resulting data have, therefore, been weighted to be representative at the national level and as well as at domain levels.

## **2.3 QUESTIONNAIRES**

The 2014 KDHS used a household questionnaire, a questionnaire for women age 15-49, and a questionnaire for men age 15-54. These instruments are based on the model questionnaires developed for The DHS Program as well as the questionnaires used in the previous KDHS surveys and the current information needs of Kenya. During the development of the questionnaires, input was sought from a variety of organisations that are expected to use the resulting data. A two-day workshop involving key stakeholders was held to discuss the questionnaire design.

Producing county level estimates requires collecting data from a large number of households within each county, resulting in a considerable increase in the sample size from approximately 10,000 households in the 2008-09 KDHS to 40,300 households in 2014. A survey of this magnitude introduces concerns for data quality and for overall management. To address these concerns, reduce the length of fieldwork, and limit interviewer and respondent fatigue, a decision was made not to implement the full questionnaire in every household and, in so doing, to collect only priority indicators at the county level. Stakeholders generated a list of these priority indicators. Short questionnaires were then designed based on the full questionnaires; the short questionnaires contain the subset of questions from the full questionnaires required to measure the priority indicators at the county level.

Thus, a total of five questionnaires were used in the 2014 KDHS: (1) a full Household Questionnaire; (2) a short Household Questionnaire; (3) a full Woman's Questionnaire; (4) a short Woman's Questionnaire; and (5) a Man's Questionnaire. The 2014 KDHS sample was divided into halves. In one half, households received the full Household Questionnaire, the full Woman's Questionnaire, and the Man's Questionnaire. In the other half, households received the short Household Questionnaire and the short Woman's Questionnaire. The selection for these subsamples was done at

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<sup>1</sup> Former provinces were Coast, North Eastern, Eastern, Central, Rift Valley, Western, Nyanza and Nairobi.

the household level—within a cluster, one in every two households was selected for the full questionnaires, and the remaining households were selected for the short questionnaires.<sup>2</sup>

It is important to note that the priority data collected in the short questionnaires came from all households and from all women since the short questionnaires are subsets of the full questionnaires. Therefore, data collected in both the full and the short questionnaires can produce estimates of indicators at the national, rural/urban, regional, and county levels. Data collected only in the full questionnaires (i.e., in one-half of households) can produce estimates at the national, rural/urban, and regional levels only. Data collected in the full questionnaires only are not recommended for estimation at the county level. A list of indicators included in both questionnaires is presented in Appendix A. In this report, county level data is tabulated for all indicators for which it is available. For indicators not collected at the county level, the tables presented include data at the regional level only.

The Household Questionnaire was used to list all the usual members of the household and visitors who stayed in the household the night before the survey. The main purpose of the household questionnaire was to identify women and men who were eligible for the individual interview. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor and roof of the house, ownership of various durable goods, and ownership and use of mosquito nets. In addition, this questionnaire was used to record height and weight measurements of women age 15-49 and children under age five.

The Woman's Questionnaires were used to collect information from women age 15-49. The full questionnaire covered the following topics (see Appendix A for a side-by-side comparison of topics included in the full and in the short questionnaire).

- Background characteristics (education, marital status, media exposure, etc.)
- Reproductive history
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal and delivery care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Childhood mortality
- Awareness and behaviour about HIV and other sexually transmitted infections
- Adult mortality, including maternal mortality
- Domestic violence
- Female circumcision
- Fistula

The Man's Questionnaire was administered to men age 15-54 living in every second household in the sample. The Man's Questionnaire collected information similar to that contained in the Woman's

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<sup>2</sup> Note, during training and fieldwork, KDHS field staff referred to the "full" questionnaires as the "long" questionnaires.

Questionnaire but was shorter because it did not contain questions on maternal and child health, nutrition, adult and maternal mortality, or experience of female circumcision or fistula.

Both the Woman's and the Man's Questionnaires also included a series of questions to obtain information on respondents' experience of domestic violence. The domestic violence questions were administered in the subsample of households that received the full Household Questionnaire, full Woman's Questionnaire, and Man's Questionnaire. Additionally, the violence questions were administered to only one eligible individual, a woman or a man, per household. In households with more than one eligible individual, special procedures were followed in order to ensure that there was random selection of the respondent to be interviewed with the domestic violence module.

After finalisation of the questionnaires in English, they were translated into 16 other languages, namely Borana, Embu, Kalenjin, Kamba, Kikuyu, Kisii, Luhya, Luo, Maragoli, Maasai, Meru, Mijikenda, Pokot, Somali, Swahili, and Turkana. The translated questionnaires were pretested to detect any possible problems in the translation or flow, as well as to gauge the length of time required for interviews.

## **2.4 TRAINING AND DATA COLLECTION**

### **2.4.1 Training of Trainers**

A training of trainers was conducted by ICF International from January 20–25, 2014 with 18 trainers drawn from the Kenya National Bureau of Statistics (KNBS) and the Ministry of Health. The objectives of the training were to harmonize concepts on survey design and questionnaire content, to review effective adult teaching techniques, and to familiarize trainers with the training materials and equipment. The trainers participated as trainers in the pretest and the main training and later served as fieldwork coordinators during data collection.

### **2.4.2 Pre-test**

The pre-test took place from January 17–February 15, 2014. The objectives of the pre-test were (1) to train interviewers, editors, and supervisors to fulfill their respective roles and to conduct high quality household and individual interviews, (2) to pilot the questionnaires and their translations in the field, and (3) to review and modify the questionnaire translations based on the field experience. Classroom training addressed all aspects of the questionnaire content and interviewing procedures and included anthropometry practice with children from neighbouring children's care centres. Training concluded with two days of field practice after which the field teams were sent to several clusters to complete the above stated objectives. The pre-test clusters allowed for fieldwork in all 17 languages and were not included in the actual KDHS sample. After the fieldwork, there was a two-day debriefing workshop held to look at the issues emanating from the pre-test. The resolutions from the debriefing were used to finalize the questionnaires and to improve field logistics before the implementation of the main training and the actual survey.

### **2.4.3 Main Training**

Several categories of personnel were recruited and trained to undertake the 2014 KDHS. These included 48 supervisors, 48 field editors, 144 female interviewers, 48 male interviewers, 28 quality assurance personnel, and 20 reserves.

The training for these field personnel took place from March 24–April 17, 2014, at a central venue in Nakuru. Trainees were divided into six classrooms, each managed by three trainers. The training consisted of a detailed, question-by-question explanation of the questionnaires, accompanied

by explanations from the interviewer's manual, demonstration through role-plays, group discussion and in-class practice interviewing in pairs. A number of graded take-home assignments and quizzes were administered, the results of which were used both to enhance understanding of key terms and concepts and to identify candidates for further strengthening or elimination from the field teams. A number of guest speakers were invited to give lectures on specific topics relevant to the KDHS.

Anthropometry training provided all trainees with instruction, demonstration, and practice in length/height and weight measurements for children and adults. Trainees completed a standardisation exercise with children intended to gauge and improve measurement accuracy and precision. This exercise invited 175 children age 0-59 months and their caregivers to the training site in groups of 50 child-caregiver pairs assigned throughout the day to one of three classrooms. Fifteen trained nutrition specialists measured each of the children assigned to their classroom and thereby provided a reference measurement. Each of the 336 trainees served both the roles of measurer and assistant and measured the same ten children twice. Results were recorded and analysed using Software for Emergency Nutrition Assessment (ENA for SMART). A debriefing session was held to provide feedback and correction to trainees.

Three field practice sessions were held throughout the main training. Trainees were organised into teams with a team leader selected from the pre-test trainees. Team leaders assisted with logistics, guided trainees through the fieldwork, monitored trainee performance, edited trainee questionnaires for errors, and debriefed their team on errors/corrections. The first field practice occurred early in the training and focused only on the Household Questionnaire. The final two days of field practice occurred at the end of training and covered the full KDHS protocol: all questionnaires, salt testing, and anthropometry.

#### **2.4.4 Data Collection**

Field staff were divided into 48 teams—one in each county with Nairobi having two teams. Each team had one supervisor, one field editor, three female interviewers, one male interviewer, and a driver. Data collection was overseen by coordinators who had also served as trainers and by a staff of 28 quality assurance personnel. Coordinators were each assigned two to three teams for which they were responsible for observing and monitoring the quality of data collection, ensuring uniformity in data collection procedures and fidelity to survey protocol, providing moral support to the field teams, and replenishing field team supplies. Quality control staff fulfilled similar responsibilities. Fieldwork for the main survey took place from May 7–October 20, 2014.

### **2.5 DATA PROCESSING**

Data editing was first done in the field by field editors and supervisors before the completed questionnaires were sent to the KNBS data processing centre in Nairobi. These questionnaires were further reviewed and verified before data entry received by questionnaire administrators who verified cluster and household numbers to establish if the received questionnaires were consistent with the sampled list.

Data entry was carried out from June 3–November 21, 2014. All data were double entered (100 percent verification) using CSPro software. Thereafter, secondary editing, which included further data cleaning and validation, was done before tabulation of the results by KNBS in collaboration with ICF International.





## SURVEY RESULTS

### 3.1 GENERAL SURVEY RESULTS

#### 3.1.1 Response Rates

Table 3.1 presents the summary response rates for the 2014 KDHS. A total of 39,679 households were selected in the sample, of which 36,812 were found occupied at the time of the fieldwork. Of these, 36,430 households were successfully interviewed, yielding an overall household response rate of 99 percent. The shortfall of households occupied was primarily due to structures that were found to be vacant or destroyed and households that were absent for an extended period of time.

The 2014 KDHS sample was divided into halves. In one half, households received the full Household Questionnaire, the full Woman's Questionnaire, and the Man's Questionnaire. In the other half, households received the short Household Questionnaire and the short Woman's Questionnaire. The household response rate for the full Household Questionnaire was 99 percent, as was the household response rate for the short Household Questionnaire.

Among the households selected for and interviewed using the full questionnaires, a total of 15,317 women were identified as eligible for the full women's questionnaire, of whom 14,741 were interviewed, generating a response rate of 96 percent. A total of 14,217 men were identified as eligible in these households, of whom 12,819 were successfully interviewed, generating a response rate of 90 percent.

Among the households selected for and interviewed with the short questionnaires, a total of 16,855 women were identified as eligible for the short women's questionnaire, of whom 16,338 were interviewed, yielding a response rate of 97 percent.

The response rates are lower in the urban sample than in the rural sample, more so for men. The principal reason for non-response among both eligible men and eligible women

was the failure to find them at home despite repeated visits to the households. The substantially lower response rates for men reflect the more frequent and longer absences of men from the households.

Table 3.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Kenya 2014

Result	Residence		Total
	Urban	Rural	
<b>ALL HOUSEHOLDS</b>			
<b>Household interviews</b>			
Households selected	15,419	24,260	39,679
Households occupied	14,177	22,635	36,812
Households interviewed	13,914	22,516	36,430
Household response rate <sup>1</sup>	98.1	99.5	99.0
<b>Interviews with women age 15-49</b>			
Number of eligible women	12,157	20,015	32,172
Number of eligible women interviewed	11,614	19,465	31,079
Eligible women response rate <sup>2</sup>	95.5	97.3	96.6
<b>HOUSEHOLDS SELECTED FOR FULL QUESTIONNAIRES</b>			
<b>Household interviews</b>			
Households selected	7,394	11,636	19,030
Households occupied	6,790	10,835	17,625
Households interviewed	6,645	10,764	17,409
Household response rate <sup>1</sup>	97.9	99.3	98.8
<b>Interviews with women age 15-49</b>			
Number of eligible women	5,772	9,545	15,317
Number of eligible women interviewed	5,472	9,269	14,741
Eligible women response rate <sup>2</sup>	94.8	97.1	96.2
<b>Interviews with men age 15-54</b>			
Number of eligible men	5,676	8,541	14,217
Number of eligible men interviewed	4,915	7,904	12,819
Eligible men response rate <sup>2</sup>	86.6	92.5	90.2
<b>HOUSEHOLDS SELECTED FOR SHORT QUESTIONNAIRES</b>			
<b>Household interviews</b>			
Households selected	8,025	12,624	20,649
Households occupied	7,387	11,800	19,187
Households interviewed	7,269	11,752	19,021
Household response rate <sup>1</sup>	98.4	99.6	99.1
<b>Interviews with women age 15-49</b>			
Number of eligible women	6,385	10,470	16,855
Number of eligible women interviewed	6,142	10,196	16,338
Eligible women response rate <sup>2</sup>	96.2	97.4	96.9

<sup>1</sup> Households interviewed/households occupied.

<sup>2</sup> Respondents interviewed/eligible respondents.

### 3.1.2 Characteristics of Respondents

The weighted and unweighted distribution of women age 15-49 and men age 15-54 by background characteristics is shown in Table 3.2. The proportions of both women and men tend to decline with increasing age, reflecting the comparatively young age structure of the Kenyan population. About 60 percent of women are married or living in an informal union with a man, compared with only 51 percent of men. Almost half of the interviewed men (44 percent) have never married, compared with less than one-third (29 percent) of the women. On the other hand, women are more likely than men to be widowed, divorced, or separated.

The survey shows that 59 percent of women and 56 percent of men live in rural areas. The percentages of women and men with primary school education are similar, although more men have a secondary or higher level of education (49 percent of men compared with 43 percent of women). About 70 percent of respondents are Protestant, about 20 percent are Roman Catholic, and about 7 percent are Muslim.

Table 3.3 presents the weighted and unweighted distribution of women and men respondents by county. More respondents live in Nairobi, Kiambu, and Nakuru counties (between 5 and 13 percent), while each of the other 44 counties contains a smaller proportion of respondents. Most respondents live in the 14 counties within the Rift Valley region (26 percent of women and 25 percent of men).

**Table 3.2 Background characteristics of respondents**

Percent distribution of women and men age 15-49 by selected background characteristics, Kenya 2014

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
<b>Age</b>						
15-19	18.7	5,820	6,078	21.1	2,540	2,811
20-24	18.5	5,735	5,405	17.6	2,125	1,981
25-29	19.6	6,100	5,939	17.4	2,104	1,942
30-34	14.5	4,510	4,452	14.8	1,785	1,701
35-39	12.1	3,773	3,868	12.3	1,483	1,486
40-44	9.3	2,885	2,986	10.1	1,224	1,198
45-49	7.3	2,257	2,351	6.6	800	895
<b>Religion</b>						
Roman Catholic	20.3	6,315	6,229	21.4	2,583	2,551
Protestant/other Christian	71.1	22,091	20,072	67.5	8,141	7,500
Muslim	6.8	2,107	4,161	6.5	784	1,460
No religion	1.5	466	506	4.1	492	449
Other	0.2	65	73	0.5	59	51
Missing	0.1	36	38	0.0	3	3
<b>Marital status</b>						
Never married	28.9	8,997	8,575	44.4	5,350	5,384
Married	54.6	16,961	17,751	48.4	5,839	5,748
Living together	5.1	1,588	1,285	2.1	256	241
Divorced/separated	7.7	2,394	2,277	4.7	567	585
Widowed	3.7	1,139	1,191	0.4	50	56
<b>Residence</b>						
Urban	40.8	12,690	11,614	43.9	5,300	4,648
Rural	59.2	18,389	19,465	56.1	6,762	7,366
<b>Education</b>						
No education	7.0	2,176	4,183	2.9	345	663
Primary incomplete	25.7	7,989	8,431	25.5	3,071	3,466
Primary complete	24.6	7,637	7,182	22.7	2,734	2,720
Secondary+	42.7	13,277	11,283	49.0	5,913	5,165
<b>Wealth quintile</b>						
Lowest	15.6	4,838	7,262	14.0	1,691	2,504
Second	17.6	5,457	5,970	17.8	2,145	2,443
Middle	19.4	6,032	5,946	19.7	2,370	2,466
Fourth	21.1	6,550	5,958	24.5	2,959	2,579
Highest	26.4	8,203	5,943	24.0	2,897	2,022
Total 15-49	100.0	31,079	31,079	100.0	12,063	12,014
Men 50-54	na	0	0	na	756	805
Total 15-54	na	0	0	na	12,819	12,819

na = Not applicable

Table 3.3 Respondents by county

Percent distribution of women and men age 15-49 by county, Kenya 2014

County	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
<b>Coast</b>	<b>9.9</b>	<b>3,076</b>	<b>3,902</b>	<b>10.4</b>	<b>1,260</b>	<b>1,505</b>
Mombasa	2.9	912	598	4.0	481	270
Kwale	2.0	619	671	1.9	226	250
Kilifi	3.4	1,043	824	3.0	359	304
Tana River	0.6	197	686	0.5	65	204
Lamu	0.3	89	600	0.3	37	227
Taita Taveta	0.7	215	523	0.8	93	250
<b>North Eastern</b>	<b>2.1</b>	<b>648</b>	<b>1,664</b>	<b>1.9</b>	<b>227</b>	<b>591</b>
Garissa	0.8	261	609	0.8	94	208
Wajir	0.7	212	532	0.6	72	187
Mandera	0.6	175	523	0.5	60	196
<b>Eastern</b>	<b>14.1</b>	<b>4,375</b>	<b>5,247</b>	<b>15.1</b>	<b>1,825</b>	<b>2,144</b>
Marsabit	0.4	115	575	0.3	40	199
Isiolo	0.3	104	606	0.3	35	196
Meru	3.6	1,110	682	4.1	495	320
Tharaka-Nithi	0.9	275	528	0.8	102	215
Embu	1.5	459	645	1.4	164	266
Kitui	2.4	759	747	2.5	303	318
Machakos	2.8	873	718	3.6	436	335
Makueni	2.2	680	746	2.1	250	295
<b>Central</b>	<b>12.9</b>	<b>3,994</b>	<b>3,114</b>	<b>13.0</b>	<b>1,564</b>	<b>1,248</b>
Nyandarua	1.4	436	562	1.6	198	242
Nyeri	2.1	650	708	1.9	229	275
Kirinyaga	1.5	451	560	1.5	184	250
Murang'a	2.4	735	633	2.4	284	250
Kiambu	5.5	1,722	651	5.5	669	231
<b>Rift Valley</b>	<b>25.6</b>	<b>7,953</b>	<b>9,059</b>	<b>25.3</b>	<b>3,050</b>	<b>3,484</b>
Turkana	1.0	320	514	0.6	76	118
West Pokot	0.9	267	534	0.9	103	234
Samburu	0.4	123	579	0.3	35	159
Trans-Nzoia	2.5	768	695	2.7	329	322
Uasin Gishu	2.5	784	689	2.9	355	335
Elgeyo Marakwet	0.8	250	630	0.7	86	234
Nandi	2.0	628	742	2.2	264	338
Baringo	1.1	335	598	1.0	125	229
Laikipia	1.1	342	631	1.0	124	234
Nakuru	5.1	1,574	741	4.9	589	280
Narok	2.1	642	702	2.0	240	265
Kajiado	2.2	670	642	2.0	241	226
Kericho	1.8	563	654	1.8	215	227
Bomet	2.2	687	708	2.2	267	283
<b>Western</b>	<b>10.4</b>	<b>3,225</b>	<b>2,840</b>	<b>9.6</b>	<b>1,164</b>	<b>1,130</b>
Kakamega	3.6	1,108	725	3.4	411	312
Vihiga	1.2	368	634	1.2	140	252
Bungoma	3.9	1,203	805	3.4	413	307
Busia	1.8	546	676	1.6	199	259
<b>Nyanza</b>	<b>13.0</b>	<b>4,038</b>	<b>4,254</b>	<b>11.6</b>	<b>1,405</b>	<b>1,542</b>
Siaya	1.8	572	654	1.8	213	264
Kisumu	2.6	820	696	2.6	309	272
Homa Bay	2.6	798	716	2.0	243	238
Migori	2.1	650	770	1.7	211	251
Kisii	2.8	864	794	2.6	315	291
Nyamira	1.1	334	624	0.9	114	226
<b>Nairobi</b>	<b>12.1</b>	<b>3,770</b>	<b>999</b>	<b>13.0</b>	<b>1,568</b>	<b>370</b>
Total 15-49	100.0	31,079	31,079	100.0	12,063	12,014
Men 50-54	na	0	0	na	756	805
Total 15-54	na	0	0	na	12,819	12,819

na = Not applicable

## 3.2 FERTILITY

### 3.2.1 Fertility Levels and Trends

Fertility data were collected in the survey by asking each woman interviewed for a history of her births. The information obtained on each of the woman's births included the month and year of the birth. These data are used to calculate two of the most widely used measures of current fertility, the total fertility rate (TFR) and its component, age-specific fertility rates.

According to the survey findings, the total fertility rate is 3.9 births per woman (Table 3.4). This means that on average, a Kenyan woman who is at the beginning of her childbearing years will give birth to about four children by the end of her reproductive period if fertility levels remain constant at the level observed in the three-year period preceding the survey.

Table 3.4 also shows differentials in current fertility for urban and rural areas in Kenya. The TFR in rural areas is 4.5 and is significantly higher than the rate in urban areas (3.1 births per woman). The results also show that the fertility rate by age is higher in rural areas across all age groups. The 20-24 year age cohort has the largest absolute difference. The rate among rural women in this age cohort is 248 births per thousand women, compared with an urban rate of 164 births per thousand. Despite these differences, the rural-urban fertility differences are narrowing compared with previous surveys.

Table 3.4 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Kenya 2014

Age group	Residence		
	Urban	Rural	Total
15-19	81	106	96
20-24	164	248	206
25-29	149	214	183
30-34	119	170	148
35-39	73	116	100
40-44	23	45	38
45-49	6	10	9
TFR (15-49)	3.1	4.5	3.9
GFR	118	158	141
CBR	31.0	30.3	30.5

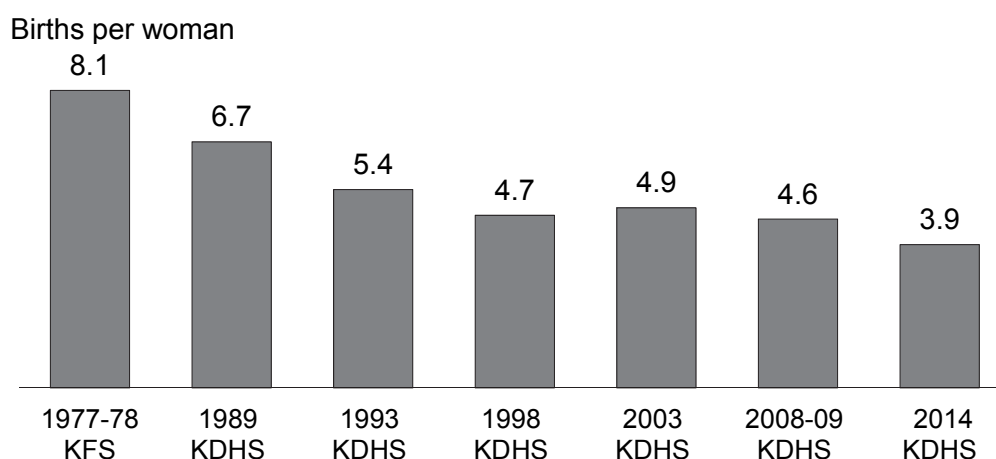
Note: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.

TFR: Total fertility rate expressed per woman  
GFR: General fertility rate expressed per 1,000 women age 15-44

CBR: Crude birth rate expressed per 1,000 population

Figure 3.1 shows trends in total fertility rates since the mid-1970s. There is an overall decline from the 8.1 births per woman in the mid-1970s with a sharp decrease measured between the 1977-78 Kenya Fertility Survey (KFS) and the 1993 KDHS. The decline slowed in the 1990s, but the decrease in TFR from 4.6 in the 2008-09 KDHS to the current 3.9 may indicate that Kenya's fertility is returning to the decline observed from the mid-1970s through the 1990s. The TFR of 3.9 for the whole country is the lowest ever recorded.

Figure 3.1 Trends in total fertility rate, 1978-2014\*



\*Data from 2003 and later are nationally representative, while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

### 3.2.2 Fertility Differentials

Table 3.5 shows the differentials in fertility levels by urban-rural residence, education, and wealth quintile. Kenyan women living in rural areas bear more children than those living in urban areas. Women in lower socio-economic strata bear more children than their wealthier counterparts; women from households in the lowest wealth quintile have a TFR that is more than twice that of women from the highest quintile. Similarly, women with no education have a TFR more than twice that of women with a secondary or higher level of education.

Table 3.6 shows fertility levels by county. The counties with the lowest TFR are Kirinyaga (2.3) followed by Nyeri, Kiambu, and Nairobi, all with a TFR of 2.7. The counties with the highest TFR are Wajir (7.8), West Pokot (7.2), Turkana (6.9), and Samburu (6.3). Counties with the higher TFRs tend to come from arid and semi-arid parts of northern Kenya.

Table 3.5 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Kenya 2014

Background characteristic	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
<b>Residence</b>			
Urban	3.1	6.0	3.9
Rural	4.5	6.4	5.6
<b>Education</b>			
No education	6.5	11.0	6.5
Primary incomplete	4.8	6.3	6.0
Primary complete	4.2	6.3	5.1
Secondary+	3.0	5.4	3.7
<b>Wealth quintile</b>			
Lowest	6.4	9.4	6.7
Second	4.7	6.5	5.9
Middle	3.8	5.7	5.5
Fourth	3.1	5.7	4.3
Highest	2.8	5.0	3.4
Total	3.9	6.3	5.0

Note: Total fertility rates are for the period 1-36 months preceding the interview.

Table 3.6 Fertility by county

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by county, Kenya 2014

County	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
<b>Coast</b>	<b>4.3</b>	<b>6.6</b>	<b>5.5</b>
Mombasa	3.2	5.4	4.1
Kwale	4.7	7.5	5.8
Kilifi	5.1	7.1	6.4
Tana River	5.8	10.2	7.4
Lamu	4.3	5.6	5.0
Taita Taveta	3.2	3.7	4.3
<b>North Eastern</b>	<b>6.4</b>	<b>12.0</b>	<b>7.1</b>
Garissa	6.1	11.7	6.8
Wajir	7.8	13.6	7.9
Mandera	5.2	10.6	6.4
<b>Eastern</b>	<b>3.4</b>	<b>4.6</b>	<b>4.7</b>
Marsabit	5.0	12.7	6.0
Isiolo	4.9	6.2	6.1
Meru	3.1	4.8	4.3
Tharaka-Nithi	3.4	4.4	4.3
Embu	3.1	4.5	4.1
Kitui	3.9	4.1	5.3
Machakos	3.4	3.9	4.3
Makueni	3.3	4.0	5.5
<b>Central</b>	<b>2.8</b>	<b>4.8</b>	<b>3.7</b>
Nyandarua	3.5	6.0	4.8
Nyeri	2.7	4.8	3.3
Kirinyaga	2.3	4.1	3.4
Murang'a	3.0	4.3	3.9
Kiambu	2.7	5.0	3.6
<b>Rift Valley</b>	<b>4.5</b>	<b>7.0</b>	<b>5.5</b>
Turkana	6.9	10.6	6.4
West Pokot	7.2	10.7	6.4
Samburu	6.3	11.6	6.5
Trans-Nzoia	5.2	6.3	6.6
Uasin Gishu	3.6	8.4	5.3
Elgeyo Marakwet	4.1	5.9	5.8

Continued...

Table 3.6—Continued

County	Total fertility rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Nandi	4.0	4.8	6.1
Baringo	4.8	7.8	6.2
Laikipia	3.7	7.9	4.9
Nakuru	3.7	5.3	4.7
Narok	6.0	10.2	6.7
Kajiado	4.5	7.7	4.3
Kericho	4.0	5.7	5.0
Bomet	4.3	5.5	5.7
<b>Western</b>	<b>4.7</b>	<b>6.7</b>	<b>6.1</b>
Kakamega	4.4	7.3	5.4
Vihiga	4.5	6.2	5.3
Bungoma	5.0	6.2	6.9
Busia	4.7	6.8	6.5
<b>Nyanza</b>	<b>4.3</b>	<b>5.9</b>	<b>5.8</b>
Siaya	4.2	5.9	5.9
Kisumu	3.6	5.3	5.6
Homa Bay	5.2	6.4	6.2
Migori	5.3	9.0	7.0
Kisii	3.7	5.0	5.1
Nyamira	3.5	3.2	4.7
<b>Nairobi</b>	<b>2.7</b>	<b>6.8</b>	<b>3.1</b>
Total	3.9	6.3	5.0

Note: Total fertility rates are for the period 1-36 months preceding the interview.

### 3.2.3 Teenage Pregnancy

Evidence of the extent of teenage fertility is given in Table 3.7, which presents the percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and the percentage of women who have begun childbearing, by selected background characteristics. Fifteen percent of women age 15-19 have already had a birth while 18 percent have begun childbearing (had a live birth or are pregnant with their first child). The percentage of women who have begun childbearing increases rapidly with age, from about 3 percent among women age 15 to 40 percent among women age 19.

The rural-urban differences are small, indicating that early childbearing is nearly the same across place of residence. Prevalence of early childbearing is highest in the Nyanza region followed by Rift Valley and Coast; it is lowest in Central and North Eastern region. Slightly more than 3 in 10 women age 15-19 with no education have begun child bearing compared with only 12 percent among those who have a secondary or higher level of education. Similarly, teenagers from poorer households are more likely to have begun childbearing (26 percent) than are teenagers from wealthier households (10 percent). The proportion of teenagers who have begun childbearing has not changed since the 2008-09 KDHS.

**Table 3.7 Teenage pregnancy and motherhood**

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, by background characteristics, Kenya 2014

Background characteristic	Percentage of women age 15-19 who:		Percentage who have begun childbearing	Number of women
	Have had a live birth	Are pregnant with first child		
<b>Age</b>				
15	1.7	1.6	3.2	1,226
16	5.9	2.0	8.0	1,206
17	10.3	4.7	15.0	1,078
18	21.5	4.4	25.9	1,185
19	35.3	4.6	39.9	1,125
<b>Residence</b>				
Urban	14.0	3.3	17.3	1,859
Rural	15.0	3.5	18.5	3,961
<b>Region</b>				
Coast	16.6	4.3	20.8	604
North Eastern	8.7	3.5	12.2	143
Eastern	12.1	2.3	14.4	849
Central	7.7	2.7	10.4	600
Rift Valley	17.0	4.3	21.2	1,492
Western	14.1	2.7	16.8	790
Nyanza	19.2	3.0	22.2	874
Nairobi	13.1	4.3	17.4	467
<b>Education</b>				
No education	29.2	4.1	33.2	133
Primary incomplete	15.7	3.2	18.9	2,102
Primary complete	30.0	6.2	36.2	801
Secondary+	8.8	2.7	11.5	2,783
<b>Wealth quintile</b>				
Lowest	22.3	3.9	26.2	1,040
Second	14.5	3.9	18.4	1,220
Middle	15.8	3.4	19.1	1,331
Fourth	13.1	3.7	16.8	1,113
Highest	8.1	2.1	10.2	1,116
<b>Total</b>	<b>14.7</b>	<b>3.4</b>	<b>18.1</b>	<b>5,820</b>

### 3.2.4 Fertility Preferences

Information on fertility preferences is of considerable importance to family planning programmes because it allows planners to assess the need for contraception, whether for spacing or limiting of births. Several questions were asked in the survey concerning women's fertility preferences, including: (1) whether the respondent wanted another child; and (2) if so, when she would like to have the next child. The answers to these questions allow estimation of potential demand for family planning services, either to limit or space births.

Table 3.8 shows that there is considerable desire among Kenyan women to control the timing and number of births. Among currently married women, 32 percent would like to delay their next birth for two years or more, and 47 percent do not want to have any more children. About 13 percent of married women would like to have a child soon (within two years). Three percent of women are completely undecided, while 1 percent of women want to have another child but are undecided as to when.

Fertility preferences are closely related to the number of living children a woman has. In general, as the number of living children increases, the desire to have another child decreases and vice versa. The majority of currently married women with no living child (73 percent) would like to have a child soon, while a majority of those with one child (65 percent) would prefer to have a second child after some delay. Interest in controlling the number of births grows rapidly as the number of children increases; for instance, more than half of currently married women with three or more children want no more children or are sterilised, but only 3 percent of women with no children want no more. These numbers are consistent with the decrease seen in the total fertility rate.



**Table 3.8 Fertility preferences by number of living children**

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Kenya 2014

Desire for children	Number of living children <sup>1</sup>						Total	
	0	1	2	3	4	5		6+
Have another soon <sup>2</sup>	72.6	25.2	12.8	7.5	4.6	4.5	4.3	12.9
Have another later <sup>3</sup>	18.2	64.8	47.0	27.4	16.0	12.3	7.2	31.9
Have another, undecided when	1.5	1.4	1.1	0.5	0.2	0.1	0.5	0.7
Undecided	2.1	1.3	2.8	3.4	4.1	2.6	4.7	3.1
Want no more	2.7	6.2	34.7	57.3	69.2	72.7	72.7	47.0
Sterilised <sup>4</sup>	0.0	0.0	0.6	2.8	5.0	6.9	8.7	3.3
Declare infecund	2.4	0.7	0.8	0.7	0.6	0.9	1.4	0.9
Missing	0.6	0.3	0.2	0.3	0.3	0.0	0.5	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	312	1,439	2,020	1,676	1,225	825	1,214	8,710

<sup>1</sup> The number of living children includes current pregnancy

<sup>2</sup> Wants next birth within two years

<sup>3</sup> Wants to delay next birth for two or more years

<sup>4</sup> Includes both female and male sterilisation

### 3.3 CONTRACEPTION

Level of current use of contraception is the most widely employed and valuable measure of the success of family planning programmes. The contraceptive prevalence rate (CPR) is usually defined as the percentage of currently married women who are currently using a method of contraception. Table 3.9 shows the level and key differentials in the CPR by method as reported by currently married and sexually active unmarried women. Contraceptive methods are grouped into two types in the table, namely modern and traditional methods. Modern methods include female and male sterilisation, IUD, implants, injectables, pill, male and female condoms, and lactational amenorrhoea method (LAM). Traditional methods include the rhythm method (periodic abstinence), withdrawal, and other folk methods.

Slightly more than half of currently married women (58 percent) are currently using some method of contraception; 65 percent of sexually active unmarried women currently use some method of contraception. Among currently married women, modern methods of contraception are more commonly used (53 percent) than are traditional methods (5 percent). Of the modern methods, injectables are the most widely used (26 percent), followed by implants (10 percent) and the pill (8 percent). Rhythm method is the most popular traditional method used (4 percent).

Contraceptive prevalence peaks among married women in the 30-34 age-group and is lowest for women age 15-19. A higher percentage of urban women (62 percent) use some method of contraception, compared with their rural counterparts (56 percent). Contraceptive prevalence increases dramatically with education. Only 18 percent of currently married women with no education use a method, while more than half of women with at least some primary school level of education use contraception. Women with 3-4 children are the most likely to be using contraception (66 percent).

Table 3.10 shows currently married women in Central region have the highest contraceptive prevalence rate (73 percent) followed by Eastern region (70 percent). Contraceptive use is lowest in the North Eastern region (3 percent). Twenty-two counties have a CPR above the national average (58 percent). In six of these counties, nearly three-quarters of currently married women use a method: Kirinyaga (81 percent), Makueni (80 percent), Meru (78 percent), Machakos (76 percent), Tharaka-Nithi and Kiambu (74 percent each). Counties with the lowest contraceptive prevalence rates are predominantly from northern Kenya and include: Mandera and Wajir (2 percent each), Garissa (6 percent), Turkana (10 percent), and Marsabit (12 percent).

Table 3.9. Current use of contraception by background characteristics

Percent distribution of currently married women and sexually active unmarried women age 15-49, by contraceptive method currently used, according to background characteristics, Kenya 2014

Background characteristic	Modern method										Traditional method				Number of women
	Any modern method					Female sterilisation					Any traditional method				
	Any method	Female sterilisation	Male sterilisation	IUD	Implants	Injectables	Pill	Male condom	Female condom	LAM	Other	Rhythm	Withdrawal	Other	
<b>CURRENTLY MARRIED WOMEN</b>															
<b>Age</b>															
15-19	40.2	36.8	0.0	0.0	5.4	27.1	1.9	2.1	0.0	0.0	3.4	2.0	1.3	0.1	59.8
20-24	53.5	49.8	0.1	0.0	9.6	30.2	6.3	2.2	0.0	0.0	3.7	2.9	0.5	0.3	46.5
25-29	60.8	57.3	0.4	0.0	12.9	31.4	7.2	2.1	0.0	0.1	3.6	2.9	0.4	0.2	39.2
30-34	63.5	59.1	2.3	0.0	11.9	29.7	9.1	1.9	0.0	0.2	4.5	3.2	0.7	0.5	36.5
35-39	63.0	57.7	4.8	0.1	10.4	24.5	10.8	2.6	0.0	0.1	5.3	4.4	0.8	0.1	37.0
40-44	57.7	51.1	8.1	0.1	6.5	18.0	9.1	2.6	0.0	0.0	6.6	5.3	0.8	0.5	42.3
45-49	45.2	37.2	11.0	0.0	2.9	11.6	7.5	1.9	0.0	0.0	8.0	6.7	0.7	0.6	54.8
<b>Residence</b>															
Urban	61.8	56.9	2.1	0.0	12.0	24.7	10.7	2.6	0.0	0.1	4.9	3.8	0.7	0.4	38.2
Rural	55.5	50.9	3.9	0.0	8.6	27.5	6.2	1.9	0.0	0.1	4.6	3.7	0.7	0.3	44.5
<b>Education</b>															
No education	17.7	15.3	1.2	0.0	3.7	8.3	1.3	0.5	0.0	0.0	2.4	1.5	0.7	0.1	82.3
Primary incomplete	54.6	51.1	3.9	0.1	10.4	28.5	4.5	1.9	0.0	0.1	3.4	2.7	0.4	0.3	45.4
Primary complete	64.3	59.6	4.2	0.0	9.9	30.7	9.7	1.6	0.0	0.1	4.7	3.7	0.7	0.3	35.7
Secondary+	65.3	59.0	2.4	0.0	11.1	26.1	10.7	3.3	0.0	0.1	6.3	5.1	0.8	0.4	34.7
<b>Wealth quintile</b>															
Lowest	32.3	29.2	1.9	0.0	5.7	19.0	1.4	0.8	0.0	0.0	3.1	2.2	0.8	0.1	67.7
Second	58.2	54.1	3.6	0.0	10.1	31.4	5.6	1.8	0.0	0.0	4.1	3.4	0.5	0.2	41.8
Middle	64.2	59.5	4.8	0.0	9.8	32.4	7.3	2.1	0.0	0.1	4.7	3.8	0.6	0.3	35.8
Fourth	65.9	60.9	3.1	0.1	11.1	30.4	9.5	2.9	0.0	0.1	5.0	4.0	0.7	0.3	34.1
Highest	63.9	57.7	2.7	0.0	11.7	19.9	13.4	2.9	0.0	0.1	6.2	4.9	0.7	0.6	36.1
<b>Number of living children</b>															
0	15.4	12.3	0.0	0.0	0.4	3.0	3.7	4.8	0.0	0.0	3.1	2.5	0.6	0.0	84.6
1-2	61.4	56.5	0.4	0.0	10.8	29.7	9.5	2.2	0.0	0.1	4.8	3.8	0.6	0.4	38.6
3-4	65.9	61.3	4.0	0.0	11.2	30.3	9.4	2.0	0.0	0.1	4.6	3.7	0.6	0.3	34.1
5+	51.9	46.6	7.7	0.1	8.9	21.3	4.4	1.8	0.0	0.1	5.3	4.1	0.8	0.3	48.1
Total	58.0	53.2	3.2	0.0	9.9	26.4	8.0	2.2	0.0	0.1	4.8	3.8	0.7	0.3	42.0
<b>SEXUALLY ACTIVE UNMARRIED WOMEN</b>															
<b>Residence</b>															
Urban	70.3	66.2	0.5	0.0	1.4	8.6	18.3	7.0	29.6	1.0	4.1	2.7	1.2	0.2	29.7
Rural	58.8	53.9	3.9	0.0	0.9	4.4	27.7	6.2	10.6	0.0	4.9	4.0	0.9	0.0	41.2
Total	65.4	60.9	1.9	0.0	1.1	6.8	22.3	6.6	21.4	0.6	4.5	3.3	1.1	0.1	34.6

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

Table 3.10 Current use of contraception by county

Percent distribution of currently married women age 15-49, by contraceptive method currently used, according to county, Kenya 2014

County	Modern method										Traditional method				Number of women				
	Any method	Any modern method	Female sterilisation	Male sterilisation	IUD	Implants	Injectables	Pill	Male condom	Female condom	LAM	Other	Any traditional method	Rhythm		Withdrawal	Other	Not currently using	Total
<b>Coast</b>	<b>43.9</b>	<b>38.3</b>	<b>1.6</b>	<b>0.0</b>	<b>2.2</b>	<b>9.4</b>	<b>18.7</b>	<b>4.7</b>	<b>1.5</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>5.6</b>	<b>4.2</b>	<b>1.4</b>	<b>0.1</b>	<b>56.1</b>	<b>100.0</b>	<b>1,821</b>
Mombasa	55.0	43.6	0.2	0.0	3.2	12.6	17.7	6.5	2.9	0.0	0.4	0.0	11.4	9.0	2.4	0.0	45.0	100.0	537
Kwale	41.5	38.2	3.0	0.0	1.6	6.8	21.6	4.3	0.8	0.0	0.0	0.0	3.3	2.2	1.1	0.0	58.5	100.0	357
Kilifi	34.1	32.8	2.8	0.0	1.1	10.0	15.9	2.7	0.3	0.0	0.0	0.0	1.3	0.9	0.3	0.0	65.9	100.0	600
Tana River	28.7	20.5	0.2	0.0	0.4	2.7	13.1	1.1	3.0	0.0	0.0	0.0	8.2	3.9	4.3	0.0	71.3	100.0	144
Lamu	42.2	39.5	1.2	0.0	1.0	6.4	19.0	10.2	1.2	0.0	0.5	0.0	2.6	2.6	0.1	0.0	57.8	100.0	55
Taita Taveta	68.0	61.3	0.4	0.0	6.9	8.6	34.1	10.0	1.5	0.0	0.0	0.0	6.6	5.4	0.5	0.7	32.0	100.0	128
<b>North Eastern</b>	<b>3.4</b>	<b>3.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.6</b>	<b>1.9</b>	<b>0.6</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>96.6</b>	<b>100.0</b>	<b>451</b>
Garissa	5.5	5.5	0.0	0.0	0.2	1.5	2.4	1.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	94.5	100.0	165
Wajir	2.3	2.3	0.0	0.0	0.0	0.2	1.6	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	97.7	100.0	158
Mandera	1.9	1.9	0.0	0.0	0.0	0.0	1.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.1	100.0	128
<b>Eastern</b>	<b>70.4</b>	<b>63.9</b>	<b>4.8</b>	<b>0.0</b>	<b>2.9</b>	<b>7.8</b>	<b>37.9</b>	<b>8.9</b>	<b>1.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.5</b>	<b>5.6</b>	<b>0.5</b>	<b>0.3</b>	<b>29.6</b>	<b>100.0</b>	<b>2,667</b>
Marsabit	11.7	10.9	0.4	0.0	0.3	2.7	6.3	1.1	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0	88.3	100.0	76
Isiolo	27.0	26.3	0.8	0.0	1.4	3.3	13.2	7.2	0.4	0.0	0.0	0.0	0.7	0.6	0.1	0.0	73.0	100.0	65
Meru	78.2	73.2	4.3	0.0	5.4	3.5	44.8	12.3	2.8	0.0	0.0	0.0	5.0	4.3	0.7	0.0	21.8	100.0	690
Tharaka-Nithi	74.0	67.2	1.8	0.0	7.2	5.5	44.1	7.0	1.3	0.2	0.0	0.0	6.8	4.3	0.6	1.9	26.0	100.0	169
Embu	70.6	67.2	3.8	0.0	4.6	11.0	31.2	15.2	1.5	0.0	0.0	0.0	3.4	3.2	0.2	0.0	29.4	100.0	266
Kitui	57.3	55.1	3.0	0.0	1.1	9.5	36.9	4.5	0.0	0.0	0.0	0.0	2.2	2.0	0.0	0.2	42.7	100.0	445
Machakos	75.9	67.5	5.5	0.0	0.5	10.4	41.6	9.1	0.5	0.0	0.0	0.0	8.3	7.5	0.5	0.3	24.1	100.0	553
Makueni	80.3	65.0	10.2	0.0	1.8	10.3	33.8	5.9	2.9	0.0	0.0	0.0	15.3	13.4	1.1	0.8	19.7	100.0	404
<b>Central</b>	<b>72.8</b>	<b>66.9</b>	<b>3.5</b>	<b>0.0</b>	<b>9.0</b>	<b>10.7</b>	<b>21.6</b>	<b>19.5</b>	<b>2.4</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>	<b>5.9</b>	<b>4.9</b>	<b>0.7</b>	<b>0.3</b>	<b>27.2</b>	<b>100.0</b>	<b>2,323</b>
Nvandarua	65.6	60.4	2.8	0.0	8.0	10.8	22.9	13.8	0.9	0.0	1.3	0.0	5.2	5.0	0.2	0.0	34.4	100.0	273
Nyeri	73.1	67.1	7.3	0.0	10.0	9.2	22.3	16.7	1.6	0.0	0.0	0.0	6.0	5.3	0.6	0.2	26.9	100.0	358
Kirinyaga	81.0	75.6	0.9	0.0	13.2	13.0	20.4	26.0	2.0	0.0	0.0	0.0	5.4	4.3	1.1	0.0	19.0	100.0	281
Murang'a	68.9	63.4	4.0	0.0	6.3	7.8	20.6	22.1	2.5	0.0	0.0	0.0	5.5	4.3	0.0	1.2	31.1	100.0	444
Kiambu	74.0	67.8	2.7	0.0	8.9	12.0	21.9	19.2	3.1	0.0	0.0	0.0	6.3	5.3	1.0	0.0	26.0	100.0	967
<b>Rift Valley</b>	<b>52.8</b>	<b>46.8</b>	<b>2.2</b>	<b>0.0</b>	<b>2.9</b>	<b>7.2</b>	<b>26.8</b>	<b>5.5</b>	<b>1.9</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>	<b>6.0</b>	<b>4.7</b>	<b>1.0</b>	<b>0.3</b>	<b>47.2</b>	<b>100.0</b>	<b>4,696</b>
Turkana	10.4	10.1	0.0	0.0	0.5	3.0	5.7	0.5	0.4	0.0	0.0	0.0	0.3	0.3	0.0	0.0	89.6	100.0	214
West Pokot	14.2	13.3	0.4	0.0	0.2	3.1	9.0	0.7	0.0	0.0	0.0	0.0	0.9	0.2	0.0	0.7	85.8	100.0	197
Samburu	22.7	20.0	0.5	0.0	0.6	4.4	10.9	2.9	0.8	0.0	0.0	0.0	2.7	2.4	0.3	0.0	77.3	100.0	83
Trans-Nzoia	63.9	56.4	4.0	0.0	0.7	4.6	38.7	4.9	3.2	0.1	0.2	0.0	7.5	5.9	1.1	0.4	36.1	100.0	467
Uasin Gishu	62.6	56.0	1.8	0.0	2.7	12.9	28.7	7.4	2.4	0.0	0.0	0.0	6.6	5.3	0.8	0.5	37.4	100.0	460
Elgeyo Marakwet	55.2	43.6	1.1	0.0	1.3	8.7	28.5	1.6	2.1	0.3	0.0	0.0	11.6	10.6	1.0	0.0	44.8	100.0	139
Nandi	64.5	59.2	1.8	0.0	0.9	9.1	40.3	5.5	1.6	0.0	0.0	0.0	5.4	3.9	1.5	0.0	35.5	100.0	335
Baringo	41.4	33.1	0.7	0.0	3.2	5.5	16.2	4.6	2.3	0.0	0.6	0.0	8.3	6.5	1.4	0.4	58.6	100.0	190
Laikipia	59.1	51.3	5.0	0.0	5.1	4.5	20.8	12.5	3.1	0.0	0.0	0.4	7.8	6.6	0.6	0.7	40.9	100.0	207
Nakuru	56.8	53.5	1.4	0.2	6.7	7.6	25.4	10.4	1.4	0.0	0.4	0.0	3.2	2.6	0.4	0.2	43.2	100.0	851
Narok	47.8	38.1	1.9	0.0	1.1	3.8	25.3	3.7	2.2	0.0	0.0	0.1	9.7	6.9	2.4	0.4	52.2	100.0	446
Kajiado	54.5	45.2	1.5	0.0	5.9	8.9	20.0	6.5	2.2	0.0	0.2	0.0	9.3	6.7	2.1	0.6	45.5	100.0	387
Kericho	62.9	56.9	3.5	0.0	2.1	9.9	35.8	3.2	1.9	0.0	0.3	0.2	6.1	5.1	1.0	0.0	37.1	100.0	327
Bomet	54.8	50.4	4.9	0.0	1.7	7.5	33.9	0.4	2.0	0.0	0.0	0.0	4.4	3.5	0.6	0.4	45.2	100.0	394

Continued...

Table 3.10—Continued

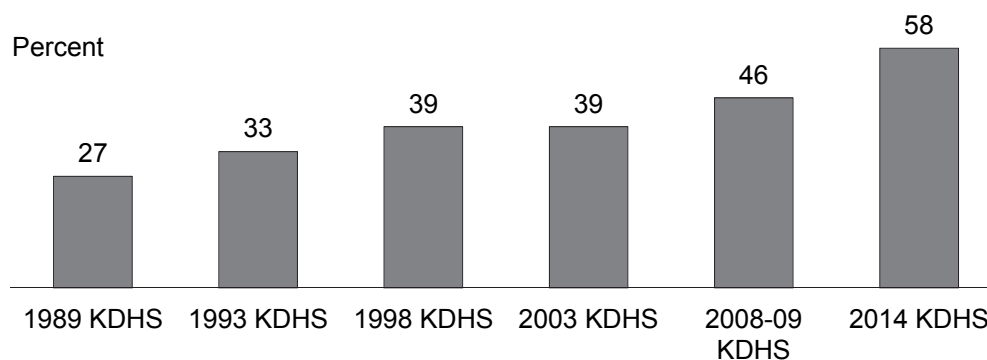
County	Modern method										Traditional method				Number of women				
	Any method	Any modern method	Female sterilisation	Male sterilisation	IUD	Implants	Injectables	Pill	Male condom	Female condom	LAM	Other	Any traditional method	Rhythm		Withdrawal	Other	Not currently using	Total
<b>Western</b>	<b>58.6</b>	<b>56.9</b>	<b>5.9</b>	<b>0.0</b>	<b>1.3</b>	<b>15.2</b>	<b>27.5</b>	<b>4.6</b>	<b>2.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.7</b>	<b>1.1</b>	<b>0.3</b>	<b>0.3</b>	<b>41.4</b>	<b>100.0</b>	<b>1,950</b>
Kakamega	62.1	60.3	6.9	0.0	1.0	14.1	30.4	5.4	2.6	0.0	0.0	0.0	1.7	1.0	0.5	0.3	37.9	100.0	697
Vihiga	59.5	56.6	3.9	0.0	3.3	16.2	25.3	4.8	3.1	0.0	0.0	0.0	2.9	2.9	0.0	0.0	40.5	100.0	212
Bungoma	55.5	53.9	5.1	0.0	0.8	11.8	29.0	4.4	2.9	0.0	0.0	0.0	1.6	0.9	0.2	0.5	44.5	100.0	696
Busia	57.5	56.5	6.5	0.0	1.8	23.6	20.2	3.5	1.0	0.0	0.0	0.0	0.9	0.9	0.1	0.0	42.5	100.0	345
<b>Nyanza</b>	<b>56.4</b>	<b>53.9</b>	<b>3.6</b>	<b>0.0</b>	<b>2.0</b>	<b>12.4</b>	<b>29.3</b>	<b>3.4</b>	<b>2.9</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>2.5</b>	<b>2.0</b>	<b>0.3</b>	<b>0.2</b>	<b>43.6</b>	<b>100.0</b>	<b>2,525</b>
Siaya	55.0	51.0	3.2	0.0	1.8	15.3	19.3	5.8	5.7	0.0	0.0	0.0	4.0	3.3	0.7	0.0	45.0	100.0	326
Kisumu	62.4	59.3	5.2	0.0	1.5	21.1	24.3	3.7	3.5	0.0	0.0	0.0	3.1	3.1	0.0	0.0	37.6	100.0	500
Homa Bay	46.7	45.5	3.8	0.0	1.1	8.6	26.1	2.1	3.5	0.0	0.0	0.3	1.2	1.2	0.0	0.0	53.3	100.0	520
Migori	44.6	43.9	1.9	0.0	1.1	10.6	24.6	2.3	3.1	0.3	0.0	0.0	0.7	0.2	0.3	0.3	55.4	100.0	432
Kisii	66.1	62.8	3.2	0.0	3.5	9.2	41.8	4.0	0.8	0.0	0.3	0.0	3.4	2.2	0.7	0.4	33.9	100.0	531
Nyamira	67.9	64.2	4.2	0.0	3.9	8.2	42.6	3.5	1.2	0.0	0.3	0.3	3.7	3.0	0.3	0.3	32.1	100.0	216
<b>Nairobi</b>	<b>62.6</b>	<b>58.3</b>	<b>2.0</b>	<b>0.1</b>	<b>4.5</b>	<b>12.1</b>	<b>23.6</b>	<b>12.5</b>	<b>3.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.4</b>	<b>3.2</b>	<b>0.3</b>	<b>0.9</b>	<b>37.4</b>	<b>100.0</b>	<b>2,117</b>
Total	58.0	53.2	3.2	0.0	3.4	9.9	26.4	8.0	2.2	0.0	0.1	0.0	4.8	3.8	0.7	0.3	42.0	100.0	18,549

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

LAM = Lactational amenorrhoea method

Figure 3.2 shows trends in contraceptive use from 1989-2014. CPR increased steadily between the 1989 KDHS where the CPR was 27 percent and the 2008-09 KDHS where CPR was 46 percent. A larger jump is noted between the 2008-09 KDHS and the 2014 KDHS where CPR increased to 58 percent.

**Figure 3.2 Trends in percentage of currently married women using any contraceptive method, 1989-2014\***



\*Data from 2003 and later are nationally representative while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

Kenya 2014

### *Need for Family Planning Services*

The proportion of women who want to stop childbearing or who want to space their next birth is a crude measure of the extent of the need for family planning, given that not all of these women are exposed to the risk of pregnancy and some of them may already be using contraception. Women who want to postpone their next birth for two or more years or who want to stop childbearing altogether but are not using a contraceptive method are considered to have an unmet need for family planning. Pregnant women are considered to have an unmet need for family planning if their pregnancy was mistimed or unwanted. Similarly, amenorrhoeic women who are not using family planning and whose last birth was mistimed or unwanted have an unmet need. Women who are currently using a family planning method are said to have a met need for family planning. Total demand for family planning services comprises those who fall in the met need and unmet need categories.

Table 3.11 presents data on unmet need, met need, and total demand for family planning services for currently married and sexually active unmarried women. Overall, 18 percent of currently married women have an unmet need for family planning. Fifty-eight percent of married women have a met need for family planning—that is, they are currently using a contraceptive method. At present, the total potential demand for family planning among currently married women is 76 percent, a slight increase from 71 percent in 2008-09. Seventy-seven percent of the total demand for family planning methods is satisfied, mostly by a modern contraceptive method (71 percent).

The level of unmet need varies by background characteristics. Unmet need is higher in rural areas (20 percent) than in urban areas (13 percent). Married women with no education have the highest unmet need for family planning (28 percent) compared with 12 percent among women with secondary or higher education. Unmet need declines steadily as wealth increases, from 29 percent in the lowest wealth quintile to 11 percent in the highest quintile.

Total demand for family planning also varies by background characteristics. Total demand increases with age, peaking at 35-39 years, after which it declines. Demand for family planning is lowest among women with no education and women in the lowest wealth quintile. The three regions with the

highest total demand for family planning services are Eastern region (83 percent), Central (82 percent) and Western (80 percent). The percentage of demand satisfied with modern methods peaks at age 25-29 (77 percent), and it increases with education and wealth. Although the total demand is similar in urban and rural areas, the proportion of demand satisfied is higher in urban areas. North Eastern region has the lowest total demand (33 percent); however, it also has the lowest percentage of demand satisfied.

Sexually active unmarried women reported a higher demand for family planning and a higher unmet need than currently married women. The total demand is 92 percent, while the level of unmet need is 27 percent.

Table 3.11 Need and demand for family planning among currently married women and sexually active unmarried women

Percentage of currently married women and sexually active unmarried women age 15-49 with unmet need for family planning, percentage with met need for family planning, percentage with met need for family planning who are using modern methods, percentage with demand for family planning, percentage of the demand for family planning that is satisfied, and percentage of the demand for family planning that is satisfied with modern methods, by background characteristics, Kenya 2014

Background characteristic	Unmet need	Met need for family planning (currently using)		Total demand for family planning <sup>3</sup>	Percentage of demand satisfied <sup>1</sup>		Number of women
		All methods	Modern methods <sup>2</sup>		All methods	Modern methods <sup>2</sup>	
<b>CURRENTLY MARRIED WOMEN</b>							
<b>Age</b>							
15-19	23.0	38.4	34.5	61.4	62.5	56.2	301
20-24	18.9	53.1	49.2	71.9	73.8	68.3	1,465
25-29	14.9	60.7	57.8	75.6	80.3	76.5	2,171
30-34	15.9	63.7	59.2	79.6	80.0	74.4	1,717
35-39	18.5	63.2	57.4	81.7	77.3	70.3	1,365
40-44	21.9	59.0	52.8	80.9	73.0	65.3	923
45-49	16.8	44.5	36.5	61.4	72.6	59.4	768
<b>Residence</b>							
Urban	13.4	62.5	58.2	75.9	82.4	76.7	3,445
Rural	20.2	55.1	50.2	75.3	73.2	66.6	5,265
<b>Region</b>							
Coast	20.7	44.4	37.9	65.0	68.2	58.3	850
North Eastern	29.9	3.4	3.4	33.3	10.2	10.2	209
Eastern	12.4	70.5	63.9	82.9	85.1	77.2	1,268
Central	8.8	73.0	68.6	81.9	89.2	83.8	1,113
Rift Valley	20.8	52.6	45.7	73.4	71.6	62.3	2,171
Western	20.7	59.6	57.7	80.3	74.2	71.8	929
Nyanza	23.3	55.3	52.9	78.6	70.4	67.3	1,203
Nairobi	11.1	62.3	59.8	73.4	84.9	81.5	968
<b>Education</b>							
No education	27.9	19.0	16.8	46.9	40.5	35.7	795
Primary incomplete	23.4	54.1	50.1	77.4	69.8	64.7	2,274
Primary complete	15.3	64.7	59.9	80.0	80.8	74.9	2,465
Secondary+	12.4	65.5	59.8	77.9	84.1	76.7	3,177
<b>Wealth quintile</b>							
Lowest	28.7	31.1	27.2	59.8	52.0	45.5	1,457
Second	23.2	58.3	54.0	81.4	71.5	66.4	1,567
Middle	17.1	63.4	58.6	80.5	78.7	72.8	1,663
Fourth	12.0	66.3	61.2	78.3	84.7	78.2	1,885
Highest	11.0	64.8	59.7	75.7	85.5	78.8	2,138
Total	17.5	58.0	53.4	75.5	76.8	70.6	8,710
<b>SEXUALLY ACTIVE UNMARRIED WOMEN</b>							
<b>Residence</b>							
Urban	25.6	70.3	66.2	95.9	73.3	69.1	332
Rural	27.5	58.8	53.9	86.4	68.1	62.4	251
Total	26.4	65.4	60.9	91.8	71.2	66.4	583

Note: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al., 2012.

<sup>1</sup> Percentage of demand satisfied is met need divided by total demand.

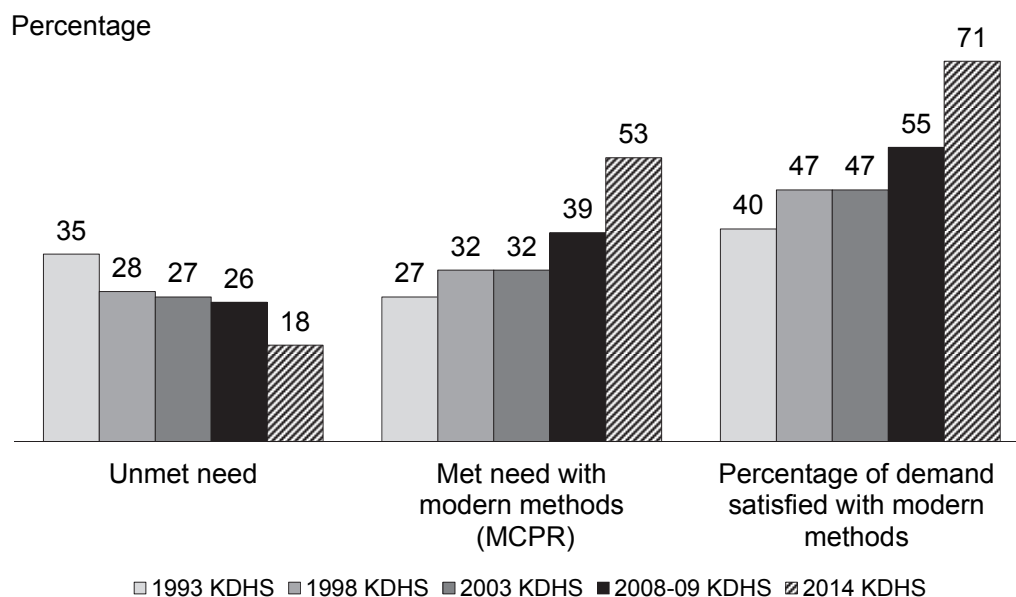
<sup>2</sup> Modern methods include female sterilisation, male sterilisation, IUD, implants, injectables, pill, male condom, female condom, emergency contraception, and lactational amenorrhoea method (LAM).

<sup>3</sup> Total demand is the sum of unmet need and met need (with all methods).

Unmet need among Kenyan women has declined slightly from the plateau experienced in the last decade and a half. Eighteen percent of currently married women reported an unmet need for contraception in the 2014 KDHS compared with roughly one-quarter reported in surveys since 1998

(Figure 3.3). Corresponding to the increase seen in contraceptive prevalence, there is an increase in need met with modern methods, from 39 percent in 2008-09 to 53 percent in 2014.

**Figure 3.3 Trends in unmet need, modern contraceptive use, and percentage of demand satisfied with modern methods, 1993-2014\***



\*Data from 2003 and later are nationally representative, while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

### 3.4 INFANT AND CHILD MORTALITY

Information on infant and child mortality is useful in identifying segments of the population that are at high risk so that programmes can be targeted to reduce it. Childhood mortality rates are also basic indicators of a country's socio-economic level and quality of life.

Table 3.12 presents data on early childhood mortality rates from the 2014 KDHS. The level of under-five mortality is 52 deaths per 1,000 births during the five-year period before the survey, implying that at least 1 in every 19 children born in Kenya during this period died before reaching their fifth birthday. The infant mortality rate is 39 deaths per 1,000 live births.

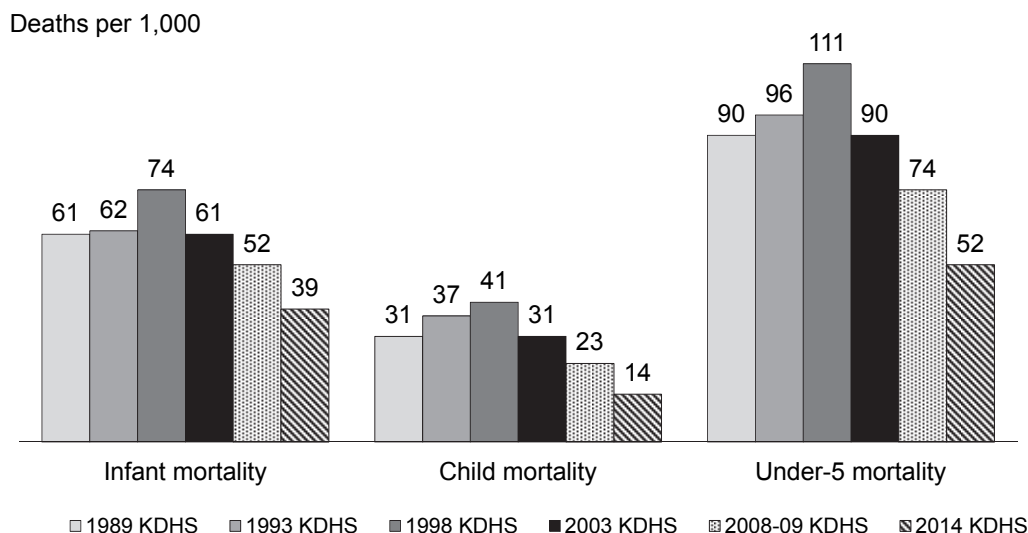
Years preceding the survey	Neonatal mortality (NN)	Post-neonatal mortality (PNN) <sup>1</sup>	Infant mortality ( <sub>1</sub> Q <sub>0</sub> )	Child mortality ( <sub>4</sub> Q <sub>1</sub> )	Under-five mortality ( <sub>5</sub> Q <sub>0</sub> )
0-4	22	16	39	14	52
5-9	24	19	43	18	60
10-14	26	26	51	30	80

<sup>1</sup> Computed as the difference between the infant and neonatal mortality rates

The rates observed in this survey show a decline in levels of childhood deaths compared with the rates observed in the 2008-09, 2003, and 1998 KDHS surveys (Figure 3.4). For example, the infant mortality rate decreased to 39 deaths per 1,000 live births in 2014 from 52 in 2008-09. Similarly, the under-five mortality rate decreased to 52 deaths per 1,000 live births in 2014 from 74 in 2008-09. The trend implies that the increase in mortality seen in the surveys conducted in the 1990s is indeed reversing. The improvement in child survival could be attributed to increases in mosquito net use among

children and by improvements in maternal health including, increases in the proportion of births assisted by a skilled provider and delivered in a health facility and increases in postnatal care (see later sections). Each of these has been shown to reduce child mortality. The downward trend in childhood mortality mirrors trends seen in other countries, for example: Ethiopia, Rwanda, and Uganda (UNICEF, 2013).

**Figure 3.4 Trends in childhood mortality, 1984-2014\***



\*Data from 2003 and later are nationally representative, while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

### 3.5 MATERNAL HEALTH

Proper care during pregnancy and delivery is important for the health of both the mother and the baby. In the KDHS, women who had a live birth in the five years preceding the survey were asked a number of questions about maternal and child health care. For the last live birth in that period, mothers were asked about antenatal care (ANC) during the pregnancy, assistance during and the location of the delivery, and timing of postnatal care. Tables 3.13 and 3.14 present the results of these key maternity care indicators.

#### 3.5.1 Antenatal Care

Nine in ten mothers reported seeing a skilled provider at least once for ANC for their most recent birth in the five-year period before the survey (Table 3.13). Antenatal care is slightly more common among mothers age 20-34 compared with those outside this age group. Coverage is also slightly higher in urban areas than in rural areas (98 percent and 94 percent, respectively), among women with at least some primary education (95 percent or higher), and among women in the higher wealth quintiles (95 percent or higher).

The World Health Organization recommends at least four ANC visits during a woman's pregnancy. Table 3.13 shows that 58 percent of women reported having four or more antenatal visits for their most recent birth. Urban women are more likely to have four or more ANC visits compared with women in rural areas (68 percent and 51 percent, respectively). Both education and wealth are positively associated with receiving the recommended number of ANC visits. Forty-three percent of women with no education attended four or more ANC visits compared with 69 percent of women with secondary or higher education, and 44 percent of women in the lowest wealth quintile attended four or more ANC visits compared with 75 percent in the highest quintile.



Table 3.14 presents these indicators at the regional and county level. In Mombasa, Embu, Machakos, and Nandi counties, ANC from a skilled provider is virtually universal (99 percent), and there are only six counties with less than 90 percent coverage (Mandera, Wajir, Samburu, Marsabit, West Pokot, and Garissa). The percentage of women attending four or more ANC visits ranges from a low of 18 percent in West Pokot to 73 percent in Nairobi; in 12 counties, less than 50 percent of women attend the recommended number of ANC visits (Garissa, Wajir, Mandera, Meru, Bomet, Marsabit, Turkana, West Pokot, Trans-Nzoia, Elgeyo Marakwet, Narok, Bomet, and Kakamega).

### 3.5.2 Delivery Care

Proper medical attention and hygienic conditions during delivery reduce the risk of complications, infections, or death of the mother and the baby. Table 3.13 shows that 62 percent of births in Kenya are delivered by a skilled provider. A similar proportion of deliveries (61 percent) take place in health facilities.

Differentials in delivery care by background characteristics of the mother are generally similar to those for antenatal care, in that the mother's urban residency, education, and wealth are all associated with the likelihood of skilled assistance at delivery and delivery in a health facility. The disparity, however, is more substantial. For example, only half of births to rural mothers receive skilled care or are delivered in a facility compared with 82 percent of their urban counterparts. About one-quarter of births to mothers with no education receive skilled care compared with 85 percent of births to mothers with secondary or higher education. Thirty-one percent of births to women in the lowest wealth quintile get the recommended delivery assistance compared with 93 percent of those in the highest wealth quintile.

**Table 3.13 Maternal care indicators by background characteristics**

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth and percentage with four or more ANC visits for the last live birth; among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by background characteristics, Kenya 2014

Background characteristic	Women who had a live birth in the five years preceding the survey			Live births in the five years preceding the survey		
	Percentage with antenatal care from a skilled provider <sup>1</sup>	Percentage with 4+ ANC visits	Number of women	Percentage delivered by a skilled provider <sup>1</sup>	Percentage delivered in a health facility	Number of births
<b>Mother's age at birth</b>						
<20	94.9	48.9	1,871	62.1	61.7	2,924
20-34	96.0	59.9	10,641	63.1	62.5	14,342
35-49	93.2	53.2	1,930	53.9	52.5	2,298
<b>Residence</b>						
Urban	97.8	67.7	5,561	82.4	82.0	7,024
Rural	94.0	51.3	8,881	50.4	49.5	12,540
<b>Mother's education</b>						
No education	82.1	43.1	1,409	26.4	24.9	2,307
Primary incomplete	94.7	48.1	3,846	45.1	44.6	5,582
Primary complete	96.8	56.8	4,024	67.4	66.8	5,397
Secondary+	98.6	69.2	5,163	85.1	84.4	6,277
<b>Wealth quintile</b>						
Lowest	88.5	44.0	2,947	31.1	30.1	4,657
Second	95.5	49.2	2,782	49.9	49.1	3,987
Middle	97.1	55.2	2,660	63.0	62.3	3,525
Fourth	97.4	62.3	2,777	80.6	79.9	3,453
Highest	98.8	75.0	3,277	92.7	92.7	3,942
Total	95.5	57.6	14,442	61.8	61.2	19,564

<sup>1</sup> Skilled provider includes doctor, nurse, and midwife.

Across counties (Table 3.14), skilled delivery attendance and delivery in a health facility varies considerably. All counties within the Central region achieved a level of at least 85 percent on both of these indicators, while the counties in Nyanza region all achieved at least 53 percent. In contrast, in six counties, less than one-third of live births in the past five years were attended by a skilled provider or were delivered in a health facility (Tana River, Wajir, Marsabit, Turkana, West Pokot, and Samburu).

**Table 3.14 Maternal care indicators by county**

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth and percentage with four or more ANC visits for the last live birth; among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by county, Kenya 2014

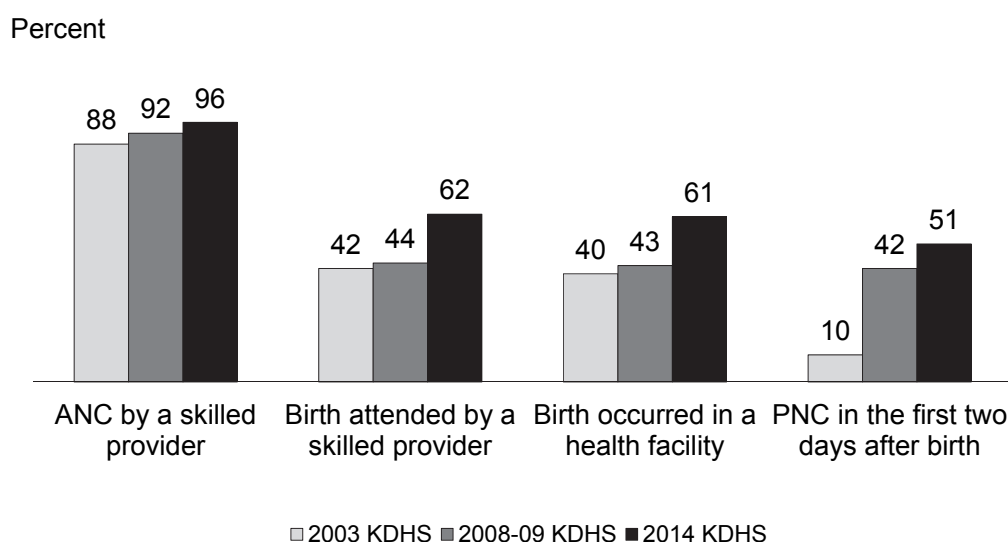
County	Women who had a live birth in the five years preceding the survey			Live births in the five years preceding the survey		
	Percentage with antenatal care from a skilled provider <sup>1</sup>	Percentage with 4+ ANC visits	Number of women	Percentage delivered by a skilled provider <sup>1</sup>	Percentage delivered in a health facility	Number of births
<b>Coast</b>	<b>97.5</b>	<b>62.3</b>	<b>1,471</b>	<b>58.2</b>	<b>57.7</b>	<b>2,023</b>
Mombasa	99.2	65.0	422	82.8	81.8	512
Kwale	95.7	60.3	304	50.1	49.0	427
Kilifi	98.2	64.6	503	52.3	52.6	739
Tana River	93.6	50.8	115	32.2	31.6	175
Lamu	95.7	62.2	36	47.3	43.9	56
Taita Taveta	97.9	58.9	90	62.5	61.9	113
<b>North Eastern</b>	<b>66.5</b>	<b>36.8</b>	<b>372</b>	<b>32.4</b>	<b>29.2</b>	<b>650</b>
Garissa	87.3	47.7	135	39.8	36.7	237
Wajir	57.6	37.7	141	21.7	18.3	258
Mandera	50.5	20.2	96	38.7	36.0	155
<b>Eastern</b>	<b>97.2</b>	<b>56.3</b>	<b>1,834</b>	<b>63.3</b>	<b>62.7</b>	<b>2,321</b>
Marsabit	75.6	42.8	64	25.8	25.8	91
Isiolo	96.0	50.2	58	43.8	42.1	85
Meru	97.3	45.3	442	82.8	81.8	517
Tharaka-Nithi	98.3	56.1	121	76.6	77.7	141
Embu	99.2	56.2	167	81.5	81.5	201
Kitui	97.5	62.2	313	46.2	45.6	438
Machakos	98.8	60.8	396	63.4	62.9	493
Makueni	98.0	65.8	274	54.6	53.3	355
<b>Central</b>	<b>97.3</b>	<b>63.4</b>	<b>1,528</b>	<b>89.7</b>	<b>90.2</b>	<b>1,796</b>
Nyandarua	96.7	58.4	195	85.3	86.1	248
Nyeri	96.7	61.1	216	88.1	89.0	249
Kirinyaga	96.4	60.0	174	92.3	92.5	197
Murang'a	97.4	61.4	255	85.5	85.0	308
Kiambu	97.9	67.1	688	92.6	93.4	794
<b>Rift Valley</b>	<b>93.9</b>	<b>51.7</b>	<b>4,002</b>	<b>51.3</b>	<b>50.2</b>	<b>5,677</b>
Turkana	91.0	48.9	214	22.8	23.1	347
West Pokot	85.2	18.2	180	27.0	25.8	302
Samburu	73.8	51.9	79	29.0	24.5	117
Trans-Nzoia	92.0	40.6	382	41.8	41.5	528
Uasin Gishu	96.1	63.0	363	59.0	57.4	483
Elgeyo Marakwet	98.1	46.8	114	65.0	64.7	168
Nandi	98.5	56.8	302	46.8	46.5	402
Baringo	92.8	54.5	160	53.8	53.5	238
Laikipia	93.7	56.2	165	49.5	48.1	209
Nakuru	95.6	61.4	674	69.5	69.7	909
Narok	91.6	46.0	403	40.3	38.6	638
Kajiado	96.7	66.9	335	63.2	62.4	461
Kericho	97.1	53.7	277	64.4	62.2	373
Bomet	93.5	37.2	354	52.2	49.0	502
<b>Western</b>	<b>97.2</b>	<b>51.3</b>	<b>1,590</b>	<b>47.8</b>	<b>47.0</b>	<b>2,255</b>
Kakamega	96.4	45.0	532	48.6	47.0	747
Vihiga	97.1	61.3	164	50.3	50.2	229
Bungoma	97.6	50.0	607	41.4	40.8	870
Busia	97.6	59.9	287	58.5	58.4	409
<b>Nyanza</b>	<b>96.6</b>	<b>58.7</b>	<b>1,988</b>	<b>65.0</b>	<b>64.8</b>	<b>2,790</b>
Siaya	97.8	61.1	268	70.4	69.6	391
Kisumu	98.4	68.1	378	69.2	69.5	500
Homa Bay	93.5	61.4	447	60.4	61.9	658
Migori	96.4	56.4	360	53.4	53.3	565
Kisii	97.7	50.0	384	72.8	69.3	482
Nyamira	96.4	50.3	152	74.1	74.3	195
<b>Nairobi</b>	<b>97.6</b>	<b>73.1</b>	<b>1,657</b>	<b>89.1</b>	<b>88.7</b>	<b>2,051</b>
Total	95.5	57.6	14,442	61.8	61.2	19,564

<sup>1</sup> Skilled provider includes doctor, nurse, and midwife.

### 3.5.3 Trends in Antenatal and Delivery Care

Figure 3.5 shows the trends in key maternity care indicators between the 2003 and the 2014 KDHS. The proportion of mothers reporting ANC from a health professional increased between 2003 and 2014, from 88 percent to 96 percent. The percentage of births attended by a skilled provider and the percentage occurring in health facilities each increased by similar magnitude, about 20 percentage points from 2003 to 2014.

**Figure 3.5 Trends in maternal health care, 2003-2014**



### 3.5.4 Protection against Neonatal Tetanus

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, which can be a major cause of infant deaths. Table 3.15 indicates that tetanus toxoid coverage is widespread though not universal among pregnant women in Kenya. About three-quarters (76 percent) of women reported their last live birth was protected against neonatal tetanus. Protection against neonatal tetanus increases with education and with wealth. Sixty-seven percent of women with no education received protection compared with more than 74 percent of women with at least some education. Seventy percent of the women in the lowest wealth quintile received tetanus toxoid protection for their last live birth compared with 81 percent of those in the highest quintile.

Table 3.15 Protection against tetanus and postnatal care

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage whose last live birth was protected against neonatal tetanus; and among women age 15-49 who had a live birth in the two years preceding the survey, percentage who received a postnatal checkup in the first two days after the last live birth, by background characteristics, Kenya 2014

Background characteristic	Women who had a live birth in the five years preceding the survey		Women who had a live birth in the two years preceding the survey	
	Percentage whose last live birth was protected against neonatal tetanus <sup>1</sup>	Number of women	Percentage of women who had a postnatal checkup in the first two days after birth	Number of women
<b>Mother's age at birth</b>				
<20	73.4	867	51.7	536
20-34	76.2	5,074	51.4	2,737
35-49	74.4	935	44.4	428
<b>Residence</b>				
Urban	76.4	2,677	65.0	1,311
Rural	75.1	4,199	42.7	2,390
<b>Mother's education</b>				
No education	66.9	675	20.0	440
Primary incomplete	74.0	1,901	38.9	1,044
Primary complete	76.6	1,856	54.8	959
Secondary+	78.6	2,445	67.8	1,258
<b>Wealth quintile</b>				
Lowest	69.5	1,381	29.2	934
Second	75.3	1,312	46.2	728
Middle	74.5	1,276	50.1	660
Fourth	77.0	1,372	63.7	664
Highest	81.1	1,536	71.4	716
Total	75.6	6,876	50.6	3,701

<sup>1</sup> Includes mothers with two injections during the pregnancy of her last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last live birth.

### 3.5.5 Postnatal Care

Among women age 15-49 who had a live birth in the two years preceding the survey, 51 percent received a postnatal checkup in the first two days after their last live birth (Table 3.15). Women age 35-49 were less likely to receive postnatal care (PNC) within two days compared with women in younger age groups. Forty-three percent of rural women received a postnatal checkup compared with 65 percent of urban women. Education and wealth were strongly associated with PNC. One in five women with no education received PNC within two days compared with 68 percent of women with secondary or higher education. Thirty percent of women in the lowest wealth quintile received PNC compared with 71 percent in the highest wealth quintile.

Figure 3.5 shows an increase in PNC in Kenya. In the 2003 KDHS, just 10 percent of women who had a live birth in the two years preceding the survey received a postnatal check up in the first two days after their last live birth. This proportion increased to 42 percent in the 2008-09 KDHS and to 51 percent in the 2014 KDHS.

## 3.6 CHILD HEALTH

### 3.6.1 Vaccination Coverage

According to the World Health Organisation, a child is considered to have received all basic vaccinations if he or she has received: a BCG vaccination against tuberculosis; three doses of DPT vaccine to prevent diphtheria, pertussis, and tetanus (or three doses of pentavalent, which includes DPT and vaccinations against both hepatitis B and haemophilus influenza type B); 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 2014 KDHS collected information on the coverage of these vaccinations among all children born in the five years preceding the survey. Additionally, the 2014 KDHS collected information on the coverage of three doses of pneumococcal vaccine, a vaccine introduced into Kenya's

routine immunisation programme in February 2012. The Kenyan immunisation programme considers a child to be fully vaccinated if the child has received all basic vaccinations and three doses of pneumococcal vaccination.

The information on vaccination coverage was obtained in two ways; from vaccination cards and from mother's verbal reports. All mothers were asked to show the interviewer the vaccination cards used to record the child's immunisations. If the card was available, the interviewer copied the dates of each vaccination received. If a vaccination was not recorded on the card as being given, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a card for a child at all, she was further asked to recall whether the child had received BCG, polio, pentavalent, measles, and pneumococcal vaccine. If she indicated that the child had received the polio, pentavalent, or pneumococcal vaccines, she was asked the number of doses that the child received.

Tables 3.16 and 3.17 present information on vaccination coverage for children age 12-23 months, who should be vaccinated against the previously named childhood illnesses. The results are based both on the vaccination card record and information provided by the mother. Table 3.16 shows that vaccination cards were available for 75 percent of children.

Table 3.16. 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, Kenya 2014

Background characteristic	BCG	Pentavalent <sup>1</sup>			Polio <sup>2</sup>			Measles	Pneumococcal			Fully vaccinated <sup>4</sup>	No vaccinations	Percent-age with a vaccina-tion card	Number of children	
		1	2	3	0	1	2		3	1	2					3
<b>Sex</b>																
Male	97.1	98.3	96.3	89.6	78.8	97.4	94.3	81.3	87.9	94.3	90.8	84.5	67.0	1.2	75.3	1,966
Female	96.2	96.7	95.3	90.2	76.2	97.3	94.1	81.0	86.2	93.0	90.9	85.9	68.1	2.2	73.9	1,811
<b>Residence</b>																
Urban	97.7	98.0	95.9	91.2	89.7	97.4	94.6	78.8	91.7	94.1	90.3	86.3	66.9	1.3	67.2	1,330
Rural	96.1	97.3	95.8	89.2	71.0	97.3	94.0	82.4	84.6	93.5	91.1	84.5	67.8	1.8	78.7	2,447
<b>Education</b>																
No education	89.9	91.4	87.3	77.3	54.8	92.0	85.5	68.4	70.8	89.4	85.1	74.5	49.8	5.4	71.0	431
Primary incomplete	95.8	97.8	96.1	88.0	68.6	98.1	94.7	82.4	82.5	92.6	90.1	82.8	65.4	1.4	77.5	1,072
Primary complete	97.9	98.7	98.1	93.0	81.5	97.8	95.3	82.1	90.2	93.5	91.6	87.0	69.5	1.2	76.6	1,021
Secondary+	98.7	98.4	96.7	93.3	89.9	98.2	96.0	83.7	94.1	96.3	92.9	89.3	73.8	0.9	71.9	1,253
<b>Wealth quintile</b>																
Lowest	92.8	94.8	91.7	83.3	58.9	95.2	90.3	78.4	76.4	90.4	86.6	78.9	57.6	3.4	77.7	940
Second	96.7	98.4	97.7	90.1	72.8	98.6	95.7	83.0	86.9	93.9	92.2	84.2	68.8	1.1	79.4	765
Middle	98.1	98.3	97.2	92.0	79.6	97.7	94.4	81.7	88.3	94.8	92.5	87.4	71.6	1.3	74.5	667
Fourth	98.6	99.2	98.7	93.7	88.7	98.6	95.9	83.0	94.5	94.7	92.3	88.3	72.6	0.3	76.9	666
Highest	98.4	97.8	95.2	92.7	94.4	97.3	96.1	80.5	93.1	95.9	92.0	89.3	70.6	1.5	64.0	739
Total	96.7	97.5	95.8	89.9	77.6	97.3	94.2	81.2	87.1	93.7	90.8	85.1	67.5	1.6	74.7	3,777

<sup>1</sup> Pentavalent is DPT-Hep B-Hib.

<sup>2</sup> Polio 0 is the polio vaccination given at birth.

<sup>3</sup> BCG, measles, and three doses each of pentavalent and polio vaccine excluding polio vaccine given at birth.

<sup>4</sup> BCG, measles, three doses each of pentavalent, polio vaccine excluding polio vaccine given at birth, and pneumococcal vaccine.

Table 3.17 Vaccinations by county

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 county, Kenya 2014

County	BCG	Pentavalent <sup>1</sup>			Polio <sup>2</sup>			Measles			All basic vaccinations <sup>3</sup>			Pneumococcal			Fully vaccinated <sup>4</sup>	No vaccinations	Percent-age with a vaccina-tion card	Number of children	
		1	2	3	0	1	2	3	1	2	3	1	2	3	1	2					3
<b>Coast</b>																					
Mombasa	97.1	97.2	91.9	84.4	97.5	95.4	85.3	86.6	74.7	95.7	93.9	89.8	72.7	1.3	78.6	391					
Kwale	100.0	98.3	95.6	95.7	98.3	97.0	80.0	89.1	72.3	96.1	93.7	92.3	67.7	0.0	66.4	93					
Kilifi	98.6	96.7	95.1	78.1	97.8	95.9	91.6	90.7	82.9	96.7	96.1	93.6	82.0	0.0	66.4	89					
Tana River	94.3	95.3	87.5	88.3	96.2	93.6	84.7	83.7	72.1	95.3	92.9	87.4	71.5	3.0	80.9	144					
Lamu	97.1	95.0	89.9	50.8	97.1	93.8	80.5	77.6	64.3	94.3	92.8	85.2	61.3	2.5	72.1	32					
Taita Taveta	94.2	99.3	84.7	65.5	100.0	97.7	90.7	83.2	66.4	91.9	90.4	79.3	63.9	0.0	72.3	9					
<b>North Eastern</b>																					
Garissa	98.4	98.4	97.5	92.8	100.0	100.0	91.7	93.0	87.3	95.6	95.6	90.4	83.1	0.0	71.5	23					
Wajir	83.4	87.5	77.4	56.3	86.9	80.6	63.0	69.8	44.3	84.8	80.6	72.7	41.7	10.6	51.1	121					
Mandera	80.3	94.4	91.6	63.8	91.4	85.4	75.9	81.2	54.4	94.4	91.3	84.7	54.4	5.6	61.2	43					
Eastern	91.0	90.8	79.1	53.3	90.2	87.0	64.8	64.5	43.7	83.8	82.4	74.1	37.9	6.6	58.6	54					
Marsabit	71.8	68.3	48.8	49.5	71.8	58.0	36.2	61.7	27.7	70.3	57.9	48.7	27.7	28.2	16.5	24					
Isiolo	98.7	99.0	93.6	79.1	98.6	95.3	87.6	92.1	81.8	94.6	93.7	89.6	78.1	0.5	85.3	431					
Meru	92.6	93.4	85.7	43.1	99.0	95.6	86.4	76.8	69.9	94.7	92.2	84.6	66.6	1.0	80.5	16					
Tharaka-Nithi	96.4	98.6	96.5	77.4	98.6	95.9	88.3	86.5	80.0	94.9	93.8	92.0	79.0	1.4	89.0	20					
Embu	99.2	100.0	93.6	78.9	100.0	96.6	85.9	91.3	81.9	97.2	97.2	89.1	78.3	0.0	89.9	95					
Kitui	100.0	98.3	96.8	100.0	100.0	100.0	93.6	98.5	90.6	100.0	100.0	100.0	90.6	0.0	92.2	33					
Machakos	100.0	100.0	99.2	97.9	100.0	94.7	89.9	92.8	82.7	100.0	100.0	99.2	92.7	0.0	83.4	42					
Makueni	96.1	96.1	81.5	52.8	97.7	88.5	76.4	84.9	65.2	81.0	78.1	69.2	52.7	2.3	85.3	76					
<b>Central</b>																					
Nyandarua	100.0	100.0	97.8	91.5	98.4	97.6	91.5	97.2	88.7	98.0	97.2	95.9	86.7	0.0	72.7	86					
Nyeri	100.0	100.0	99.1	80.8	96.2	96.2	93.8	96.8	90.6	96.2	95.3	95.3	89.7	0.0	93.1	63					
Kirinyaga	99.6	99.4	95.5	94.8	99.8	98.4	81.8	97.2	79.6	97.6	95.2	92.3	77.6	0.2	76.1	363					
Murang'a	100.0	100.0	94.9	94.6	100.0	99.0	85.8	92.7	82.6	98.0	99.7	84.9	77.8	0.0	81.3	53					
Kiambu	98.7	97.2	94.9	42.9	100.0	99.0	82.8	95.1	79.5	94.4	93.1	89.1	77.8	0.0	82.2	59					
<b>Rift Valley</b>																					
Turkana	100.0	100.0	99.0	97.9	100.0	100.0	82.8	99.0	82.8	100.0	100.0	97.2	82.8	0.0	76.1	150					
West Pokot	96.7	97.4	87.9	68.2	96.6	93.0	81.2	83.1	68.6	92.3	89.7	81.7	64.0	1.8	77.3	1,083					
Samburu	94.5	94.4	86.2	73.4	94.4	88.9	76.1	71.9	57.4	93.8	89.8	83.2	56.7	3.7	87.1	61					
Trans-Nzoia	78.9	86.4	68.3	42.9	84.1	76.2	58.5	58.2	34.3	78.7	73.1	58.7	30.5	11.2	60.8	66					
Uasin Gishu	96.8	93.2	86.9	54.2	96.1	91.1	84.0	71.7	63.3	94.5	89.6	84.8	62.8	1.4	79.4	23					
Egwey Marakwet	100.0	100.0	97.8	70.7	99.1	97.4	83.2	84.8	64.9	93.3	91.3	73.0	58.4	0.0	64.7	105					
Nandi	95.9	97.3	91.5	82.0	95.9	93.7	74.6	91.3	70.0	83.4	82.3	75.8	57.5	2.7	73.7	96					
Baringo	100.0	100.0	97.9	82.0	99.4	97.9	91.7	86.6	85.1	99.4	97.9	97.0	84.4	0.0	91.2	32					
Lakipia	99.4	100.0	99.4	71.6	100.0	100.0	96.9	97.5	93.9	99.4	99.4	99.4	93.9	0.0	92.1	82					
Nakuru	100.0	100.0	94.5	69.0	100.0	97.6	86.9	82.5	71.1	92.6	90.9	85.1	63.2	0.0	81.8	49					
Narok	98.7	98.7	89.7	77.9	98.7	91.1	90.3	92.3	82.5	96.6	96.6	90.9	78.6	1.3	79.9	38					
Kajiado	97.2	97.9	90.9	81.0	97.9	92.4	86.6	86.4	75.4	94.8	93.0	86.5	72.0	2.1	81.8	167					
Kericho	95.0	96.3	83.0	47.3	96.4	94.2	75.2	74.5	59.5	90.8	86.3	74.8	53.6	1.6	79.1	118					
Bomet	97.7	97.0	92.4	79.1	98.0	91.1	82.0	80.9	51.1	90.3	83.3	71.9	48.9	1.1	57.2	95					
	100.0	100.0	95.7	87.9	100.0	98.7	87.4	82.9	70.8	94.2	92.9	88.3	66.3	0.0	84.5	67					
	100.0	100.0	98.0	62.4	100.0	100.0	95.6	92.1	87.0	96.1	95.3	92.8	81.3	0.0	84.7	84					

Continued...

Table 3.17—Continued

County	BCG	Pentavalent <sup>1</sup>			Polio <sup>2</sup>			Measles	All basic vaccina- tions <sup>3</sup>			Fully vaccina- ted <sup>4</sup>	No vaccina- tions	Percent- age with a vaccina- tion card	Number of children	
		1	2	3	0	1	2		3	1	2					3
<b>Western</b>	<b>95.9</b>	<b>96.8</b>	<b>95.4</b>	<b>90.2</b>	<b>61.1</b>	<b>97.6</b>	<b>83.7</b>	<b>85.7</b>	<b>74.2</b>	<b>94.1</b>	<b>92.3</b>	<b>87.3</b>	<b>71.9</b>	<b>2.2</b>	<b>74.6</b>	<b>419</b>
Kakamega	94.9	98.9	94.9	89.5	57.2	98.9	75.7	80.1	63.5	97.6	94.6	86.2	62.2	1.1	77.0	125
Vihiga	98.3	98.3	98.3	97.0	80.7	98.3	90.9	98.3	90.9	98.3	98.3	97.0	90.9	1.7	72.9	48
Bungoma	95.3	95.0	95.0	88.9	57.2	95.7	86.0	84.3	76.3	89.1	88.2	83.7	72.5	3.8	71.7	187
Busia	98.0	96.9	95.3	90.4	65.3	100.0	87.2	92.2	76.3	98.9	95.5	92.7	75.0	0.0	80.0	59
<b>Nyanza</b>	<b>95.6</b>	<b>98.5</b>	<b>98.0</b>	<b>89.7</b>	<b>86.1</b>	<b>98.0</b>	<b>79.3</b>	<b>85.3</b>	<b>67.0</b>	<b>93.6</b>	<b>90.7</b>	<b>82.8</b>	<b>63.6</b>	<b>1.0</b>	<b>72.4</b>	<b>552</b>
Siaya	98.4	100.0	100.0	93.9	95.5	100.0	81.8	84.8	73.3	99.5	99.5	91.3	72.5	0.0	78.1	84
Kisumu	97.2	97.6	97.6	87.0	86.7	96.4	81.9	89.5	73.1	96.8	95.1	84.7	73.1	2.4	51.5	96
Homa Bay	94.5	97.9	97.2	82.3	83.0	96.0	72.9	80.3	57.2	90.9	84.6	74.7	53.7	2.1	73.9	131
Migori	87.6	99.6	97.7	89.9	69.0	98.3	66.2	82.0	46.9	87.4	82.1	71.2	36.9	0.4	69.0	102
Kisii	100.0	97.8	97.8	95.3	95.8	99.1	91.8	86.5	80.5	94.4	94.4	91.9	78.1	0.0	87.2	99
Nyamira	99.0	99.0	99.0	97.6	94.8	100.0	91.8	98.0	89.8	96.1	94.6	94.6	86.8	0.0	78.0	39
<b>Nairobi</b>	<b>97.6</b>	<b>97.3</b>	<b>93.6</b>	<b>88.0</b>	<b>90.4</b>	<b>97.6</b>	<b>75.1</b>	<b>92.5</b>	<b>65.8</b>	<b>93.6</b>	<b>85.9</b>	<b>83.3</b>	<b>60.4</b>	<b>1.7</b>	<b>61.7</b>	<b>417</b>
Total	96.7	97.5	95.8	89.9	77.6	97.3	81.2	87.1	71.1	93.7	90.8	85.1	67.5	1.6	74.7	3,777

Note: Figures in parentheses are based on fewer than 25-49 unweighted cases.

<sup>1</sup> Pentavalent is DPT-Hep B-Hib.

<sup>2</sup> Polio 0 is the polio vaccination given at birth.

<sup>3</sup> BCG, measles and three doses each of pentavalent and polio vaccine excluding polio vaccine given at birth.

<sup>4</sup> BCG, measles, three doses each of pentavalent, polio vaccine excluding polio vaccine given at birth, and pneumococcal vaccine.



Overall, 68 percent of children age 12-23 months are fully vaccinated with BCG, measles, pentavalent, polio, and pneumococcal vaccines; 71 percent have received all basic vaccinations, and 2 percent of children have not received any vaccines. Regarding coverage for specific vaccines, 97 percent of children have received the BCG vaccine, 98 percent received the first pentavalent dose, 97 percent received the first polio dose (polio 1), and 94 percent received the first dose of pneumococcal vaccine. For series vaccinations, coverage declines with subsequent doses. Ninety percent of children receive the recommended three doses of pentavalent, 81 percent receive all three doses of polio, and 85 percent receive all the three doses of pneumococcal vaccine. The decline in coverage levels reflects dropout rates of 8 percent for pentavalent, 17 percent for polio, and 9 percent for pneumococcal vaccine. The dropout rate represents the proportion of children who receive the first dose of a vaccine but do not go on to get the third dose. The proportion of children vaccinated against measles is 87 percent.

For the most part, differentials in background characteristics are marginal (Table 3.16). Children of mothers with at least some education and of a higher wealth quintile are more likely to receive each of the recommended vaccinations; this association is most pronounced for polio 0, measles, and the latter doses of the series vaccinations. Fully immunised coverage levels are also high among children whose mothers have been to secondary school (74 percent) or households in the highest wealth quintile (71 percent).

Differentials in coverage across region and counties are presented in Table 3.17. Levels show that the proportions of children fully vaccinated in North Eastern and Nairobi regions are low compared with other regions, with only 42 and 60 percent of children fully immunised, respectively. Coverage levels are close to 78 percent for children in Central and Eastern regions. At the county level, Mandera, Migori, and Wajir have low fully vaccinated coverage of 28 percent, 38 percent and 38 percent respectively. Coverage levels are high in Nandi, Vihiga, and Tharaka-Nithi counties with 94 percent for Nandi and 91 percent for both Vihiga and Tharaka-Nithi counties.

Basic vaccination coverage has declined since 2008-09, from 77 percent of children with all basic vaccinations to 71 percent in 2014.

### **3.6.2 Treatment of Childhood Illnesses**

Acute respiratory infection (ARI), malaria, and dehydration caused by severe diarrhoea are major causes of child morbidity and mortality in Kenya. When a child has symptoms of these illnesses, prompt medical attention is critical. To obtain information on behaviour surrounding these common childhood illnesses, mothers were asked if any of their children under age five had experienced the following symptoms in the two weeks preceding the survey: cough with short, rapid breathing (symptoms of an acute respiratory infection, considered a proxy for pneumonia), fever (symptom of malaria), or diarrhoea. Mothers who indicated their child had experienced such symptoms were then asked if treatment or advice was sought from a health facility or provider. For children with diarrhoea, the mother was asked additional questions about treatment given to the child.

Table 3.18 presents the percentage of children with symptoms of ARI, fever, or diarrhoea in the two weeks preceding the survey. About six in every ten children with such symptoms were taken to a healthcare provider for treatment, including 66 percent of children with ARI, 63 percent of children with fever, and 58 percent of children with diarrhoea.

Differences in treatment-seeking behaviour by background characteristics are minimal. There were no distinct patterns in age of the child, the mother's education, or household wealth. Treatment was slightly more likely to be sought for male children with ARI symptoms (68 percent) or with diarrhoea (59 percent) than for female children (64 percent and 57 percent, respectively). Children

living in rural areas were somewhat more likely to be taken for treatment for all three illnesses. Estimation of these indicators is difficult at the county level because, in many counties, there were too few cases of children with the specified symptoms (Table 3.19).

**Table 3.18 Treatment for acute respiratory infection symptoms, fever, and diarrhoea by background characteristics**

Among children under age five who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age five who had diarrhoea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given oral rehydration therapy (ORT), percentage given a fluid made from oral rehydration salt (ORS) packets, percentage given zinc, and percentage given ORS and zinc, by background characteristics, Kenya 2014

Background characteristic	Children with symptoms of ARI <sup>1</sup>		Children with fever		Children with diarrhoea					
	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Number of children	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Number of children	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Percentage given ORT <sup>3</sup>	Percentage given fluid from ORS packet	Percentage given zinc	Percentage given ORS and zinc	Number of children
<b>Age in months</b>										
<6	77.6	74	59.7	286	42.9	43.2	46.8	1.8	1.7	218
6-11	74.1	216	67.5	597	65.4	76.0	67.3	10.6	8.9	508
12-23	67.7	379	63.4	1,131	58.0	78.9	71.2	8.6	7.9	915
24-35	62.3	324	61.1	933	59.1	74.5	60.8	10.4	10.2	596
36-47	68.3	306	62.8	826	58.0	78.3	68.0	5.7	5.3	360
48-59	55.4	275	62.4	789	54.1	68.9	54.8	5.0	4.4	247
<b>Sex</b>										
Male	67.7	817	62.5	2,325	59.3	74.2	67.0	8.1	7.9	1,511
Female	63.9	758	63.4	2,237	56.6	73.3	61.9	8.2	6.9	1,332
<b>Residence</b>										
Urban	63.8	490	62.6	1,447	56.8	77.8	67.3	11.0	10.4	957
Rural	66.9	1,085	63.1	3,114	58.7	71.7	63.2	6.7	6.0	1,886
<b>Mother's education</b>										
No education	58.9	136	61.1	392	64.8	68.1	63.8	7.9	5.7	312
Primary incomplete	63.4	491	57.7	1,550	57.6	71.9	62.4	4.7	4.5	975
Primary complete	67.9	490	64.5	1,250	54.5	74.0	63.7	6.0	5.7	734
Secondary+	68.5	459	67.9	1,369	59.1	77.9	68.4	14.1	13.2	823
<b>Wealth quintile</b>										
Lowest	63.0	386	60.1	1,119	61.4	70.7	63.0	6.1	5.0	767
Second	67.1	361	63.7	1,082	58.3	73.2	63.3	5.2	4.8	650
Middle	64.9	328	60.8	881	56.8	75.0	68.7	7.5	7.4	525
Fourth	63.1	270	62.5	788	55.7	74.5	63.9	12.2	11.5	506
Highest	73.5	231	69.5	691	55.6	78.1	65.5	12.5	11.6	396
<b>Total</b>	<b>65.9</b>	<b>1,575</b>	<b>62.9</b>	<b>4,562</b>	<b>58.0</b>	<b>73.8</b>	<b>64.6</b>	<b>8.1</b>	<b>7.5</b>	<b>2,844</b>

<sup>1</sup> Symptoms of ARI, considered a proxy for pneumonia, include cough accompanied by short, rapid breathing that is chest-related and/or by difficult breathing that is chest-related.

<sup>2</sup> Excludes pharmacy, shop, and traditional practitioner

<sup>3</sup> ORT includes solution prepared from oral rehydration salt (ORS) and other home-made fluids.

Oral rehydration therapy (ORT), which involves a prompt increase in the child's intake of fluids, is a simple and effective response to diarrhoeal illness. Mothers reported that 74 percent of the children with diarrhoea were treated with some form of oral rehydration therapy, and 65 percent were given a solution prepared using a packet of oral rehydration salts (ORS) (Table 3.18). This is a marked increase from 2008-09 when only 39 percent of children with diarrhoea in the preceding weeks were treated with ORS. There are no distinct patterns in ORS treatment across background characteristics.

The Kenya Policy on Management of Diarrhoea in children under age five recommends the use of zinc with ORS. The 2014 KDHS survey shows that 8 percent of children with diarrhoea were given zinc and 8 percent were given both ORS and zinc. The use of zinc for treatment of diarrhoea has increased from less than 1 percent in 2008-09.

Table 3.19 Treatment for acute respiratory infection symptoms, fever, and diarrhoea by county

Among children under age five who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age five who had diarrhoea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given oral rehydration therapy (ORT), percentage given a fluid made from oral rehydration salt (ORS) packets, percentage given zinc, and percentage given ORS and zinc, by county, Kenya 2014

County	Children with symptoms of ARI <sup>1</sup>		Children with fever		Children with diarrhoea					
	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Number of children	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Number of children	Percentage for whom treatment was sought from a health facility/provider <sup>2</sup>	Percentage given ORT <sup>3</sup>	Percentage given fluid from ORS packet	Percentage given zinc	Percentage given ORS and zinc	Number of children
<b>Coast</b>	<b>67.0</b>	<b>138</b>	<b>68.0</b>	<b>526</b>	<b>64.7</b>	<b>77.9</b>	<b>70.8</b>	<b>12.5</b>	<b>12.1</b>	<b>341</b>
Mombasa	*	30	75.1	111	(63.3)	(88.4)	(76.6)	(30.6)	(30.6)	58
Kwale	(62.4)	22	64.7	105	62.2	73.9	70.2	26.9	25.7	59
Kilifi	(60.5)	60	69.7	221	71.5	80.4	74.6	0.7	0.7	162
Tana River	73.2	13	64.5	45	47.8	59.9	53.7	15.9	15.6	36
Lamu	(68.6)	5	45.3	12	63.7	79.0	54.7	11.5	8.3	9
Taita Taveta	(79.9)	10	56.3	33	(50.8)	(69.2)	(62.0)	(7.3)	(6.1)	18
<b>North Eastern</b>	<b>35.4</b>	<b>25</b>	<b>50.0</b>	<b>54</b>	<b>49.7</b>	<b>65.5</b>	<b>72.6</b>	<b>8.2</b>	<b>7.2</b>	<b>49</b>
Garissa	*	6	(41.4)	16	(29.4)	(68.3)	(80.5)	(10.8)	(10.8)	12
Wajir	(33.6)	16	55.1	31	57.2	69.8	72.2	8.4	6.7	32
Mandera	*	2	*	7	*	*	*	*	*	5
<b>Eastern</b>	<b>67.8</b>	<b>194</b>	<b>68.7</b>	<b>406</b>	<b>57.5</b>	<b>74.2</b>	<b>61.1</b>	<b>3.4</b>	<b>3.0</b>	<b>320</b>
Marsabit	(66.8)	9	63.1	17	65.9	71.2	64.4	5.0	3.3	13
Isiolo	(63.9)	9	75.6	11	(56.9)	(81.8)	(74.8)	(4.6)	(4.6)	6
Meru	*	35	72.0	128	(69.8)	(65.3)	(52.2)	(1.6)	(0.0)	63
Tharaka-Nithi	(67.1)	15	75.2	39	(67.5)	(75.4)	(53.3)	(5.1)	(5.1)	28
Embu	*	12	(72.4)	27	(46.7)	(74.8)	(73.3)	(7.6)	(7.6)	22
Kitui	(57.4)	42	60.8	72	54.4	83.7	67.2	2.0	2.0	77
Machakos	(54.5)	37	(61.4)	64	51.0	70.7	60.2	5.5	5.5	71
Makueni	(64.5)	36	74.8	49	(52.1)	(75.0)	(60.9)	(1.2)	(1.2)	39
<b>Central</b>	<b>70.3</b>	<b>125</b>	<b>68.2</b>	<b>308</b>	<b>63.2</b>	<b>75.6</b>	<b>66.5</b>	<b>9.2</b>	<b>8.6</b>	<b>180</b>
Nyandarua	*	17	67.0	40	(46.0)	(81.9)	(65.0)	(1.1)	(1.1)	26
Nyeri	(72.9)	23	(65.6)	34	*	*	*	*	*	11
Kirinyaga	*	6	(74.8)	40	(73.6)	(64.4)	(57.6)	(5.8)	(5.8)	23
Murang'a	(77.9)	34	(83.3)	52	(59.8)	(62.2)	(58.4)	(8.9)	(8.9)	35
Kiambu	*	45	61.8	143	(69.9)	(80.6)	(72.2)	(11.8)	(11.8)	85
<b>Rift Valley</b>	<b>68.2</b>	<b>450</b>	<b>61.8</b>	<b>1,139</b>	<b>59.6</b>	<b>72.0</b>	<b>65.9</b>	<b>4.5</b>	<b>3.3</b>	<b>718</b>
Turkana	*	8	63.4	38	76.5	44.8	45.6	13.7	4.0	47
West Pokot	(77.5)	11	76.9	28	63.3	23.0	23.4	1.5	1.5	25
Samburu	*	5	54.5	22	48.9	62.1	58.4	2.6	2.6	21
Trans-Nzoia	(70.3)	48	56.2	113	45.7	51.1	64.4	3.2	3.2	77
Uasin Gishu	(54.9)	34	53.2	89	(55.7)	(57.4)	(62.3)	(2.3)	(2.3)	43
Elgeyo Marakwet	(93.7)	15	63.9	49	(77.0)	(88.4)	(73.2)	(0.0)	(0.0)	19
Nandi	(65.7)	27	50.9	76	48.9	74.5	59.8	7.8	5.5	42
Baringo	65.0	29	71.6	53	67.4	90.8	71.6	1.7	1.7	37
Laikipia	(73.1)	24	73.6	44	(60.0)	(74.7)	(58.4)	(1.6)	(1.6)	28
Nakuru	(76.2)	67	67.1	132	53.3	82.9	69.6	0.0	0.0	99
Narok	68.5	72	61.7	188	67.7	91.8	77.8	9.3	8.0	116
Kajiado	61.4	49	53.4	116	69.9	70.7	81.2	1.7	1.7	48
Kericho	(64.7)	28	65.3	92	55.8	83.5	68.0	2.4	0.0	58
Bomet	(61.8)	34	68.9	99	56.7	68.9	65.4	7.2	7.2	58
<b>Western</b>	<b>56.5</b>	<b>276</b>	<b>52.2</b>	<b>782</b>	<b>47.4</b>	<b>69.3</b>	<b>59.7</b>	<b>5.1</b>	<b>4.9</b>	<b>436</b>
Kakamega	57.8	86	43.6	209	50.0	76.0	59.3	4.4	4.4	150
Vihiga	61.6	36	53.5	106	50.1	68.4	65.6	9.9	9.2	51
Bungoma	49.1	131	52.6	302	40.5	69.0	59.5	5.4	4.9	164
Busia	(83.9)	24	61.4	166	55.9	56.7	56.9	2.5	2.5	71
<b>Nyanza</b>	<b>71.3</b>	<b>253</b>	<b>66.3</b>	<b>987</b>	<b>60.1</b>	<b>73.0</b>	<b>59.9</b>	<b>12.7</b>	<b>11.7</b>	<b>500</b>
Siaya	(79.2)	43	75.7	170	65.6	68.1	51.3	17.0	17.0	53
Kisumu	*	15	62.5	148	59.5	62.6	51.6	14.7	14.7	74
Homa Bay	67.3	77	64.7	281	70.6	90.1	73.9	20.2	18.9	144
Migori	75.2	66	62.2	249	55.4	59.1	51.5	3.5	2.6	144
Kisii	(64.2)	46	71.1	130	45.5	82.0	63.3	11.9	9.4	78
Nyamira	*	6	*	11	*	*	*	*	*	5
<b>Nairobi</b>	<b>(65.2)</b>	<b>113</b>	<b>64.3</b>	<b>359</b>	<b>57.4</b>	<b>80.8</b>	<b>70.6</b>	<b>12.8</b>	<b>12.8</b>	<b>300</b>
Total	65.9	1,575	62.9	4,562	58.0	73.8	64.6	8.1	7.5	2,844

Note: Figures in parentheses are based on fewer than 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

<sup>1</sup> Symptoms of ARI, considered a proxy for pneumonia, include cough accompanied by short, rapid breathing that is chest-related and/or by difficult breathing that is chest-related.

<sup>2</sup> Excludes pharmacy, shop, and traditional practitioner

<sup>3</sup> ORT includes solution prepared from oral rehydration salt (ORS) and other home-made fluids

### 3.6.3 Nutritional Status of Children

Malnutrition places children at increased risk of morbidity and mortality and is also shown to be related to impaired mental development. Anthropometry provides one of the most important indicators of children's nutritional status. In the 2014 KDHS, height and weight measurements were obtained for children born in the five years preceding the survey. The height and weight data were used to compute three summary indices of nutritional status: height-for-age, weight-for-height, and weight-for-age. These three indices were expressed as standardised scores (z-scores) or standard deviation units from the median for the child growth standards recommended by the World Health Organisation. Children who fall more than two standard deviations below the reference median are regarded as undernourished, while those who fall more than three standard deviations below the reference median are considered severely undernourished. Table 3.20 shows the nutritional status among children less than age five by selected background characteristics, and Table 3.21 presents children's nutritional status by county.

Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered stunted or short for their age. Stunting is the result of failure to receive adequate nutrition over an extended period and may also be affected by recurrent or chronic illness. About one-quarter (26 percent) of Kenyan children are stunted, while 8 percent are severely stunted (Table 3.20). Analysis of stunting by age group shows that stunting is highest (36 percent) in children age 18-23 months and lowest (10 percent) in children age less than 6 months. Similar results were observed for severe stunting with children 18-23 months being the most affected (12 percent), and those less than 6 months being the least affected (3 percent). Stunting levels are higher among boys (30 percent) than girls (22 percent) and higher among rural children (29 percent) than urban children (20 percent). Children of mothers with secondary or higher education are less likely to be stunted (17 percent) compared with children whose mothers did not complete primary school (34 percent) or have no education (31 percent). The table further shows that stunting in children declines as household wealth increases, from 36 percent to 14 percent.

At the county level, shown in Table 3.21, West Pokot and Kitui counties have the highest proportions (46 percent) of stunted children. Other counties reporting high proportions of stunting include Kilifi (39 percent), Mandera (36 percent), and Bomet (36 percent). Nyeri, Garissa, and Kiambu counties have the lowest proportion of stunted children, each less than 16 percent.

Children whose weight-for-height is below minus two standard deviations (-2 SD) from the median of the reference population are considered wasted (or thin). Wasting represents the failure to receive adequate nutrition in the period immediately before the survey, and typically is the result of recent illness episodes, especially diarrhoea, or of a rapid deterioration in food supplies. Table 3.20 shows that 4 percent of Kenyan children are wasted and 1 percent are severely wasted. Wasting levels are highest for the children in the age groups 6-8 months and 9-11 months (each 7 percent). During this period, children are being introduced to complementary food and are more vulnerable to diseases. Children whose mothers have no education have a higher chance of wasting (10 percent) compared with children of educated mothers. Wasting in children is inversely related to household wealth.

At the county level (Table 3.21), wasting is concentrated in the north: Garissa, Wajir, Mandera, Marsabit, Turkana, West Pokot, and Samburu. More than 11 percent of children are wasted in these counties, topping out at 23 percent in Turkana. Counties with the lowest proportion of wasted children are Siaya and Kisumu, each with less than 1 percent.

Table 3.20 Nutritional status of children by background characteristics

Percentage of children under five 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, Kenya 2014

Background characteristic	Height-for-age <sup>1</sup>			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Percent-age above +2 SD	Mean Z-Score (SD)	
<b>Age in months</b>												
<6	2.8	10.0	-0.3	1.4	3.7	14.4	0.5	1.0	3.7	4.3	0.1	1,612
6-8	3.8	12.3	-0.4	2.0	6.5	6.9	0.1	1.5	8.0	2.9	-0.3	934
9-11	4.5	16.7	-0.7	1.6	6.5	4.7	-0.1	2.3	8.8	2.5	-0.5	966
12-17	8.5	26.5	-1.1	1.3	5.5	4.3	-0.1	2.6	11.1	1.9	-0.6	1,995
18-23	11.7	35.5	-1.4	1.1	4.7	3.9	-0.0	2.7	11.8	1.5	-0.7	1,786
24-35	10.4	33.6	-1.4	0.4	3.0	2.7	0.0	2.8	12.5	0.7	-0.7	3,921
36-47	8.7	28.6	-1.3	0.8	3.3	2.7	-0.0	2.2	12.2	0.8	-0.8	4,013
48-59	7.2	23.3	-1.2	0.6	3.7	1.8	-0.2	2.2	12.1	0.5	-0.8	3,759
<b>Sex</b>												
Male	9.7	29.7	-1.3	1.0	4.4	4.7	0.0	2.7	12.1	1.5	-0.7	9,653
Female	6.3	22.3	-1.0	0.8	3.7	3.5	-0.0	1.8	9.8	1.3	-0.6	9,334
<b>Mother's interview status</b>												
Mother interviewed	7.8	25.9	-1.1	1.0	4.1	4.2	0.0	2.2	10.7	1.4	-0.6	17,201
Mother not interviewed, but in household	7.1	20.7	-0.8	0.2	2.7	4.2	0.1	2.3	10.1	2.3	-0.4	365
Mother not interviewed, not in household <sup>3</sup>	11.5	28.9	-1.2	0.4	4.0	2.8	-0.1	3.5	14.4	0.9	-0.7	1,420
<b>Residence</b>												
Urban	5.7	19.8	-0.9	0.8	3.4	5.5	0.1	1.5	7.0	2.4	-0.4	6,206
Rural	9.2	29.1	-1.3	1.0	4.4	3.4	-0.1	2.7	12.9	0.9	-0.8	12,780
<b>Mother's education<sup>4</sup></b>												
No education	11.0	30.6	-1.3	2.3	10.2	2.2	-0.5	4.5	20.6	0.8	-1.1	2,110
Primary incomplete	10.8	33.5	-1.4	0.9	3.9	3.5	-0.0	2.8	13.3	0.8	-0.8	5,059
Primary complete	7.7	25.5	-1.2	0.9	2.8	3.3	0.0	1.7	9.5	1.0	-0.6	4,853
Secondary+	3.9	17.2	-0.8	0.5	3.0	6.4	0.2	1.2	5.6	2.6	-0.3	5,544
<b>Wealth quintile</b>												
Lowest	12.3	35.9	-1.5	1.6	7.3	2.1	-0.3	4.2	19.5	0.5	-1.1	4,608
Second	9.5	30.2	-1.3	0.8	3.0	3.6	0.0	2.7	12.1	0.8	-0.8	4,096
Middle	7.4	25.4	-1.2	0.8	3.7	4.0	0.1	1.9	9.1	1.2	-0.6	3,536
Fourth	6.2	20.7	-1.0	0.6	2.7	5.4	0.1	1.1	6.9	1.7	-0.5	3,299
Highest	3.3	13.8	-0.6	0.6	2.5	6.3	0.2	0.8	4.0	3.1	-0.2	3,447
Total	8.1	26.0	-1.1	0.9	4.0	4.1	0.0	2.3	11.0	1.4	-0.6	18,986

Note: Table is based on children who stayed 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 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

<sup>1</sup> Recumbent length is measured for children under age 2 or in the few cases when the age of the child is unknown and the child is less than 85 cm; standing height is measured for all other children.

<sup>2</sup> Includes children who are below -3 standard deviations (SD) from the WHO Growth Standards population median

<sup>3</sup> Includes children whose mothers are deceased

<sup>4</sup> For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

Children whose weight-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered underweight. The measure reflects the effects of both acute and chronic malnutrition. As shown in Table 3.20, 11 percent of Kenyan children are underweight, with 2 percent classified as severely underweight. Peak levels of low weight-for-age are found among children age 24-35 months. The percentage underweight is slightly higher among boys (12 percent) than girls (10 percent), and for rural children (13 percent) than urban children (7 percent). The proportion underweight decreases as mother's education level increases or household wealth quintile increases.

At the county level, more than one-quarter of children are underweight in five counties: Mandera, Marsabit, Turkana, West Pokot, and Samburu. Less than 4 percent of children are underweight in Nyeri and Nairobi counties.

Table 3.21 Nutritional status of children by county

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by county, Kenya 2014

County	Height-for-age <sup>1</sup>			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD <sup>2</sup>	Percent-age above +2 SD	Mean Z-Score (SD)	
<b>Coast</b>	<b>10.4</b>	<b>30.8</b>	<b>-1.3</b>	<b>0.8</b>	<b>4.5</b>	<b>3.3</b>	<b>-0.1</b>	<b>2.4</b>	<b>13.6</b>	<b>1.2</b>	<b>-0.8</b>	<b>1,926</b>
Mombasa	7.1	21.1	-1.0	0.0	4.1	4.2	0.0	1.5	9.6	1.9	-0.6	456
Kwale	10.5	29.7	-1.4	0.8	4.4	3.8	0.0	1.5	11.8	1.5	-0.8	401
Kilifi	13.6	39.1	-1.5	0.9	4.1	2.8	-0.1	3.1	16.9	0.6	-1.0	737
Tana River	9.4	28.1	-1.4	0.9	5.7	1.3	-0.3	3.1	18.6	0.6	-1.0	164
Lamu	7.1	29.2	-1.2	0.3	4.2	2.0	-0.1	2.1	11.8	2.1	-0.8	53
Taita Taveta	5.8	23.8	-0.9	3.6	7.2	4.2	-0.1	3.2	7.8	1.8	-0.6	115
<b>North Eastern</b>	<b>10.7</b>	<b>24.7</b>	<b>-0.9</b>	<b>2.6</b>	<b>13.3</b>	<b>2.6</b>	<b>-0.7</b>	<b>4.5</b>	<b>19.0</b>	<b>1.2</b>	<b>-1.0</b>	<b>604</b>
Garissa	5.9	15.6	-0.7	1.3	11.4	2.3	-0.6	2.9	13.1	1.3	-0.8	228
Wajir	10.3	26.4	-1.0	3.1	14.2	0.7	-0.8	3.7	21.1	0.0	-1.1	228
Mandera	19.0	36.1	-1.3	3.8	14.8	5.9	-0.5	8.2	24.9	3.0	-1.1	148
<b>Eastern</b>	<b>8.2</b>	<b>30.1</b>	<b>-1.3</b>	<b>1.2</b>	<b>4.4</b>	<b>4.3</b>	<b>-0.1</b>	<b>2.2</b>	<b>12.2</b>	<b>0.9</b>	<b>-0.8</b>	<b>2,409</b>
Marsabit	10.7	26.5	-1.2	5.1	16.3	1.0	-0.9	7.3	30.1	0.4	-1.3	90
Isiolo	5.1	19.1	-0.7	2.4	9.1	1.6	-0.6	3.2	12.9	1.0	-0.8	80
Meru	6.2	25.2	-1.1	1.0	2.9	4.9	0.1	1.2	8.1	0.5	-0.6	529
Tharaka-Nithi	7.6	32.9	-1.4	0.0	3.3	3.6	0.0	4.1	10.8	0.8	-0.8	151
Embu	6.5	26.8	-1.3	0.2	3.0	3.6	0.1	1.3	11.1	1.3	-0.7	202
Kitui	12.7	45.8	-1.7	0.4	3.4	3.1	-0.2	2.9	19.7	0.7	-1.1	486
Machakos	7.1	26.5	-1.1	2.5	6.5	5.5	-0.1	1.7	8.1	1.2	-0.7	502
Makueni	7.8	25.1	-1.3	1.0	2.1	5.3	0.1	1.7	10.2	1.0	-0.7	369
<b>Central</b>	<b>4.9</b>	<b>18.4</b>	<b>-0.9</b>	<b>0.2</b>	<b>2.3</b>	<b>6.2</b>	<b>0.2</b>	<b>1.2</b>	<b>5.3</b>	<b>2.4</b>	<b>-0.3</b>	<b>1,694</b>
Nyandarua	8.1	29.4	-1.3	0.1	2.0	6.8	0.3	1.0	6.8	0.8	-0.6	248
Nyeri	5.6	15.1	-0.9	0.0	2.4	5.9	0.2	1.2	2.5	2.1	-0.3	268
Kirinyaga	3.7	17.2	-0.9	0.8	3.9	4.5	-0.0	1.3	7.7	0.0	-0.5	185
Murang'a	4.8	19.3	-1.0	0.0	1.4	3.1	0.1	1.6	5.6	1.2	-0.5	307
Kiambu	3.8	15.7	-0.7	0.3	2.3	7.9	0.4	1.1	5.1	4.3	-0.1	686
<b>Rift Valley</b>	<b>9.3</b>	<b>29.8</b>	<b>-1.3</b>	<b>1.3</b>	<b>5.7</b>	<b>3.7</b>	<b>-0.2</b>	<b>3.6</b>	<b>15.3</b>	<b>1.0</b>	<b>-0.8</b>	<b>5,466</b>
Turkana	7.1	23.9	-1.1	4.4	22.9	0.2	-1.3	9.8	34.0	0.0	-1.5	359
West Pokot	19.0	45.9	-1.8	2.4	14.3	1.4	-0.8	9.6	38.5	0.3	-1.5	286
Samburu	9.8	30.1	-1.3	2.8	13.6	0.6	-0.9	8.1	28.9	0.3	-1.4	112
Trans-Nzoia	10.7	29.2	-1.3	2.0	3.9	2.4	-0.1	3.9	15.3	0.6	-0.8	556
Uasin Gishu	11.1	31.2	-1.3	1.1	3.0	5.1	-0.0	2.8	11.5	0.7	-0.7	482
Elgeyo Marakwet	7.3	29.9	-1.4	1.2	4.3	4.5	-0.2	2.5	12.6	0.7	-0.9	170
Nandi	8.3	29.9	-1.3	1.0	3.9	3.7	-0.1	1.9	11.1	0.5	-0.8	405
Baringo	8.4	29.5	-1.4	1.2	6.9	2.0	-0.5	3.6	20.2	1.2	-1.1	233
Laikipia	7.4	26.9	-1.3	0.8	4.4	3.7	-0.1	2.8	13.9	0.8	-0.8	211
Nakuru	7.2	27.6	-1.2	0.6	4.5	5.7	0.1	2.8	10.2	1.5	-0.6	840
Narok	8.7	32.9	-1.4	0.7	2.4	3.0	-0.1	1.1	11.6	0.6	-0.9	628
Kajiado	7.1	18.2	-0.7	0.8	3.0	4.3	0.1	2.5	8.1	4.0	-0.4	400
Kericho	10.5	28.7	-1.3	1.1	5.6	6.6	0.1	3.5	12.4	1.4	-0.7	311
Bomet	10.7	35.5	-1.6	0.4	1.8	3.7	0.1	2.1	12.0	0.6	-0.8	472
<b>Western</b>	<b>8.2</b>	<b>25.2</b>	<b>-1.1</b>	<b>0.4</b>	<b>1.9</b>	<b>3.4</b>	<b>0.1</b>	<b>1.5</b>	<b>9.0</b>	<b>1.3</b>	<b>-0.6</b>	<b>2,476</b>
Kakamega	12.3	28.4	-1.3	0.5	1.8	4.3	0.2	2.2	10.1	1.2	-0.6	845
Vihiga	6.0	23.5	-1.1	0.4	2.6	4.0	0.2	1.4	5.9	0.9	-0.5	260
Bungoma	6.4	24.4	-1.1	0.2	1.8	2.9	0.1	0.9	9.0	1.8	-0.5	938
Busia	5.4	22.0	-1.1	0.7	2.2	2.4	0.1	1.8	9.0	0.8	-0.6	433
<b>Nyanza</b>	<b>7.6</b>	<b>22.7</b>	<b>-1.0</b>	<b>0.4</b>	<b>2.0</b>	<b>4.4</b>	<b>0.2</b>	<b>1.3</b>	<b>7.4</b>	<b>2.0</b>	<b>-0.4</b>	<b>2,769</b>
Siaya	7.1	24.7	-1.1	0.0	0.2	4.7	0.2	1.4	7.8	1.6	-0.4	423
Kisumu	6.9	18.0	-0.7	0.0	0.8	5.7	0.2	0.4	6.6	3.8	-0.2	492
Homa Bay	4.2	18.7	-0.7	0.9	2.3	4.1	0.2	1.3	5.4	2.6	-0.3	621
Migori	10.1	26.4	-1.1	0.9	4.0	4.4	0.2	1.6	8.6	1.5	-0.5	526
Kisii	9.3	25.5	-1.3	0.0	1.7	4.0	0.2	1.8	8.4	0.9	-0.6	511
Nyamira	10.1	25.5	-1.1	0.9	4.1	2.9	-0.0	2.0	9.6	0.5	-0.6	195
<b>Nairobi</b>	<b>3.9</b>	<b>17.2</b>	<b>-0.7</b>	<b>0.8</b>	<b>2.5</b>	<b>5.3</b>	<b>0.2</b>	<b>1.2</b>	<b>3.8</b>	<b>1.7</b>	<b>-0.2</b>	<b>1,643</b>
Total	8.1	26.0	-1.1	0.9	4.0	4.1	0.0	2.3	11.0	1.4	-0.6	18,986

Note: Table is based on children who stayed 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 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

<sup>1</sup> Recumbent length is measured for children under age 2 or in the few cases when the age of the child is unknown and the child is less than 85 cm; standing height is measured for all other children.

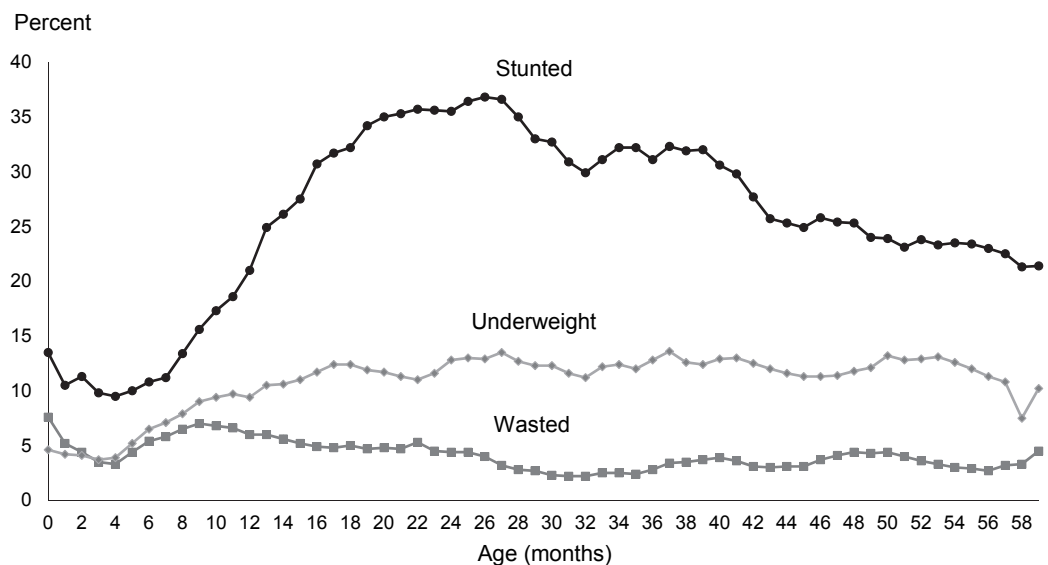
<sup>2</sup> Includes children who are below -3 standard deviations (SD) from the WHO Growth Standards population median

<sup>3</sup> Includes children whose mothers are deceased

<sup>4</sup> For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

Figure 3.6 depicts children's nutritional status by age in months. Kenyan children are more likely to experience stunting than to be underweight or wasted. Additionally, the risk of stunting peaks at age 19 to 28 months.

**Figure 3.6 Nutritional status of children by age**



Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

2014 KDHS

### Trends in Nutritional Status

Comparison of the 2008-09 KDHS nutrition data with that from 2014 indicates an overall improvement in nutritional status of children in Kenya. Stunting has decreased from 35 percent to 26 percent. Wasting has also declined from 7 percent to 4 percent in 2014, and the proportion of underweight children declined from 16 percent to 11 percent.

### 3.6.4 Breastfeeding and Complementary Feeding

Breastfeeding practices and introduction of supplemental foods are important determinants of the nutritional status of children, particularly among children under age two. With improved nutritional status, the risk of child mortality is reduced and development is enhanced. Breast milk contains all the nutrients children need in the first six months of life. Supplementing breast milk before six months of age is unnecessary and is discouraged because of the likelihood of contamination, which may increase the risk of diarrhoeal diseases.

Table 3.22 describes the breastfeeding practices for the youngest children under age two who are living with their mother. The World Health Organization recommends that children receive nothing but breastmilk (exclusive breastfeeding) for the first six months of life. In Kenya, 61 percent of children less than six months are exclusively breastfed. More than half of children in Kenya are still breastfeeding at age 20-23 months (51 percent). The proportion of breastfed children declines with age; breastfeeding is nearly universal in a child's first month of life, but the proportion breastfed drops to 61 percent by the time a child is 18-23 months.

In addition to breast milk, 15 percent of children less than 6 months are fed complementary foods, 10 percent consume plain water, 10 percent consume other milks, and 3 percent consume non-

milk liquids. Further, Table 3.22 shows that bottle feeding is prevalent in Kenya with 11 percent of children age 6 months or younger using a bottle with a nipple. Thirty percent of children age 6-9 months use a bottle with a nipple.

The proportion of children younger than age 6 months who are exclusively breastfed has markedly increased from 32 percent in the 2008-09 KDHS to the current 61 percent. The proportion of children less than 6 months using a bottle with a nipple has also noticeably decreased from 25 percent in 2008-09 to 11 percent in 2014.

Table 3.22 Breastfeeding status by age

Percent distribution of youngest children under two years who are living with their mother, by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under two years using a bottle with a nipple, according to age in months, Kenya 2014

Age in months	Breastfeeding status						Total	Percent- age currently breast- feeding	Number of youngest children under two years living with the mother	Percent- age using a bottle with a nipple	Number of all children under two years
	Not breast- feeding	Exclusively breast- feeding	Breast- feeding and consuming plain water only	Breast- feeding and consuming non-milk liquids <sup>1</sup>	Breast- feeding and consuming other milk	Breast- feeding and consuming comple- mentary foods					
0-1	0.4	84.1	6.8	2.3	4.4	1.9	100.0	99.6	215	5.7	218
2-3	0.4	63.0	11.9	2.9	8.7	13.1	100.0	99.6	302	10.2	305
4-5	0.7	42.0	11.1	4.5	14.7	26.9	100.0	99.3	277	15.3	282
6-8	1.6	7.6	4.0	2.7	5.7	78.3	100.0	98.4	446	28.7	457
9-11	2.3	1.4	1.3	0.3	1.6	93.1	100.0	97.7	447	30.4	454
12-17	12.4	0.3	1.4	1.2	1.2	83.6	100.0	87.6	907	24.7	952
18-23	38.6	0.6	0.4	0.8	0.4	59.2	100.0	61.4	793	19.4	885
0-3	0.4	71.8	9.8	2.7	6.9	8.5	100.0	99.6	517	8.3	524
0-5	0.5	61.4	10.2	3.3	9.6	14.9	100.0	99.5	794	10.8	806
6-9	1.6	6.9	3.6	2.1	5.0	80.8	100.0	98.4	571	29.6	583
12-15	9.6	0.4	1.2	0.4	1.5	86.9	100.0	90.4	605	27.0	631
12-23	24.6	0.4	0.9	1.0	0.8	72.2	100.0	75.4	1,700	22.2	1,838
20-23	46.9	1.0	0.1	0.4	0.5	51.2	100.0	53.1	502	16.3	569

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 breastfeeding, breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus 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. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

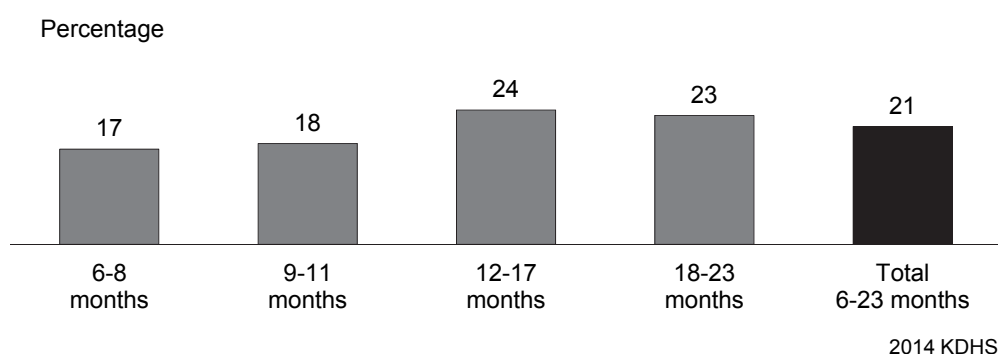
<sup>1</sup> Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Figure 3.7 presents the percentage of children under age two who are consuming the minimum acceptable diet. The minimum acceptable diet recommends that breastfed children 6-23 months be fed foods from four or more food groups daily. Non-breastfed children should be fed milk or milk products in addition to foods from four or more food groups. The recommendation also requires that breastfed infants age 6-8 months be fed at least twice a day, while breastfed children age 9-23 months must be fed at least three times a day. For non-breastfed children age 6-23 months, the minimum meal frequency is solid or semi-solid food or milk feeds at least four times a day.

In Kenya, about two in ten (21 percent) children age 6-23 months consume an acceptable diet. Children age 12-17 months are slightly more likely than children in other age groups to consume an acceptable diet (24 percent).



**Figure 3.7 Minimum acceptable diet by age (months)**



### 3.7 MALARIA

#### 3.7.1 Ownership and Use of Mosquito Nets

One of the strongest weapons in the fight against malaria is the use of insecticide-treated nets (ITNs) while sleeping. In the 2014 KDHS, data were collected from households on ownership and number of mosquito nets owned. Respondents were also asked to indicate particular household members who had slept under each net the night prior to the interview.

The data in Tables 3.23 and 3.24 show that 59 percent of households in Kenya own at least one ITN and 34 percent own at least one ITN for every two persons who stayed in the household the night preceding the survey (considered universal coverage). Household ownership of at least one ITN has improved slightly since the 2008-09 KDHS, which indicated that 56 percent of households had at least one ITN.<sup>3</sup>

**Table 3.23 Household possession of insecticide-treated nets by background characteristics**

Percentage of households with at least one insecticide-treated net (ITN); average number of ITNs per household; and percentage of households with at least one ITN per two persons who stayed in the household the night before the survey, by background characteristics, Kenya 2014

Background characteristic	Percentage of households with at least one insecticide-treated net (ITN) <sup>1</sup>	Average number of insecticide-treated nets (ITN) <sup>1</sup> per household	Number of households	Percentage of households with at least one insecticide-treated net (ITN) <sup>1</sup> for every two persons who stayed in the household last night (universal coverage) <sup>2</sup>	Number of households with at least one person who stayed in the household last night
<b>Residence</b>					
Urban	55.7	1.0	15,290	37.3	15,120
Rural	60.8	1.2	21,140	32.1	21,065
<b>Wealth quintile</b>					
Lowest	50.8	0.9	6,077	20.5	6,060
Second	61.1	1.1	6,557	28.5	6,528
Middle	63.6	1.3	6,967	36.2	6,910
Fourth	56.4	1.1	8,225	37.4	8,163
Highest	60.5	1.2	8,603	43.9	8,525
Total	58.7	1.1	36,430	34.3	36,185

<sup>1</sup> An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 6 months. Note, the Roll Back Malaria (RBM) Partnership's definition for an ITN differs slightly from that used in the 2014 KDHS in that the time window in point (2) for treatment with insecticide is 12 months and not 6 months (<http://goo.gl/kNWhus>). The percentages presented in Table 3.23 do not differ substantially by ITN definition; for example, the percentage of households with at least one ITN as defined by RBM is 58.9 percent while the percentage of households with universal coverage is 34.5 percent.

<sup>2</sup> De facto household members

<sup>3</sup> In Kenya, an insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 6 months. The definition used in the 2008-09 KDHS was slightly different: an ITN was considered to be a (1) a factory-treated net that does not require any further treatment (long-lasting net), (2) a pretreated net obtained within the past 12 months, or (3) a conventional net that has been soaked with insecticide within the past 12 months.

Table 3.24 Household possession of insecticide-treated nets by county

Percentage of households with at least one insecticide-treated net (ITN); average number of ITNs per household; and percentage of households with at least one ITN per two persons who stayed in the household the night before the survey, by county, Kenya 2014

County	Percentage of households with at least one insecticide-treated net (ITN) <sup>1</sup>	Average number of insecticide-treated nets (ITN) <sup>1</sup> per household	Number of households	Percentage of households with at least one insecticide-treated net (ITN) <sup>1</sup> for every two persons who stayed in the household last night (universal coverage) <sup>2</sup>	Number of households with at least one person who stayed in the household last night
<b>Coast</b>	<b>69.1</b>	<b>1.4</b>	<b>3,569</b>	<b>43.3</b>	<b>3,531</b>
Mombasa	56.9	0.9	1,245	38.9	1,221
Kwale	81.0	1.7	704	47.8	703
Kilifi	73.1	1.6	999	41.5	993
Tana River	65.3	1.3	210	33.0	208
Lamu	71.1	1.5	104	51.2	102
Taita Taveta	80.4	1.6	307	60.6	304
<b>North Eastern</b>	<b>48.8</b>	<b>1.0</b>	<b>724</b>	<b>21.9</b>	<b>722</b>
Garissa	61.1	1.4	265	34.4	265
Wajir	53.6	1.1	242	18.1	241
Mandera	28.7	0.5	217	10.9	217
<b>Eastern</b>	<b>56.2</b>	<b>1.1</b>	<b>5,262</b>	<b>31.1</b>	<b>5,227</b>
Marsabit	24.7	0.3	146	7.0	146
Isiolo	62.7	1.1	122	31.5	121
Meru	53.5	1.0	1,406	30.6	1,398
Tharaka-Nithi	67.2	1.3	379	45.8	375
Embu	55.9	1.1	548	35.3	539
Kitui	61.1	1.1	856	29.3	849
Machakos	56.0	1.1	1,088	31.5	1,088
Makueni	55.3	1.1	717	27.7	711
<b>Central</b>	<b>37.7</b>	<b>0.7</b>	<b>5,012</b>	<b>25.0</b>	<b>4,990</b>
Nyandarua	12.5	0.2	593	7.1	589
Nyeri	19.7	0.3	792	11.9	788
Kirinyaga	68.5	1.4	622	54.3	620
Murang'a	43.7	0.8	968	27.1	965
Kiambu	39.9	0.7	2,037	25.2	2,028
<b>Rift Valley</b>	<b>55.6</b>	<b>1.1</b>	<b>9,249</b>	<b>31.6</b>	<b>9,195</b>
Turkana	46.2	0.7	448	16.3	446
West Pokot	60.2	1.1	319	21.2	319
Samburu	18.8	0.3	146	8.7	145
Trans-Nzoia	70.6	1.5	814	38.4	809
Uasin Gishu	72.0	1.5	962	49.7	950
Elgeyo Marakwet	21.9	0.3	301	10.1	301
Nandi	78.8	1.6	671	41.9	667
Baringo	59.8	1.1	391	32.8	387
Laikipia	17.5	0.3	406	10.6	402
Nakuru	37.7	0.6	1,950	22.7	1,948
Narok	52.2	1.0	752	25.4	746
Kajiado	49.8	0.9	770	33.3	759
Kericho	79.5	1.6	589	45.4	589
Bomet	77.6	1.8	732	46.8	727
<b>Western</b>	<b>81.5</b>	<b>1.8</b>	<b>3,604</b>	<b>45.3</b>	<b>3,581</b>
Kakamega	78.8	1.7	1,350	47.0	1,341
Vihiga	82.9	1.7	446	44.9	446
Bungoma	82.9	1.8	1,180	41.7	1,170
Busia	83.9	1.9	628	48.8	624
<b>Nyanza</b>	<b>81.1</b>	<b>1.6</b>	<b>4,559</b>	<b>45.3</b>	<b>4,542</b>
Siaya	78.8	1.5	725	41.6	720
Kisumu	87.6	1.7	943	52.6	939
Homa Bay	74.3	1.5	877	37.5	873
Migori	74.6	1.4	701	30.3	699
Kisii	86.1	1.9	904	54.4	903
Nyamira	84.5	1.7	409	57.1	409
<b>Nairobi</b>	<b>43.3</b>	<b>0.7</b>	<b>4,451</b>	<b>28.5</b>	<b>4,397</b>
Total	58.7	1.1	36,430	34.3	36,185

<sup>1</sup> An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2) a net that has been soaked with insecticide within the past 6 months

<sup>2</sup> De facto household members

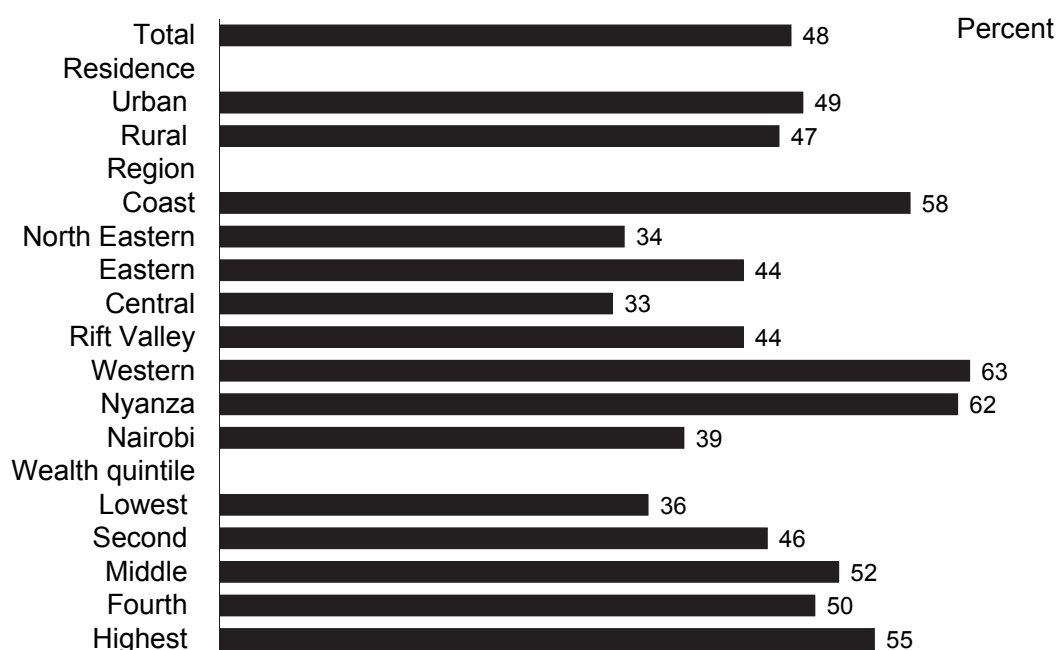
The data in Table 3.23 indicates that rural households are slightly more likely to own an ITN (61 percent) than those in urban areas (56 percent). These figures show a change in ITN ownership among rural households from the 2008-09 KDHS, which indicated that urban households were more likely to own an ITN (58 percent) than rural households (55 percent).

As in the 2008-09 KDHS, the 2014 KDHS shows that the ownership of at least one ITN is similar across the top four wealth quintiles (ranging from 56 percent to 64 percent). However, ownership of at least one ITN is lower among households in the lowest wealth quintile (51 percent).

Table 3.24 shows marked regional variation in the ownership of ITNs. While 82 percent of households in Western region own at least one ITN, only 38 percent of households in Central region and 43 percent of households in Nairobi do. It is worthwhile to note that at least 74 percent of households in counties in the malaria prone regions of Nyanza and Western have at least one ITN.

Figure 3.8 shows the percentage of the de facto population with access to an ITN in the household, by residence and region. Forty-eight percent of household members in Kenya have access to an ITN in the household. While there is little difference in ITN access between urban and rural areas (49 percent and 47 percent, respectively), there are wide regional variations in ITN access. The majority of household members in Western and Nyanza regions had access to an ITN (63 percent and 62 percent, respectively). Access to ITNs is lower in Nairobi (39 percent), North Eastern region (34 percent), and Central region (33 percent). Unlike ownership of ITNs, access to ITNs among household members increases with household wealth, from 36 percent in the lowest wealth quintile to 55 percent in the highest quintile.

**Figure 3.8 Percentage of the de facto population with access to an ITN\* in the household**



\* An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 6 months.

2014 KDHS

Table 3.25 shows the use of nets by children and pregnant women by background characteristics while Table 3.26 presents the data by county. The results show that 59 percent of children under five slept under any mosquito net the night before the survey while 54 percent slept under an ITN. Further, in households with at least one ITN, 77 percent of children under age five slept under an ITN the night before the survey.

Fifty-six percent of pregnant women age 15-49 in all households slept under any mosquito net while 51 percent slept under an ITN the night before the survey. In households with at least one ITN, 77 percent of pregnant women slept under an ITN the night before the survey.

Children under age five residing in urban areas are more likely than their rural counterparts to have slept under an ITN last night (59 percent and 52 percent, respectively). Net use among children under age five and household wealth are positively associated. Forty percent of children in households in the lowest wealth quintile slept under an ITN the night before survey; this percentage increases to 63 percent of children in the highest wealth quintile.

The relationships between ITN use and residence or wealth for pregnant women are similar to those for children under age five; however, the differences are less pronounced.

Children and pregnant women in the malaria-prone regions of Western, Nyanza, and Coast were more likely to have slept under an ITN the night before the survey compared with those in other regions (Table 3.26).

**Table 3.25 Use of insecticide-treated nets by children and pregnant women by background characteristics**

Percentage of children under age five who, the night before the survey, slept under any mosquito net, slept under an insecticide-treated net (ITN), and slept under an ITN or in a dwelling in which the interior walls have been sprayed against mosquitoes (IRS) in the past 12 months; and among children under five years of age in households with at least one ITN, percentage who slept under an ITN the night before the survey; percentage of pregnant women age 15-49 who, the night before the survey, slept under any mosquito net, slept under an ITN, and slept under an ITN or in a dwelling in which the interior walls have been sprayed with IRS in the past 12 months; and among pregnant women age 15-49 in households with at least one ITN, percentage who slept under an ITN the night before the survey, by background characteristics, Kenya 2014

Background characteristic	Children under age five in all households				Children under age five in households with at least one ITN <sup>1</sup>		Pregnant women age 15-49 in all households			Pregnant women age 15-49 in households with at least one ITN <sup>1</sup>		
	Percent- age who sleep under any net last night	Percent- age who slept under an ITN <sup>1</sup> last night	Percent- age who slept under an ITN <sup>1</sup> last night or in a dwelling sprayed with IRS <sup>2</sup> in the past 12 months	Number of children	Percent- age who slept under an ITN <sup>1</sup> last night	Number of children	Percent- age who slept under any net last night	Percent- age who slept under an ITN <sup>1</sup> last night	Percent- age who slept under an ITN <sup>1</sup> last night or in a dwelling sprayed with IRS <sup>2</sup> in the past 12 months	Number of pregnant women	Percent- age who slept under an ITN <sup>1</sup> last night	Number of pregnant women
<b>Residence</b>												
Urban	68.3	58.9	59.0	6,563	84.5	4,570	60.5	51.1	51.9	750	80.8	474
Rural	54.2	51.7	52.1	13,236	73.2	9,343	52.8	50.1	50.3	1,188	74.0	804
<b>Wealth quintile</b>												
Lowest	42.3	40.4	40.7	4,850	66.5	2,949	39.7	38.2	38.7	459	73.0	240
Second	57.6	55.2	55.5	4,231	74.4	3,137	59.6	56.6	57.0	358	74.6	272
Middle	60.6	57.3	57.9	3,636	77.2	2,696	61.0	58.1	59.7	349	76.3	265
Fourth	66.0	59.6	59.8	3,411	83.3	2,441	59.3	51.0	51.0	368	77.7	241
Highest	73.8	62.5	62.7	3,670	85.3	2,691	62.8	52.0	52.0	403	80.9	259
Total	58.9	54.1	54.4	19,798	76.9	13,913	55.8	50.5	51.0	1,937	76.5	1,278

Note: Table is based on children who stayed in the household the night before the interview.

<sup>1</sup> An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 6 months. Note, the Roll Back Malaria (RBM) Partnership's definition for an ITN differs slightly from that used in the 2014 KDHS in that the time window in point (2) for treatment with insecticide is 12 months and not 6 months (<http://goo.gl/kNWhus>). The percentages presented in Table 3.25 do not differ substantially by ITN definition; with ITN defined by RBM for example, among children under age five in households with at least one ITN, the percentage who slept under an ITN the night before the survey is 76.9 percent; among pregnant women age 15-49 in households with at least one ITN, the percentage who slept under an ITN the night before the survey is 76.3 percent.

<sup>2</sup> Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or non-governmental organisation.

Table 3.26 Use of insecticide-treated nets by children and pregnant women by county

Percentage of children under age five who, the night before the survey, slept under any mosquito net, slept under an insecticide-treated net (ITN), and slept under an ITN or in a dwelling in which the interior walls have been sprayed against mosquitoes (IRS) in the past 12 months; and among children under five years of age in households with at least one ITN, percentage who slept under an ITN the night before the survey; percentage of pregnant women age 15-49 who, the night before the survey, slept under any mosquito net, slept under an ITN, and slept under an ITN or in a dwelling in which the interior walls have been sprayed with IRS in the past 12 months; and among pregnant women age 15-49 in households with at least one ITN, percentage who slept under an ITN the night before the survey, by county, Kenya 2014

County	Children under age five in all households				Children under age five in households with at least one ITN <sup>1</sup>		Pregnant women age 15-49 in all households			Pregnant women age 15-49 in households with at least one ITN <sup>1</sup>		
	Percent-age who sleep under any net last night	Percent-age who slept under an ITN <sup>1</sup> last night	Percent-age who slept under an ITN <sup>1</sup> last night or in a dwelling sprayed with IRS <sup>2</sup> in the past 12 months	Number of children	Percent-age who slept under an ITN <sup>1</sup> last night	Number of children	Percent-age who sleep under any net last night	Percent-age who slept under an ITN <sup>1</sup> last night	Percent-age who slept under an ITN <sup>1</sup> last night or in a dwelling sprayed with IRS <sup>2</sup> in the past 12 months	Number of pregnant women	Percent-age who slept under an ITN <sup>1</sup> last night	Number of pregnant women
<b>Coast</b>	<b>70.5</b>	<b>65.4</b>	<b>65.4</b>	<b>2,006</b>	<b>82.2</b>	<b>1,596</b>	<b>71.3</b>	<b>63.1</b>	<b>63.1</b>	<b>202</b>	<b>86.9</b>	<b>147</b>
Mombasa	67.2	61.5	61.5	477	85.9	342	(66.7)	(55.0)	(55.0)	48	*	30
Kwale	74.6	72.4	72.4	421	83.4	365	(86.6)	(84.7)	(84.7)	47	(96.3)	41
Kilifi	70.9	63.6	63.6	759	79.1	611	68.7	58.0	58.0	74	(87.1)	50
Tana River	60.1	57.4	57.6	174	78.3	128	53.6	47.6	47.6	20	(63.6)	15
Lamu	68.8	57.7	57.7	55	81.0	39	(73.6)	(64.0)	(64.0)	5	*	4
Taita Taveta	83.2	82.0	82.0	120	88.8	111	*	*	*	8	*	7
<b>North Eastern</b>	<b>43.8</b>	<b>40.2</b>	<b>40.3</b>	<b>664</b>	<b>77.7</b>	<b>343</b>	<b>43.4</b>	<b>43.1</b>	<b>43.4</b>	<b>78</b>	<b>82.4</b>	<b>41</b>
Garissa	52.5	47.6	47.9	239	77.2	147	51.7	51.7	52.6	31	(79.7)	20
Wajir	46.1	42.8	42.8	260	76.1	146	49.8	49.4	49.4	28	(88.1)	16
Mandera	27.5	25.5	25.5	165	84.1	50	20.6	19.9	19.9	19	*	5
<b>Eastern</b>	<b>55.7</b>	<b>53.1</b>	<b>53.2</b>	<b>2,464</b>	<b>73.5</b>	<b>1,779</b>	<b>52.3</b>	<b>49.8</b>	<b>49.8</b>	<b>204</b>	<b>72.3</b>	<b>141</b>
Marsabit	15.0	12.1	12.1	93	43.7	26	7.9	7.9	7.9	15	*	4
Isiolo	60.6	57.7	57.7	83	80.9	59	(62.9)	(56.4)	(56.4)	6	(83.9)	4
Meru	64.3	59.3	60.0	541	81.8	393	(54.4)	(49.0)	(49.0)	55	*	35
Tharaka-Nithi	65.4	61.9	61.9	155	77.8	123	*	*	*	12	*	9
Embu	63.0	58.5	58.5	204	72.3	165	*	*	*	21	*	17
Kitui	39.8	39.6	39.6	494	54.2	361	(47.0)	(47.0)	(47.0)	32	*	27
Machakos	65.0	62.9	62.9	515	85.0	381	*	*	*	35	*	25
Makueni	52.5	50.8	50.8	379	70.9	272	(49.7)	(48.0)	(48.0)	27	*	19
<b>Central</b>	<b>47.4</b>	<b>43.0</b>	<b>43.0</b>	<b>1,792</b>	<b>80.8</b>	<b>954</b>	<b>38.7</b>	<b>34.7</b>	<b>34.7</b>	<b>188</b>	<b>73.0</b>	<b>89</b>
Nyandarua	14.8	12.3	12.3	259	69.7	46	(9.7)	(6.7)	(6.7)	26	*	3
Nyeri	24.1	17.4	17.4	268	62.6	75	(23.0)	(14.3)	(14.3)	32	*	9
Kirinyaga	81.1	78.9	78.9	196	89.6	173	(63.4)	(63.4)	(63.4)	19	*	12
Murang'a	58.0	57.0	57.0	315	81.3	221	(49.9)	(45.2)	(45.2)	32	*	25
Kiambu	53.6	47.5	47.5	755	81.3	441	(44.5)	(41.2)	(41.2)	79	*	41
<b>Rift Valley</b>	<b>45.7</b>	<b>43.0</b>	<b>43.6</b>	<b>5,713</b>	<b>68.9</b>	<b>3,564</b>	<b>42.1</b>	<b>40.4</b>	<b>41.0</b>	<b>562</b>	<b>67.6</b>	<b>336</b>
Turkana	21.0	21.0	21.0	372	40.8	192	20.3	20.3	20.3	34	*	11
West Pokot	43.4	42.9	43.7	306	61.4	214	31.5	31.5	33.0	28	(56.9)	16
Samburu	18.2	16.6	16.9	117	86.1	23	8.9	6.7	6.7	14	*	1
Trans-Nzoia	60.2	59.2	61.3	570	74.8	452	(55.7)	(55.7)	(55.7)	48	(67.8)	39
Uasin Gishu	69.8	69.3	69.5	498	84.1	410	51.5	51.5	51.5	67	(63.1)	54
Elgeyo Marakwet	39.1	16.9	16.9	179	56.5	53	(48.0)	(25.5)	(25.5)	15	*	5
Nandi	55.2	55.0	55.5	416	67.1	341	(61.9)	(61.9)	(66.1)	31	(67.6)	28
Baringo	52.5	49.1	49.9	235	69.2	167	45.3	44.1	45.9	26	(58.7)	20
Laikipia	22.2	13.6	13.6	216	78.7	37	(11.4)	(6.5)	(6.5)	27	*	2
Nakuru	34.1	30.7	31.1	880	74.6	363	(37.1)	(35.0)	(35.0)	86	*	36
Narok	31.5	31.1	32.0	640	56.1	355	32.1	32.1	34.2	67	(63.0)	34
Kajiado	47.7	42.8	43.0	447	81.4	235	47.4	45.1	45.1	51	(72.5)	32
Kericho	55.7	53.1	54.3	349	61.4	302	(70.2)	(68.0)	(68.0)	30	(74.9)	27
Bomet	63.0	60.0	60.8	487	69.7	419	(49.0)	(47.7)	(47.7)	38	(60.1)	30
<b>Western</b>	<b>71.8</b>	<b>68.8</b>	<b>69.0</b>	<b>2,526</b>	<b>78.9</b>	<b>2,203</b>	<b>70.5</b>	<b>66.7</b>	<b>66.7</b>	<b>220</b>	<b>75.7</b>	<b>194</b>
Kakamega	66.0	62.6	62.9	860	73.1	737	71.1	65.7	65.7	83	(74.6)	73
Vihiga	72.5	70.9	71.3	263	78.3	238	(73.0)	(73.0)	(73.0)	23	(77.1)	22
Bungoma	73.7	71.5	71.5	955	82.0	832	66.0	62.4	62.4	76	73.6	64
Busia	78.4	73.9	73.9	448	83.5	396	(76.9)	(73.5)	(73.5)	38	(81.2)	34
<b>Nyanza</b>	<b>71.6</b>	<b>68.9</b>	<b>69.6</b>	<b>2,894</b>	<b>80.7</b>	<b>2,470</b>	<b>76.0</b>	<b>70.9</b>	<b>70.9</b>	<b>242</b>	<b>86.4</b>	<b>199</b>
Siaya	71.3	67.8	68.1	428	77.1	376	(70.1)	(66.3)	(66.3)	34	(85.3)	26
Kisumu	82.2	81.7	82.2	529	88.4	489	(89.3)	(89.3)	(89.3)	44	(94.9)	41
Homa Bay	63.9	56.4	58.4	658	74.8	496	(77.1)	(66.1)	(66.1)	51	(87.6)	39
Migori	63.0	62.2	62.6	556	74.4	464	60.3	56.0	56.0	59	68.6	48
Kisii	80.4	79.5	79.5	516	88.5	464	(82.1)	(76.8)	(76.8)	43	(97.6)	34
Nyamira	70.5	69.6	69.9	207	79.8	181	*	*	*	11	*	10
<b>Nairobi</b>	<b>70.7</b>	<b>49.5</b>	<b>49.5</b>	<b>1,738</b>	<b>85.8</b>	<b>1,003</b>	<b>61.0</b>	<b>43.3</b>	<b>45.7</b>	<b>241</b>	<b>(78.8)</b>	<b>133</b>
Total	58.9	54.1	54.4	19,798	76.9	13,913	55.8	50.5	51.0	1,937	76.5	1,278

Note: Table is based on children who stayed in the household the night before the interview. Figures in parentheses are based on fewer than 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

<sup>1</sup> An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment, or (2) a net that has been soaked with insecticide within the past 6 months.

<sup>2</sup> Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or non-governmental organisation.

### 3.7.2 Intermittent Preventive Treatment of Pregnant Women

The Government of Kenya's policy advocates for pregnant women in malaria endemic areas to receive two doses of intermittent preventive treatment (IPT) in the second and third trimesters in order to reduce the risk of malaria infection. To assess the coverage of this policy, women who had a live birth in the two years before the survey were asked if they had received treatment to prevent malaria during their pregnancy.

Tables 3.27 and 3.28 present the percentage of women age 15-49 with a live birth in the two years preceding the survey who received SP/Fansidar during their pregnancy, at least one dose of which was received during an ANC visit. Table 3.27 presents this data by background characteristics and Table 3.28 presents the data by county.

Nationally, 30 percent of women reported receiving one or more doses of SP/Fansidar, at least one of which was administered during an ANC visit; however, only 17 percent reported receiving two or more doses of SP/Fansidar. Ten percent of women reported receiving three or more doses of SP/Fansidar, at least one of which was received during an ANC visit.

Regionally, the highest percentages of women receiving one or more doses of SP/Fansidar were concentrated in the Coast (74 percent), Western (53 percent), and Nyanza (44 percent) regions which are malaria endemic zones. In other regions, less than one-quarter of women received one or more dose. This pattern is similar for women receiving two or more and three or more doses.

**Table 3.27 Use of intermittent preventive treatment (IPTp) by women during pregnancy by background characteristics**

Percentage of women age 15-49 with a live birth in the two years preceding the survey who, during the pregnancy preceding the last birth, received one or more doses of SP/Fansidar at least one of which was received during an ANC visit, received two or more doses of SP/Fansidar at least one of which was received during an ANC visit, and received three or more doses of SP/Fansidar at least one of which was received during an ANC visit, by background characteristics, Kenya 2014

Background characteristic	Percentage who received 1 or more doses of SP/Fansidar <sup>1</sup>	Percentage who received 2 or more doses of SP/Fansidar <sup>1</sup>	Percentage who received 3 or more doses of SP/Fansidar <sup>1</sup>	Number of women with a live birth in the two years preceding the survey
<b>Residence</b>				
Urban	26.8	14.1	7.8	2,618
Rural	31.1	18.4	11.4	4,739
<b>Wealth quintile</b>				
Lowest	33.3	19.7	11.5	1,823
Second	29.4	16.5	10.1	1,461
Middle	32.5	20.5	13.5	1,332
Fourth	27.2	13.9	8.0	1,283
Highest	24.6	13.0	7.1	1,458
Total	29.6	16.9	10.1	7,357

<sup>1</sup> Received the specified number of doses of SP/Fansidar, at least one of which was received during an ANC visit

Table 3.28 Use of intermittent preventive treatment (IPTp) by women during pregnancy by county

Percentage of women age 15-49 with a live birth in the two years preceding the survey who, during the pregnancy preceding the last birth, received one or more doses of SP/Fansidar at least one of which was received during an ANC visit, received two or more doses of SP/Fansidar at least one of which was received during an ANC visit, and received three or more doses of SP/Fansidar at least one of which was received during an ANC visit, by county, Kenya 2014

County	Percentage who received 1 or more doses of SP/Fansidar <sup>1</sup>	Percentage who received 2 or more doses of SP/Fansidar <sup>1</sup>	Percentage who received 3 or more doses of SP/Fansidar <sup>1</sup>	Number of women with a live birth in the two years preceding the survey
<b>Coast</b>	<b>73.7</b>	<b>52.5</b>	<b>32.7</b>	<b>793</b>
Mombasa	67.3	46.4	24.9	190
Kwale†	91.8	79.1	51.9	181
Kilifi†	65.2	41.8	28.5	293
Tana River†	77.0	41.6	21.4	68
Lamu†	81.0	60.0	35.7	19
Taita Taveta†	75.0	55.1	31.9	42
<b>North Eastern</b>	<b>5.2</b>	<b>2.1</b>	<b>1.1</b>	<b>228</b>
Garissa	2.7	1.0	0.8	86
Wajir	4.4	2.0	0.5	93
Mandera	11.3	4.3	3.0	49
<b>Eastern</b>	<b>24.3</b>	<b>9.8</b>	<b>5.0</b>	<b>872</b>
Marsabit	1.5	1.2	0.6	35
Isiolo	48.2	3.3	1.3	33
Meru	19.1	3.8	0.0	198
Tharaka-Nithi	25.9	10.3	7.1	56
Embu	15.0	1.1	0.0	81
Kitui	42.2	25.8	16.0	164
Machakos	16.5	8.3	2.5	190
Makueni	26.5	10.1	7.4	115
<b>Central</b>	<b>16.4</b>	<b>4.5</b>	<b>2.4</b>	<b>682</b>
Nyandarua	7.3	3.0	2.2	97
Nyeri	5.2	3.2	1.9	92
Kirinyaga	10.2	8.4	3.7	61
Murang'a	14.4	4.8	1.9	120
Kiambu	24.5	4.4	2.6	312
<b>Rift Valley</b>	<b>14.6</b>	<b>6.9</b>	<b>4.5</b>	<b>2,167</b>
Turkana	52.4	22.7	13.0	131
West Pokot	3.1	3.0	2.9	121
Samburu	6.3	2.9	2.8	46
Trans-Nzoia	11.0	3.7	3.2	218
Uasin Gishu	7.8	7.0	6.4	187
Elgeyo Marakwet	15.2	4.3	1.8	65
Nandi	11.3	3.4	1.9	153
Baringo	21.2	9.9	6.7	94
Laikipia	19.4	7.0	1.6	78
Nakuru	19.2	9.3	4.2	332
Narok	6.6	1.4	0.6	237
Kajiado	20.6	12.3	8.5	179
Kericho	7.5	4.4	3.4	139
Bomet	7.5	5.2	4.8	187
<b>Western</b>	<b>53.4</b>	<b>38.4</b>	<b>26.2</b>	<b>827</b>
Kakamega†	36.2	28.1	20.1	244
Vihiga†	72.9	47.1	20.5	83
Bungoma†	57.5	39.6	27.7	354
Busia†	60.9	47.9	36.1	146
<b>Nyanza</b>	<b>43.5</b>	<b>21.8</b>	<b>9.7</b>	<b>1,035</b>
Siaya†	58.1	23.4	15.0	142
Kisumu†	58.2	26.9	5.9	177
Homa Bay†	38.4	22.8	12.3	253
Migori†	51.0	26.1	12.9	203
Kisii	25.5	11.3	3.7	193
Nyamira	21.9	18.1	7.0	67
<b>Nairobi</b>	<b>6.3</b>	<b>1.3</b>	<b>0.8</b>	<b>753</b>
Total	29.6	16.9	10.1	7,357

<sup>1</sup> Received the specified number of doses of SP/Fansidar, at least one of which was received during an ANC visit

† Counties in which IPTp is recommended in some or all sub-counties

### 3.7.3 Treatment of Children with Fever

Prompt and effective treatment for malaria is crucial to prevent the disease from becoming severe and complicated. Artemisinin combination therapy (ACT) is the recommended first line antimalarial treatment for uncomplicated malaria in Kenya. The 2014 KDHS asked mothers whether their children under age five had a fever in the two weeks preceding the survey and if so, what treatment was given. Table 3.29 shows treatment behaviours for children with fever in the two weeks preceding the survey by background characteristics; Table 3.30 shows this data by county.

**Table 3.29 Prevalence, diagnosis, and prompt treatment of children with fever by background characteristics**

Percentage of children under age five with fever in the two weeks preceding the survey; among children under age five with fever, percentage for whom advice or treatment was sought, percentage who had blood taken from a finger or heel, percentage who took any antimalarial, percentage who took any artemisinin-based combination therapy (ACT), and percentage who took any ACT the same or next day following the onset of fever; and among children under age five with fever who took any antimalarial drug, percentage who took any ACT, by background characteristics, Kenya 2014

Background characteristic	Children under age five		Children under age five with fever					Children under age five with fever who took any antimalarial drug		
	Percent-age with fever in the two weeks preceding the survey	Number of children	Percent-age for whom advice or treatment was sought <sup>1</sup>	Percent-age who had blood taken from a finger or heel for testing	Percent-age who took any anti-malarial drug	Percent-age who took any ACT	Percent-age who took any ACT same or next day	Number of children	Percent-age who took any ACT	Number of children
<b>Residence</b>										
Urban	21.7	6,677	72.6	38.6	20.4	16.8	9.3	1,447	82.0	295
Rural	25.9	12,025	71.4	33.2	30.0	26.1	14.9	3,114	87.0	934
<b>Wealth quintile</b>										
Lowest	25.1	4,457	68.2	30.4	23.1	19.3	10.5	1,119	83.5	259
Second	28.5	3,803	72.7	36.9	36.3	32.0	18.2	1,082	88.2	393
Middle	26.1	3,375	72.0	31.7	31.9	28.5	17.0	881	89.2	281
Fourth	24.0	3,285	71.7	34.0	26.2	22.5	11.9	788	85.8	207
Highest	18.3	3,782	75.7	44.2	13.2	9.4	5.9	691	71.5	91
Total	24.4	18,702	71.7	34.9	27.0	23.1	13.1	4,562	85.8	1,230

<sup>1</sup> Excludes advice or treatment from a traditional practitioner, relatives/ friends, and other

In the two weeks preceding the survey, 24 percent of children under age five had a fever. Treatment or advice was sought for 72 percent of children with fever, while 35 percent had blood taken from a finger or heel for testing (considered a proxy for malaria test). Twenty-seven percent of children who had fever were given antimalarial drugs, and 23 percent were specifically given ACT. Only 13 percent of children with a fever took ACTs the same day or next day after fever onset, as recommended by the treatment guidelines. Among children under age five with fever who took any antimalarial drug, 86 percent took ACT. Children with a fever in rural areas were more likely to be treated for malaria (e.g. take any antimalarial, take ACT, take ACT the same or next day as fever onset) compared with those in urban areas.

Less than 10 percent of children under age five had a fever in the two weeks preceding the survey in Mandera, Nyamira, Garissa, and West Pokot counties while prevalence was more than 45 percent in Siaya, Homa Bay, Migori, and Vihiga counties. Children with a fever in Western and Nyanza regions were more likely to receive treatment for malaria than children in other regions.



Table 3.30 Prevalence, diagnosis, and prompt treatment of children with fever by county

Percentage of children under age five with fever in the two weeks preceding the survey; among children under age five with fever, percentage for whom advice or treatment was sought, percentage who had blood taken from a finger or heel, percentage who took any antimalarial, percentage who took any artemisinin-based combination therapy (ACT), and percentage who took any ACT the same or next day following the onset of fever; and among children under age five with fever who took any antimalarial drug, percentage who took any ACT, by county, Kenya 2014

County	Children under age five		Children under age five with fever					Children under age five with fever who took any antimalarial drug		
	Percent-age with fever in the two weeks preceding the survey	Number of children	Percent-age for whom advice or treatment was sought <sup>1</sup>	Percent-age who had blood taken from a finger or heel for testing	Percent-age who took any anti-malarial drug	Percent-age who took any ACT	Percent-age who took any ACT same or next day	Number of children	Percent-age who took any ACT	Number of children
<b>Coast</b>	<b>27.2</b>	<b>1,936</b>	<b>78.0</b>	<b>34.9</b>	<b>11.9</b>	<b>10.2</b>	<b>3.6</b>	<b>526</b>	<b>85.3</b>	<b>63</b>
Mombasa	22.5	493	91.1	46.7	14.9	13.5	3.0	111	*	17
Kwale	25.7	408	69.5	42.8	33.2	30.0	11.8	105	(90.5)	35
Kilifi	31.3	705	78.6	31.0	2.1	1.0	0.0	221	*	5
Tana River	26.8	166	81.1	22.6	12.3	9.5	5.8	45	*	5
Lamu	22.2	52	61.5	11.8	5.7	1.2	0.0	12	*	1
Taita Taveta	29.5	110	58.6	21.7	1.3	1.3	1.3	33	*	0
<b>North Eastern</b>	<b>8.7</b>	<b>625</b>	<b>59.3</b>	<b>31.4</b>	<b>7.3</b>	<b>5.0</b>	<b>3.9</b>	<b>54</b>	<b>*</b>	<b>4</b>
Garissa	7.0	223	(44.0)	(52.4)	(5.6)	(5.6)	(5.6)	16	*	1
Wajir	12.5	252	65.3	19.9	4.3	0.4	0.0	31	*	1
Mandera	4.8	150	*	*	*	*	*	7	*	2
<b>Eastern</b>	<b>18.2</b>	<b>2,235</b>	<b>76.6</b>	<b>33.2</b>	<b>18.1</b>	<b>11.9</b>	<b>6.4</b>	<b>406</b>	<b>65.8</b>	<b>73</b>
Marsabit	19.3	88	63.1	22.3	10.6	10.1	1.8	17	*	2
Isiolo	13.2	81	78.7	60.7	51.1	43.4	43.4	11	(84.9)	5
Meru	26.0	490	73.3	54.0	23.1	14.9	7.8	128	*	29
Tharaka-Nithi	28.1	137	78.9	41.9	27.2	9.8	6.3	39	*	11
Embu	13.8	194	(72.4)	(38.4)	(21.7)	(21.7)	(10.9)	27	*	6
Kitui	17.0	424	72.1	9.1	7.4	3.5	2.5	72	*	5
Machakos	13.6	474	(81.6)	(18.4)	(12.8)	(10.8)	(6.2)	64	*	8
Makueni	14.1	346	89.7	21.7	13.7	7.8	0.0	49	*	7
<b>Central</b>	<b>17.9</b>	<b>1,725</b>	<b>71.5</b>	<b>24.7</b>	<b>4.8</b>	<b>3.7</b>	<b>3.0</b>	<b>308</b>	<b>*</b>	<b>15</b>
Nyandarua	17.2	232	70.8	22.6	6.7	5.3	2.8	40	*	3
Nyeri	14.1	240	(67.2)	(17.5)	(0.0)	(0.0)	(0.0)	34	*	0
Kirinyaga	21.2	188	(82.4)	(28.6)	(18.6)	(18.6)	(16.2)	40	*	7
Murang'a	17.7	293	(85.1)	(3.7)	(0.0)	(0.0)	(0.0)	52	*	0
Kiambu	18.5	772	64.8	33.6	3.2	1.2	1.2	143	*	5
<b>Rift Valley</b>	<b>20.9</b>	<b>5,457</b>	<b>68.7</b>	<b>25.6</b>	<b>13.3</b>	<b>9.8</b>	<b>5.4</b>	<b>1,139</b>	<b>73.6</b>	<b>151</b>
Turkana	11.4	333	63.4	49.5	29.9	21.7	18.5	38	*	11
West Pokot	9.4	294	80.4	20.6	32.2	16.1	16.1	28	*	9
Samburu	19.1	114	54.5	16.6	6.8	5.0	2.5	22	*	1
Trans-Nzoia	21.9	516	65.9	45.2	12.4	10.9	4.1	113	*	14
Uasin Gishu	19.3	463	62.8	17.0	5.8	4.7	1.8	89	*	5
Elgeyo Marakwet	29.7	164	67.1	13.5	2.0	1.5	1.5	49	*	1
Nandi	19.7	388	52.8	12.2	8.8	8.8	5.3	76	*	7
Baringo	22.9	230	71.6	39.1	27.7	22.9	11.4	53	(82.8)	15
Laikipia	21.6	206	74.9	26.0	16.8	6.2	6.2	44	*	7
Nakuru	15.5	849	67.9	27.6	11.6	11.0	6.8	132	*	15
Narok	30.7	614	78.0	20.4	13.3	9.7	3.6	188	(73.0)	25
Kajiado	25.7	452	64.7	21.8	1.4	0.0	0.0	116	*	2
Kericho	25.6	359	70.7	37.9	19.4	14.4	6.9	92	*	18
Bomet	20.8	475	73.9	14.9	21.0	12.9	8.1	99	*	21
<b>Western</b>	<b>36.1</b>	<b>2,166</b>	<b>67.5</b>	<b>37.9</b>	<b>51.8</b>	<b>49.5</b>	<b>28.3</b>	<b>782</b>	<b>95.5</b>	<b>405</b>
Kakamega	28.9	721	56.0	34.9	38.7	38.4	19.6	209	99.3	81
Vihiga	49.2	215	69.1	34.4	40.7	39.5	18.0	106	97.0	43
Bungoma	35.8	842	74.6	41.6	58.7	55.1	33.5	302	93.8	177
Busia	42.7	388	67.9	37.2	62.9	59.6	36.5	166	94.6	104
<b>Nyanza</b>	<b>37.4</b>	<b>2,638</b>	<b>75.6</b>	<b>46.9</b>	<b>48.7</b>	<b>42.2</b>	<b>24.9</b>	<b>987</b>	<b>86.7</b>	<b>481</b>
Siaya	44.9	378	80.7	61.1	59.4	59.2	38.4	170	99.7	101
Kisumu	30.9	478	74.9	48.8	46.0	39.5	18.8	148	85.7	68
Homa Bay	45.6	616	67.5	50.7	51.7	46.5	29.9	281	89.9	145
Migori	48.2	516	80.4	42.6	42.4	37.2	21.0	249	87.8	105
Kisii	28.1	463	80.2	27.1	46.9	27.2	13.4	130	57.9	61
Nyamira	5.7	187	*	*	*	*	*	11	*	1
<b>Nairobi</b>	<b>18.7</b>	<b>1,920</b>	<b>67.4</b>	<b>36.0</b>	<b>10.6</b>	<b>6.9</b>	<b>3.8</b>	<b>359</b>	<b>*</b>	<b>38</b>
Total	24.4	18,702	71.7	34.9	27.0	23.1	13.1	4,562	85.8	1,230

Note: Figures in parentheses are based on fewer than 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

<sup>1</sup> Excludes advice or treatment from a traditional practitioner, relatives/ friends, and other.

## 3.8 HIV

### 3.8.1 Knowledge of HIV Prevention Methods

Knowledge of ways to reduce HIV transmission is important in the fight against HIV/AIDS. HIV prevention programmes focus their messages and efforts on several important aspects of behaviour to avoid the spread of HIV, including: using condoms, limiting the number of sexual partners, and staying faithful to one partner. To ascertain the depth of knowledge about modes of HIV prevention, respondents were prompted with questions about these specific behaviours.

Knowledge of HIV prevention methods among women and men age 15-49 is presented in Table 3.31 by background characteristics and in Table 3.32 by county. The results show knowledge is generally widespread in the country; about 80 percent of women and 88 percent of men know that HIV can be prevented by using condoms during sexual intercourse. Ninety-two percent of women and 94 percent of men say that limiting sexual intercourse to one uninfected partner can reduce the chances of getting HIV. Similarly, 77 percent of women and 85 percent of men cited both these methods of HIV prevention.

**Table 3.31 Knowledge of HIV prevention methods by background characteristics**

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting HIV by using condoms every time they have sexual intercourse and by having one sex partner who is not infected and has no other partners, by background characteristics, Kenya 2014

Background characteristic	Percentage of women who say HIV can be prevented by:				Percentage of men who say HIV can be prevented by:			
	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>1,2</sup>	Number of women	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>1,2</sup>	Number of men
<b>Age</b>								
15-24	77.4	89.3	72.8	11,555	86.1	92.0	82.0	4,666
15-19	72.2	86.2	66.7	5,820	82.1	90.0	76.9	2,540
20-24	82.6	92.4	78.9	5,735	90.9	94.3	88.0	2,125
25-29	82.7	92.9	80.4	6,100	90.0	95.1	87.6	2,104
30-39	81.9	93.3	79.3	8,283	88.1	95.8	86.0	3,268
40-49	78.4	92.6	76.1	5,142	87.9	95.9	86.2	2,024
<b>Marital status</b>								
Never married	77.0	89.1	72.4	8,997	86.5	92.4	82.7	5,350
Ever had sex	84.6	92.5	80.7	4,541	91.1	94.7	87.8	3,515
Never had sex	69.3	85.6	63.8	4,456	77.8	88.1	72.8	1,834
Married or living together	80.7	92.7	78.0	18,549	88.7	95.7	86.6	6,095
Divorced/separated/ widowed	82.3	92.6	79.6	3,533	87.1	95.3	85.0	618
<b>Residence</b>								
Urban	83.7	93.3	80.7	12,690	90.4	95.0	87.8	5,300
Rural	77.1	90.4	73.7	18,389	85.5	93.6	82.4	6,762
<b>Education</b>								
No education	48.8	75.1	43.9	2,176	53.9	77.1	49.7	345
Primary incomplete	75.6	88.6	71.1	7,989	81.8	90.8	77.1	3,071
Primary complete	81.8	93.8	79.2	7,637	89.2	95.5	86.7	2,734
Secondary+	86.3	94.9	83.7	13,277	91.9	96.4	89.9	5,913
<b>Wealth quintile</b>								
Lowest	63.9	83.5	60.1	4,838	73.8	86.9	69.2	1,691
Second	78.6	91.1	75.1	5,457	87.3	94.3	83.9	2,145
Middle	82.2	92.8	79.0	6,032	89.5	94.7	86.7	2,370
Fourth	83.9	93.8	80.8	6,550	89.4	96.1	86.8	2,959
Highest	85.0	94.2	82.1	8,203	92.8	96.1	90.8	2,897
Total 15-49	79.8	91.6	76.6	31,079	87.6	94.2	84.8	12,063
Men 50-54	na	na	na	0	84.6	94.9	82.4	756
Total 15-54	na	na	na	0	87.5	94.3	84.6	12,819

na = Not applicable

<sup>1</sup> Using condoms every time they have sexual intercourse

<sup>2</sup> Partner who has no other partners

Table 3.32 Knowledge of HIV prevention methods by county

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting HIV by using condoms every time they have sexual intercourse and by having one sex partner who is not infected and has no other partners, by county, Kenya 2014

County	Percentage of women who say HIV can be prevented by:				Percentage of men who say HIV can be prevented by:			
	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>2</sup>	Number of women	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>2</sup>	Number of men
<b>Coast</b>	<b>75.3</b>	<b>87.5</b>	<b>71.9</b>	<b>3,076</b>	<b>78.0</b>	<b>89.6</b>	<b>73.7</b>	<b>1,260</b>
Mombasa	85.4	94.2	82.5	912	96.9	98.9	96.4	481
Kwale	62.1	65.3	56.0	619	70.9	89.5	67.2	226
Kilifi	75.9	93.1	73.0	1,043	54.1	75.1	43.8	359
Tana River	60.0	85.0	57.9	197	73.8	92.1	70.5	65
Lamu	70.2	92.5	67.6	89	88.0	94.7	84.0	37
Taita Taveta	84.1	95.8	82.6	215	88.2	93.7	85.1	93
<b>North Eastern</b>	<b>27.1</b>	<b>55.6</b>	<b>21.0</b>	<b>648</b>	<b>57.0</b>	<b>68.1</b>	<b>47.6</b>	<b>227</b>
Garissa	42.9	59.7	31.2	261	69.6	94.1	68.7	94
Wajir	18.5	52.3	15.1	212	38.0	33.6	11.4	72
Mandera	14.1	53.7	13.0	175	60.1	68.7	58.1	60
<b>Eastern</b>	<b>73.5</b>	<b>94.3</b>	<b>71.3</b>	<b>4,375</b>	<b>85.7</b>	<b>95.4</b>	<b>83.2</b>	<b>1,825</b>
Marsabit	54.2	63.5	45.3	115	97.3	96.3	95.0	40
Isiolo	76.2	90.9	73.9	104	70.8	97.6	70.8	35
Meru	81.2	95.3	78.5	1,110	87.3	99.1	86.4	495
Tharaka-Nithi	76.1	94.1	74.2	275	82.1	98.1	81.3	102
Embu	80.4	95.2	78.2	459	71.7	81.8	62.9	164
Kitui	51.5	93.5	50.2	759	82.6	98.3	81.7	303
Machakos	76.5	96.8	74.9	873	88.1	91.4	83.2	436
Makueni	78.9	95.5	76.6	680	93.0	98.4	92.2	250
<b>Central</b>	<b>77.8</b>	<b>89.6</b>	<b>74.1</b>	<b>3,994</b>	<b>89.7</b>	<b>96.6</b>	<b>87.6</b>	<b>1,564</b>
Nyandarua	83.2	91.2	80.3	436	91.6	90.7	85.2	198
Nyeri	81.0	92.5	76.8	650	86.1	97.3	85.0	229
Kirinyaga	91.9	97.8	90.6	451	87.6	97.0	86.1	184
Murang'a	56.3	74.4	53.7	735	80.3	97.9	78.2	284
Kiambu	80.6	92.4	75.9	1,722	95.0	97.5	93.6	669
<b>Rift Valley</b>	<b>80.4</b>	<b>92.9</b>	<b>77.7</b>	<b>7,953</b>	<b>87.3</b>	<b>93.5</b>	<b>84.5</b>	<b>3,050</b>
Turkana	50.5	91.2	49.2	320	7.7	30.7	2.4	76
West Pokot	53.8	76.9	47.8	267	79.3	95.0	76.8	103
Samburu	78.4	96.8	78.1	123	82.6	95.8	79.3	35
Trans-Nzoia	86.3	97.1	84.6	768	84.9	92.2	79.7	329
Uasin Gishu	85.7	94.8	82.8	784	86.9	92.7	82.8	355
Elgeyo Marakwet	85.6	97.5	84.7	250	97.1	99.2	97.1	86
Nandi	92.0	97.1	90.7	628	98.9	98.8	98.4	264
Baringo	74.7	89.6	72.6	335	91.7	96.3	89.9	125
Laikipia	86.3	96.9	84.8	342	77.6	89.5	72.3	124
Nakuru	84.2	94.4	80.9	1,574	92.8	96.6	91.4	589
Narok	67.9	85.3	62.4	642	81.2	92.8	78.4	240
Kajiado	78.2	92.2	76.3	670	87.4	96.5	85.2	241
Kericho	76.5	87.4	72.5	563	94.0	94.9	90.3	215
Bomet	87.9	95.9	85.5	687	92.2	96.5	90.1	267
<b>Western</b>	<b>85.9</b>	<b>91.4</b>	<b>81.2</b>	<b>3,225</b>	<b>89.9</b>	<b>95.4</b>	<b>86.9</b>	<b>1,164</b>
Kakamega	86.4	92.2	81.9	1,108	87.3	93.4	83.1	411
Vihiga	81.4	91.0	77.9	368	83.0	83.4	72.0	140
Bungoma	88.7	91.3	84.2	1,203	91.7	99.7	91.7	413
Busia	81.8	90.0	75.5	546	96.3	99.1	95.4	199
<b>Nyanza</b>	<b>87.9</b>	<b>94.4</b>	<b>84.9</b>	<b>4,038</b>	<b>94.4</b>	<b>97.1</b>	<b>92.7</b>	<b>1,405</b>
Siaya	88.5	96.6	86.5	572	96.6	98.8	95.6	213
Kisumu	88.9	92.5	84.4	820	99.1	98.7	98.2	309
Homa Bay	91.5	93.8	88.3	798	97.4	98.6	96.7	243
Migori	84.8	90.0	79.8	650	86.7	89.7	80.3	211
Kisii	81.7	96.5	80.1	864	89.8	97.4	88.5	315
Nyamira	98.2	99.8	97.9	334	98.3	98.5	98.3	114
<b>Nairobi</b>	<b>86.8</b>	<b>94.7</b>	<b>83.5</b>	<b>3,770</b>	<b>93.1</b>	<b>95.9</b>	<b>89.9</b>	<b>1,568</b>
Total 15-49	79.8	91.6	76.6	31,079	87.6	94.2	84.8	12,063
Men 50-54	na	na	na	0	84.6	94.9	82.4	756
Total 15-54	na	na	na	0	87.5	94.3	84.6	12,819

na = Not applicable

<sup>1</sup> Using condoms every time they have sexual intercourse

<sup>2</sup> Partner who has no other partners

Women and men age 15-19 have lower levels of knowledge of these HIV prevention methods than people age 20 and older. Similarly, knowledge of prevention methods is lower among women and men who have never had sex than among those who are married or living together with a partner, those who are divorced/separated/widowed, or those who never married but have had sex. Urban residents were more knowledgeable on each of the described methods of HIV prevention than their rural counterparts. As expected, women and men with higher levels of education are more likely than those with lower levels of education to be aware of HIV prevention methods. Similarly, women and men in households in higher wealth quintiles have more knowledge of HIV prevention methods than those in lower quintiles.

As shown in Table 3.32, knowledge varies across the counties and between women and men. Women in Garissa, Wajir, and Mandera counties are less knowledgeable of methods of HIV prevention compared with women from other counties. Men's knowledge in Garissa and Mandera is also lower than in other counties. Low levels of knowledge were also found among women and men in Turkana and in Kwale, men in Kilifi, and women in Kitui.

### 3.8.2 Knowledge of HIV Prevention among Young People

Table 3.33 shows knowledge of HIV prevention among young people age 15-24. About one-half of young people in Kenya are knowledgeable about methods of HIV prevention; 54 percent among women and 64 percent among men. Knowledge of prevention methods is slightly lower among those who have never had sex than among those who have married or those who never married but have had sex.

Like the 2008-09 KDHS, the results indicate that young people (both women and men) residing in urban areas are more knowledgeable than their rural counterparts about HIV prevention. Education and household wealth are strongly related to young people's knowledge. The level of awareness by region generally shows that young women and men in North Eastern region are the least knowledgeable about HIV prevention.

**Table 3.33 Knowledge of HIV prevention among young people**

Percentage of young women and young men age 15-24 with knowledge of HIV prevention, by background characteristics, Kenya 2014

Background characteristic	Women age 15-24		Men age 15-24	
	Percentage with knowledge of HIV prevention <sup>1</sup>	Number of women	Percentage with knowledge of HIV prevention <sup>1</sup>	Number of men
<b>Age</b>				
15-19	49.0	5,820	57.7	2,540
15-17	46.5	3,510	52.5	1,531
18-19	52.7	2,310	65.6	1,009
20-24	59.6	5,735	70.9	2,125
20-22	59.6	3,529	70.8	1,365
23-24	59.5	2,206	71.2	760
<b>Marital status</b>				
Never married	53.8	7,277	63.6	4,214
Ever had sex	62.2	3,006	69.7	2,460
Never had sex	47.9	4,271	55.0	1,754
Ever married	54.9	4,278	65.2	452
<b>Residence</b>				
Urban	60.5	4,628	68.1	1,751
Rural	50.0	6,927	61.1	2,915
<b>Region</b>				
Coast	51.1	1,179	50.3	493
North Eastern	14.6	241	25.3	108
Eastern	43.1	1,527	64.1	724
Central	51.8	1,248	71.0	549
Rift Valley	55.6	3,091	61.9	1,171
Western	56.8	1,343	65.5	533
Nyanza	63.2	1,577	70.6	601
Nairobi	62.6	1,349	70.9	485

Continued...

Table 3.33—Continued

Background characteristic	Women age 15-24		Men age 15-24	
	Percentage with knowledge of HIV prevention <sup>1</sup>	Number of women	Percentage with knowledge of HIV prevention <sup>1</sup>	Number of men
<b>Education</b>				
No education	13.6	434	22.6	67
Primary incomplete	40.0	3,117	45.1	1,395
Primary complete	54.1	2,154	59.2	738
Secondary+	64.9	5,849	76.7	2,466
<b>Wealth quintile</b>				
Lowest	34.9	1,849	42.5	718
Second	50.0	2,193	60.0	902
Middle	57.4	2,329	65.9	1,033
Fourth	60.1	2,402	69.9	1,124
Highest	62.7	2,780	74.3	890
Total 15-24	54.2	11,555	63.7	4,666

<sup>1</sup> Knowledge of HIV prevention means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about transmission or prevention of HIV.

### 3.8.3 Multiple Sexual Partners

Having multiple sexual partners and having unprotected sex increases one's chances of both contracting and transmitting HIV. The percentages of women and men age 15-49 who had two or more sexual partners in the last year and who used a condom at last sex, and the mean number of partners are presented in Table 3.34 (women) and Table 3.35 (men).

More men than women report having two or more sexual partners (13 percent and 1 percent, respectively). Among men, this is a small increase from the 2008-09 KDHS where 9 percent of men reported having two or more sexual partners while among women, there was no notable change. Having two or more partners is more common among divorced, separated, or widowed women and men (3 percent and 19 percent, respectively) compared with married women and men (1 percent and 13 percent, respectively). Having multiple partners is slightly more common in urban settings, and residents in Nairobi reported the highest percentage of multiple partners at 4 percent for women and 19 percent for men.

Among those reporting two or more sexual partners in the past 12 months, condom use at last sex was 40 percent for women and 43 percent for men. Men age 20-24 were more likely to report condom use (70 percent) than men in other age groups. Condom use during last sex among those with two or more partners in the last 12 months was lowest among married women and men (13 percent and 20 percent, respectively), and highest among urban women and men (both 47 percent).

The mean number of lifetime sexual partners among women and men is also presented in Tables 3.34 and 3.35. Women reported fewer lifetime sexual partners than men (2.1 and 7.2, respectively). The mean remained the same among women between the 2008-09 KDHS and 2014 KDHS, while the change was minimal for men (from 6.7 to 7.2). Women and men's mean number of sex partners increases with age; the increase is notable among men who have a mean of 2.8 partners at age 15-19 and a mean of 9.8 at age 40-49. Divorced, separated, or widowed women and men have a higher mean than their married and never-married counterparts. The mean number of sexual partners does not differ substantially across education or wealth quintile.

Table 3.34 Multiple sexual partners in the past 12 months: Women

Among all women age 15-49, percentage who had sexual intercourse with two or more sexual partners in the past 12 months; among those having two or more partners in the past 12 months, percentage reporting that a condom was used at last intercourse; and mean number of sexual partners during their lifetime for women who ever had sexual intercourse, by background characteristics, Kenya 2014

Background characteristic	All women		Women who had 2+ partners in the past 12 months		Women who ever had sexual intercourse <sup>1</sup>	
	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
<b>Age</b>						
15-24	1.5	5,407	37.5	83	1.8	3,387
15-19	1.0	2,717	(26.1)	28	1.5	984
20-24	2.0	2,691	(43.3)	55	1.9	2,402
25-29	1.3	2,932	(43.1)	39	2.1	2,855
30-39	1.6	3,942	(48.0)	64	2.2	3,867
40-49	0.9	2,344	*	20	2.5	2,309
<b>Marital status</b>						
Never married	1.4	4,255	65.6	60	2.0	2,124
Married/living together	1.0	8,710	12.5	89	2.0	8,647
Divorced/separated/widowed	3.4	1,660	56.8	56	2.9	1,648
<b>Residence</b>						
Urban	2.1	5,929	47.4	122	2.2	5,180
Rural	1.0	8,696	29.6	84	2.1	7,238
<b>Region</b>						
Coast	1.1	1,421	(26.9)	15	1.7	1,190
North Eastern	0.0	299	*	0	1.2	232
Eastern	1.0	2,066	(41.8)	20	2.6	1,716
Central	1.3	1,905	*	24	2.3	1,638
Rift Valley	0.8	3,714	(41.4)	31	1.9	3,214
Western	0.9	1,571	*	15	2.2	1,268
Nyanza	1.4	1,908	(39.6)	27	2.2	1,621
Nairobi	4.2	1,742	*	73	2.3	1,539
<b>Education</b>						
No education	0.7	1,015	*	8	1.7	968
Primary incomplete	1.4	3,793	33.7	52	2.3	3,092
Primary complete	1.2	3,543	(31.4)	43	2.2	3,284
Secondary+	1.6	6,274	50.0	103	2.1	5,075
<b>Wealth quintile</b>						
Lowest	1.0	2,236	(16.6)	22	1.9	1,927
Second	1.4	2,590	(29.7)	36	2.1	2,156
Middle	0.9	2,859	(48.2)	27	2.1	2,380
Fourth	1.8	3,113	(43.6)	55	2.3	2,678
Highest	1.7	3,827	(47.5)	65	2.1	3,278
<b>Total</b>	<b>1.4</b>	<b>14,625</b>	<b>40.1</b>	<b>205</b>	<b>2.1</b>	<b>12,418</b>

Note: Figures in parentheses are based on fewer than 25-49 unweighted cases; an asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

<sup>1</sup> Means are calculated excluding respondents who gave non-numeric responses.

Table 3.35 Multiple sexual partners in the past 12 months: Men

Among all men age 15-49, percentage who had sexual intercourse with two or more sexual partners in the past 12 months; among those having two or more partners in the past 12 months, percentage reporting that a condom was used at last intercourse; and mean number of sexual partners during their lifetime for men who ever had sexual intercourse, by background characteristics, Kenya 2014

Background characteristic	All men		Men who had 2+ partners in the past 12 months		Men who ever had sexual intercourse <sup>1</sup>	
	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
<b>Age</b>						
15-24	9.6	4,666	68.9	449	4.4	2,901
15-19	3.7	2,540	64.1	95	2.8	1,028
20-24	16.7	2,125	70.2	354	5.2	1,873
25-29	17.3	2,104	50.1	365	6.3	2,012
30-39	14.6	3,268	28.2	477	7.6	3,189
40-49	11.9	2,024	22.2	241	9.8	1,962
<b>Marital status</b>						
Never married	11.3	5,350	72.4	605	4.6	3,498
Married/living together	13.2	6,095	20.2	807	7.7	5,961
Divorced/separated/widowed	19.4	618	66.6	120	11.6	605
<b>Residence</b>						
Urban	14.4	5,300	46.6	761	7.6	4,666
Rural	11.4	6,762	42.3	771	6.2	5,398
<b>Region</b>						
Coast	11.9	1,260	32.0	150	5.6	1,041
North Eastern	5.9	227	*	13	1.8	127
Eastern	12.5	1,825	50.3	229	6.5	1,514
Central	5.5	1,564	43.7	86	6.8	1,315
Rift Valley	11.5	3,050	51.2	351	6.5	2,579
Western	12.5	1,164	27.2	145	6.3	902
Nyanza	18.4	1,405	47.6	258	7.1	1,134
Nairobi	19.0	1,568	45.7	299	9.3	1,452
<b>Education</b>						
No education	13.9	345	17.9	48	6.9	300
Primary incomplete	11.4	3,071	36.0	351	7.1	2,286
Primary complete	14.3	2,734	44.9	390	6.9	2,512
Secondary+	12.6	5,913	49.8	743	6.7	4,967
<b>Wealth quintile</b>						
Lowest	12.2	1,691	31.0	207	6.6	1,328
Second	11.6	2,145	45.6	249	6.6	1,735
Middle	11.9	2,370	46.9	282	7.0	1,923
Fourth	13.1	2,959	46.7	389	7.1	2,488
Highest	14.0	2,897	46.6	404	6.8	2,590
Total 15-49	12.7	12,063	44.4	1,531	6.8	10,064
Men 50-54	11.4	756	14.5	86	11.7	725
Total 15-54	12.6	12,819	42.8	1,618	7.2	10,789

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.  
<sup>1</sup> Means are calculated excluding respondents who gave non-numeric responses.

### 3.8.4 Coverage of Prior HIV Testing

Knowledge of HIV status helps HIV-negative individuals make specific decisions to reduce their risk and increase safe sex practices so they can remain disease free. For those who are HIV infected, knowledge of their status allows them to take action to protect their sexual partners, to access treatment, and to plan for the future. Tables 3.36 through 3.39 present coverage of prior HIV testing for women and men by background characteristics and by county.

Table 3.36 shows that 91 percent of women age 15-49 know where to get an HIV test, and 83 percent of women have been tested for HIV and have received the test results. In the 12 months preceding the survey, 53 percent of women were tested for HIV and received the results. Women age 15-19, those who have never had sex, those living in rural areas, those with no education, and those in the lowest wealth quintile are least likely to have ever had an HIV test.

Table 3.36 Coverage of prior HIV testing by background characteristics: Women

Percentage of women age 15-49 who know where to get an HIV test, percent distribution of women age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to background characteristics, Kenya 2014

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of women by testing status and by whether they received the results of the last test			Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of women
		Ever tested and received results	Ever tested, did not receive results	Never tested <sup>1</sup>				
<b>Age</b>								
15-24	82.7	70.4	0.6	29.0	100.0	72.3	49.5	11,555
15-19	71.5	52.7	0.6	46.7	100.0	54.0	35.3	5,820
20-24	94.1	88.4	0.6	11.0	100.0	90.9	64.0	5,735
25-29	96.9	93.9	0.5	5.6	100.0	95.4	63.4	6,100
30-39	96.2	92.2	0.7	7.1	100.0	94.2	54.4	8,283
40-49	91.2	83.3	1.0	15.7	100.0	85.5	45.1	5,142
<b>Marital status</b>								
Never married	78.5	63.3	0.7	36.1	100.0	64.7	42.3	8,997
Ever had sex	91.7	84.0	0.7	15.3	100.0	85.8	60.0	4,541
Never had sex	65.0	42.1	0.7	57.2	100.0	43.1	24.2	4,456
Married or living together	95.5	91.1	0.7	8.3	100.0	93.2	57.5	18,549
Divorced/separated/widowed	95.1	90.4	0.8	8.8	100.0	92.5	54.9	3,533
<b>Residence</b>								
Urban	92.9	87.1	0.4	12.4	100.0	88.7	57.8	12,690
Rural	88.8	80.1	0.8	19.1	100.0	82.2	49.4	18,389
<b>Education</b>								
No education	79.1	71.6	1.6	26.8	100.0	74.4	37.1	2,176
Primary incomplete	86.1	75.7	1.2	23.1	100.0	78.3	46.8	7,989
Primary complete	94.6	88.8	0.5	10.7	100.0	90.6	57.1	7,637
Secondary+	92.7	85.8	0.3	13.8	100.0	87.2	56.5	13,277
<b>Wealth quintile</b>								
Lowest	83.9	74.8	1.2	24.0	100.0	77.5	45.0	4,838
Second	89.9	81.2	0.7	18.0	100.0	83.4	51.7	5,457
Middle	91.1	83.1	0.9	16.1	100.0	84.9	52.0	6,032
Fourth	92.3	85.1	0.6	14.3	100.0	86.8	56.1	6,550
Highest	93.0	87.1	0.3	12.6	100.0	88.6	56.2	8,203
<b>Total</b>	<b>90.5</b>	<b>83.0</b>	<b>0.7</b>	<b>16.4</b>	<b>100.0</b>	<b>84.9</b>	<b>52.8</b>	<b>31,079</b>

<sup>1</sup> Includes 'don't know/missing'

Table 3.37 shows that in a majority of counties (37 out of 47), three out of four women have ever been tested and received results. Nairobi recorded the highest coverage of prior HIV testing at 90 percent, while Mandera county reported the lowest coverage at 37 percent. Counties in the North Eastern region and to the north, including Turkana, West Pokot, and Samburu, reported lower testing coverage compared with the rest.



Table 3.37 Coverage of prior HIV testing by county: Women

Percentage of women age 15-49 who know where to get an HIV test, percent distribution of women age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to county, Kenya 2014

County	Percent distribution of women by testing status and by whether they received the results of the last test				Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of women
	Percentage who know where to get an HIV test	Ever tested and received results	Ever tested, did not receive results	Never tested <sup>1</sup>				
<b>Coast</b>	<b>90.6</b>	<b>84.3</b>	<b>0.3</b>	<b>15.4</b>	<b>100.0</b>	<b>85.8</b>	<b>53.4</b>	<b>3,076</b>
Mombasa	91.5	86.7	0.0	13.3	100.0	87.7	57.8	912
Kwale	91.1	85.0	0.0	15.0	100.0	85.7	51.8	619
Kilifi	90.1	82.6	0.7	16.7	100.0	84.9	53.9	1,043
Tana River	85.9	77.5	0.8	21.8	100.0	81.6	41.6	197
Lamu	90.8	81.7	0.0	18.3	100.0	83.7	45.3	89
Taita Taveta	92.1	86.6	0.5	12.8	100.0	87.4	51.4	215
<b>North Eastern</b>	<b>59.5</b>	<b>48.7</b>	<b>0.6</b>	<b>50.7</b>	<b>100.0</b>	<b>51.6</b>	<b>20.1</b>	<b>648</b>
Garissa	62.4	53.4	0.3	46.3	100.0	55.2	27.3	261
Wajir	59.4	53.0	0.1	46.9	100.0	55.9	21.1	212
Mandera	55.4	36.6	1.4	62.0	100.0	40.9	8.1	175
<b>Eastern</b>	<b>90.7</b>	<b>83.2</b>	<b>0.4</b>	<b>16.4</b>	<b>100.0</b>	<b>84.3</b>	<b>51.0</b>	<b>4,375</b>
Marsabit	74.9	64.3	1.2	34.6	100.0	66.1	34.2	115
Isiolo	93.6	87.0	0.5	12.5	100.0	89.4	45.5	104
Meru	92.1	84.5	0.0	15.5	100.0	85.6	45.3	1,110
Tharaka-Nithi	90.3	82.8	2.5	14.7	100.0	86.4	51.6	275
Embu	90.0	83.6	0.0	16.4	100.0	83.7	51.4	459
Kitui	90.2	82.8	0.2	16.9	100.0	83.3	56.2	759
Machakos	92.5	86.5	0.6	13.0	100.0	87.1	55.4	873
Makueni	89.2	80.0	0.3	19.7	100.0	81.4	52.3	680
<b>Central</b>	<b>92.7</b>	<b>84.4</b>	<b>1.1</b>	<b>14.5</b>	<b>100.0</b>	<b>86.7</b>	<b>53.0</b>	<b>3,994</b>
Nyandarua	92.9	84.5	1.4	14.1	100.0	88.6	54.5	436
Nyeri	94.7	87.7	0.5	11.8	100.0	88.3	54.5	650
Kirinyaga	94.2	85.5	0.8	13.7	100.0	88.1	56.6	451
Murang'a	90.8	82.0	1.4	16.6	100.0	84.5	51.5	735
Kiambu	92.3	83.9	1.1	15.0	100.0	86.2	51.6	1,722
<b>Rift Valley</b>	<b>89.9</b>	<b>81.4</b>	<b>0.9</b>	<b>17.7</b>	<b>100.0</b>	<b>83.9</b>	<b>51.8</b>	<b>7,953</b>
Turkana	75.4	69.5	0.1	30.3	100.0	69.8	42.4	320
West Pokot	79.1	66.6	6.1	27.3	100.0	75.0	34.1	267
Samburu	84.3	67.8	2.5	29.7	100.0	73.4	45.0	123
Trans-Nzoia	85.9	72.1	0.4	27.5	100.0	77.4	43.1	768
Uasin Gishu	95.4	89.1	0.5	10.4	100.0	90.2	63.5	784
Elgeyo Marakwet	89.8	79.4	0.6	20.0	100.0	81.0	51.3	250
Nandi	88.5	81.8	0.5	17.8	100.0	82.4	53.3	628
Baringo	85.6	74.9	0.4	24.7	100.0	77.5	51.5	335
Laikipia	89.6	81.7	1.1	17.2	100.0	84.5	50.2	342
Nakuru	92.6	84.2	0.9	14.8	100.0	86.9	50.3	1,574
Narok	90.2	84.1	2.0	13.9	100.0	86.3	55.6	642
Kajiado	91.3	85.6	0.3	14.1	100.0	86.1	53.0	670
Kericho	94.4	84.8	0.5	14.7	100.0	87.6	59.1	563
Bomet	91.8	84.2	0.2	15.6	100.0	86.2	53.0	687
<b>Western</b>	<b>87.7</b>	<b>77.8</b>	<b>1.2</b>	<b>21.0</b>	<b>100.0</b>	<b>80.2</b>	<b>45.4</b>	<b>3,225</b>
Kakamega	87.9	77.9	1.7	20.4	100.0	80.7	44.4	1,108
Vihiga	89.6	79.7	0.9	19.4	100.0	82.6	44.8	368
Bungoma	85.6	74.6	1.2	24.1	100.0	76.6	44.4	1,203
Busia	90.9	83.3	0.5	16.3	100.0	85.4	50.0	546
<b>Nyanza</b>	<b>93.0</b>	<b>86.4</b>	<b>0.5</b>	<b>13.2</b>	<b>100.0</b>	<b>88.4</b>	<b>60.4</b>	<b>4,038</b>
Siaya	92.9	85.5	0.0	14.5	100.0	89.0	57.5	572
Kisumu	94.4	89.0	0.2	10.8	100.0	89.7	62.1	820
Homa Bay	96.2	93.0	0.8	6.2	100.0	94.0	70.9	798
Migori	93.6	87.7	1.3	11.0	100.0	90.8	64.5	650
Kisii	89.2	78.9	0.1	21.1	100.0	80.7	51.4	864
Nyamira	91.0	82.3	0.3	17.4	100.0	86.1	50.6	334
<b>Nairobi</b>	<b>94.3</b>	<b>90.0</b>	<b>0.3</b>	<b>9.8</b>	<b>100.0</b>	<b>90.9</b>	<b>60.4</b>	<b>3,770</b>
Total	90.5	83.0	0.7	16.4	100.0	84.9	52.8	31,079

<sup>1</sup> Includes 'don't know/missing'

While more men than women reported knowing where to get an HIV test, men reported lower levels of HIV testing compared with women. Table 3.38 shows that 71 percent of men age 15-49 have ever been tested for HIV and received results. Forty-five percent were tested for HIV in the past 12 months and received results of the last test. Similar to the trends observed for women, men age 15-19, those who have never had sex, those in rural areas, those with no education, and those in the lowest wealth quintile reported lower HIV testing coverage.

Table 3.38 Coverage of prior HIV testing by background characteristics: Men

Percentage of men age 15-49 who know where to get an HIV test, percent distribution of men age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to background characteristics, Kenya 2014

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of men by testing status and by whether they received the results of the last test			Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of men
		Ever tested and received results	Ever tested, did not receive results	Never tested <sup>1</sup>				
<b>Age</b>								
15-24	93.3	56.6	0.9	42.5	100.0	57.5	38.9	4,666
15-19	89.5	41.0	0.9	58.1	100.0	42.0	26.6	2,540
20-24	97.9	75.2	0.8	24.0	100.0	76.1	53.6	2,125
25-29	98.6	83.0	0.2	16.8	100.0	83.2	57.8	2,104
30-39	97.9	79.8	0.4	19.8	100.0	80.2	50.0	3,268
40-49	97.0	76.8	1.0	22.2	100.0	77.8	41.9	2,024
<b>Marital status</b>								
Never married	93.8	58.1	0.8	41.1	100.0	58.9	39.4	5,350
Ever had sex	97.4	69.8	0.6	29.6	100.0	70.4	49.8	3,515
Never had sex	87.1	35.5	1.2	63.3	100.0	36.8	19.7	1,834
Married or living together	97.9	81.5	0.5	18.0	100.0	82.1	51.2	6,095
Divorced/separated/widowed	97.6	77.0	0.5	22.4	100.0	77.6	45.8	618
<b>Residence</b>								
Urban	98.0	77.7	0.6	21.7	100.0	78.3	51.3	5,300
Rural	94.6	65.5	0.7	33.8	100.0	66.3	41.3	6,762
<b>Education</b>								
No education	77.5	42.5	0.3	57.1	100.0	42.9	26.2	345
Primary incomplete	91.7	56.2	1.1	42.8	100.0	57.3	34.4	3,071
Primary complete	97.7	74.8	0.6	24.7	100.0	75.3	47.9	2,734
Secondary+	98.7	78.4	0.5	21.1	100.0	78.9	51.7	5,913
<b>Wealth quintile</b>								
Lowest	89.1	56.5	0.8	42.7	100.0	57.3	34.7	1,691
Second	95.6	65.8	0.9	33.4	100.0	66.7	41.1	2,145
Middle	96.3	69.1	0.9	30.0	100.0	70.0	45.7	2,370
Fourth	97.9	75.0	0.2	24.8	100.0	75.3	49.7	2,959
Highest	98.6	80.4	0.6	19.0	100.0	81.0	51.5	2,897
Total 15-49	96.1	70.9	0.6	28.5	100.0	71.6	45.7	12,063
Men 50-54	96.8	72.2	0.5	27.3	100.0	72.8	37.0	756
Total 15-54	96.2	71.0	0.6	28.4	100.0	71.6	45.2	12,819

<sup>1</sup> Includes 'don't know/missing'

Table 3.39 shows HIV testing among men by county. Nairobi has the highest percentage of men age 15-49 that have ever tested and received results at 83 percent, while Mandera and West Pokot counties have the lowest coverage at 4 percent and 35 percent, respectively. In all other counties, over 50 percent of men age 15-49 have ever been tested and received results.

HIV testing coverage has improved since the 2008-09 KDHS. Among women age 15-49, those who were ever tested and received results increased from 57 percent to 83 percent in 2014. Similarly, the percentage who were tested in the past 12 months and received the results of the last test increased from 29 percent to 53 percent. Among men, this pattern is similar. Having ever been tested and received results increased from 40 percent to 71 percent while having tested and received results within the past 12 months increased from 23 percent to 46 percent.

Table 3.39 Coverage of prior HIV testing by county: Men

Percentage of men age 15-49 who know where to get an HIV test, percent distribution of men age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to county, Kenya 2014

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of men by testing status and by whether they received the results of the last test			Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of men
		Ever tested and received results	Ever tested, did not receive results	Never tested <sup>1</sup>				
<b>Coast</b>	<b>96.6</b>	<b>64.4</b>	<b>0.3</b>	<b>35.4</b>	<b>100.0</b>	<b>64.6</b>	<b>40.5</b>	<b>1,260</b>
Mombasa	98.6	67.4	0.2	32.4	100.0	67.6	39.9	481
Kwale	87.8	53.9	1.0	45.1	100.0	54.9	36.9	226
Kilifi	99.2	65.0	0.0	35.0	100.0	65.0	42.3	359
Tana River	95.3	57.6	0.0	42.4	100.0	57.6	35.6	65
Lamu	94.2	59.2	0.0	40.8	100.0	59.2	40.8	37
Taita Taveta	100.0	78.4	0.0	21.6	100.0	78.4	48.1	93
<b>North Eastern</b>	<b>74.4</b>	<b>44.0</b>	<b>0.0</b>	<b>56.0</b>	<b>100.0</b>	<b>44.0</b>	<b>22.8</b>	<b>227</b>
Garissa	96.5	60.3	0.0	39.7	100.0	60.3	28.3	94
Wajir	73.5	55.7	0.0	44.3	100.0	55.7	32.3	72
Mandera	40.8	4.3	0.0	95.7	100.0	4.3	2.5	60
<b>Eastern</b>	<b>95.0</b>	<b>66.6</b>	<b>0.3</b>	<b>33.1</b>	<b>100.0</b>	<b>67.0</b>	<b>39.8</b>	<b>1,825</b>
Marsabit	96.5	59.3	0.0	40.7	100.0	59.3	51.0	40
Isiolo	99.1	76.6	0.2	23.3	100.0	76.7	40.9	35
Meru	91.3	67.0	0.5	32.5	100.0	68.0	37.9	495
Tharaka-Nithi	95.3	72.9	0.0	27.1	100.0	72.9	42.7	102
Embu	94.0	63.4	0.5	36.1	100.0	63.9	36.1	164
Kitui	96.0	59.4	0.5	40.1	100.0	59.9	33.1	303
Machakos	96.6	73.0	0.0	27.0	100.0	73.0	45.8	436
Makueni	98.0	62.8	0.0	37.2	100.0	62.8	40.2	250
<b>Central</b>	<b>96.6</b>	<b>70.5</b>	<b>0.7</b>	<b>28.7</b>	<b>100.0</b>	<b>71.4</b>	<b>40.1</b>	<b>1,564</b>
Nyandarua	95.1	65.8	2.3	31.9	100.0	68.1	39.9	198
Nyeri	96.9	77.0	1.1	21.9	100.0	78.1	47.0	229
Kirinyaga	96.2	69.3	1.5	29.2	100.0	70.8	35.7	184
Murang'a	96.1	69.5	0.7	29.8	100.0	70.8	45.6	284
Kiambu	97.3	70.4	0.0	29.6	100.0	70.4	36.7	669
<b>Rift Valley</b>	<b>95.6</b>	<b>70.5</b>	<b>0.6</b>	<b>28.9</b>	<b>100.0</b>	<b>71.1</b>	<b>47.1</b>	<b>3,050</b>
Turkana	81.8	67.5	0.0	32.5	100.0	67.5	59.9	76
West Pokot	88.1	35.4	0.0	64.6	100.0	35.4	20.3	103
Samburu	96.9	70.5	0.0	29.5	100.0	70.5	51.2	35
Trans-Nzoia	90.9	62.8	1.2	36.0	100.0	64.0	41.0	329
Uasin Gishu	97.8	83.1	0.5	16.4	100.0	83.6	54.2	355
Elgeyo Marakwet	100.0	63.4	0.0	36.6	100.0	63.4	34.4	86
Nandi	98.6	70.1	0.0	29.9	100.0	70.1	53.7	264
Baringo	96.2	66.9	0.2	32.9	100.0	67.1	44.4	125
Laikipia	96.3	76.7	1.9	21.4	100.0	78.6	43.1	124
Nakuru	96.9	73.2	0.7	26.1	100.0	73.9	48.9	589
Narok	94.2	66.3	0.0	33.7	100.0	66.3	43.1	240
Kajiado	97.1	78.7	0.8	20.5	100.0	79.5	52.6	241
Kericho	97.3	74.4	0.0	25.6	100.0	74.4	51.4	215
Bomet	96.3	66.8	1.2	32.0	100.0	68.0	43.8	267
<b>Western</b>	<b>96.0</b>	<b>62.0</b>	<b>1.0</b>	<b>37.0</b>	<b>100.0</b>	<b>63.0</b>	<b>39.8</b>	<b>1,164</b>
Kakamega	97.7	65.7	0.0	34.3	100.0	65.7	41.5	411
Vihiga	92.0	54.9	0.4	44.7	100.0	55.5	34.5	140
Bungoma	96.8	55.9	0.6	43.6	100.0	56.4	36.9	413
Busia	93.7	72.2	4.4	23.5	100.0	76.5	46.2	199
<b>Nyanza</b>	<b>98.2</b>	<b>81.1</b>	<b>0.7</b>	<b>18.2</b>	<b>100.0</b>	<b>81.8</b>	<b>56.2</b>	<b>1,405</b>
Siaya	98.8	89.9	0.0	10.1	100.0	89.9	67.7	213
Kisumu	98.3	89.7	0.0	10.3	100.0	89.7	65.3	309
Homa Bay	97.2	83.2	2.2	14.6	100.0	85.4	58.9	243
Migori	97.0	84.8	1.1	14.0	100.0	86.0	62.4	211
Kisii	99.1	64.8	0.4	34.8	100.0	65.2	38.7	315
Nyamira	98.1	75.0	0.5	24.4	100.0	76.2	41.6	114
<b>Nairobi</b>	<b>98.8</b>	<b>83.4</b>	<b>1.2</b>	<b>15.4</b>	<b>100.0</b>	<b>84.6</b>	<b>57.9</b>	<b>1,568</b>
Total 15-49	96.1	70.9	0.6	28.5	100.0	71.6	45.7	12,063
Men 50-54	96.8	72.2	0.5	27.3	100.0	72.8	37.0	756
Total 15-54	96.2	71.0	0.6	28.4	100.0	71.6	45.2	12,819

<sup>1</sup> Includes 'don't know/missing'

### 3.9 DOMESTIC VIOLENCE

As part of the 2014 KDHS, selected women and men were asked a series of questions concerning domestic violence. Specifically, ever-married women and men were asked if their current or most recent spouse/partner ever physically harmed them, i.e., by pushing, slapping, punching,

kicking, or trying to strangle or burn them or threatening them with a weapon. They were also asked if their spouse/partner had ever physically forced them to have sexual intercourse or perform other sexual acts when they did not want to. Because of the sensitivity of these questions, if there was more than one eligible respondent in the household, the domestic violence section was administered to only one, randomly selected respondent. Interviewers were instructed to inform the selected respondent that she/he would be the only one asked these questions in that household. Interviewers were also trained on the importance of ensuring confidentiality of these questions and were instructed not to ask the questions if the interview could not be conducted in private. Data on the prevalence of domestic violence are presented for women in Table 3.40 and for men in Table 3.41.

**Table 3.40 Experience of domestic violence: Ever-married women**

Percentage of ever-married women age 15-49 who have experienced physical or sexual violence committed by their husband/partner ever and in the last year, by background characteristics, Kenya 2014

Background characteristic	Percentage who have experienced physical violence		Percentage who have experienced sexual violence		Percentage who have experienced physical or sexual violence		Number of women
	Ever <sup>1</sup>	Past 12 months	Ever <sup>1</sup>	Past 12 months	Ever <sup>1</sup>	Past 12 months	
<b>Age</b>							
15-19	23.8	20.9	7.6	4.2	27.8	23.0	111
20-24	33.5	24.0	12.4	10.5	37.0	28.0	647
25-29	38.4	24.9	14.9	11.8	41.1	28.1	1,002
30-39	39.4	22.7	14.7	9.4	41.4	25.3	1,395
40-49	42.6	19.3	13.9	8.6	43.7	21.3	867
<b>Marital status</b>							
Married or living together	35.3	22.5	12.3	9.6	37.6	25.6	3,347
Married once	32.9	21.6	10.9	9.2	35.3	24.7	3,112
Married more than once	67.1	34.5	29.8	14.9	67.9	37.0	235
Divorced/separated/widowed	54.1	23.3	22.6	11.1	56.4	25.0	670
<b>Residence</b>							
Urban	35.1	21.7	14.7	11.0	37.7	25.1	1,588
Rural	40.6	23.3	13.5	9.1	42.7	25.8	2,435
<b>Region</b>							
Coast	27.4	16.9	9.1	6.2	30.2	19.2	439
North Eastern	12.1	5.8	0.4	0.4	12.1	5.8	97
Eastern	40.6	22.6	12.9	9.1	42.3	25.1	585
Central	32.8	18.5	8.7	5.9	35.5	20.5	518
Rift Valley	32.4	18.6	9.7	6.3	33.8	20.1	983
Western	51.6	29.1	25.3	19.3	55.6	36.6	433
Nyanza	49.5	31.0	19.4	13.0	51.9	33.5	553
Nairobi	46.1	29.9	21.8	16.1	49.0	34.5	414
<b>Education</b>							
No education	34.6	21.6	9.5	7.1	35.7	22.5	375
Primary incomplete	48.9	28.2	16.9	12.2	50.6	30.9	1,150
Primary complete	39.2	23.0	16.7	11.7	41.9	26.3	1,120
Secondary+	30.1	18.2	10.6	7.1	32.9	21.2	1,378
<b>Wealth quintile</b>							
Lowest	39.7	24.7	14.4	9.8	42.4	27.2	707
Second	46.2	27.2	15.0	10.4	48.3	29.5	781
Middle	42.6	25.6	16.3	11.9	44.4	28.3	760
Fourth	36.7	19.3	13.3	8.2	38.7	22.3	894
Highest	28.8	18.0	11.5	9.2	31.6	21.5	880
Total	38.4	22.7	14.0	9.8	40.7	25.5	4,023

Note: Total includes 5 women with missing information as to marital status.

<sup>1</sup> Includes violence in the past 12 months

The data show that women are more likely to experience physical violence committed by their spouse/partner than men and that sexual violence committed by a spouse/partner is not as prevalent as physical violence. Table 3.40 shows that 38 percent of ever-married women age 15-49 have ever experienced physical violence committed by their husband/partner, while 23 percent experienced violence in the 12 months prior to the survey. Nine percent of ever-married men age 15-49 have ever experienced physical violence committed by their wife/partner, while 5 percent experienced violence in the 12 months prior to the survey. About 14 percent of women and 4 percent of men have ever

experienced sexual violence committed by a spouse/partner, while 10 percent of women and 3 percent of men experienced sexual violence by a spouse/partner in the past 12 months.

**Table 3.41 Experience of domestic violence: Ever-married men**

Percentage of ever-married men age 15-49 who have experienced physical or sexual violence committed by their wife/partner ever and in the last year, by background characteristics, Kenya 2014

Background characteristic	Percentage who have experienced physical violence		Percentage who have experienced sexual violence		Percentage who have experienced physical or sexual violence		Number of men
	Ever <sup>1</sup>	Past 12 months	Ever <sup>1</sup>	Past 12 months	Ever <sup>1</sup>	Past 12 months	
<b>Age</b>							
15-19	*	*	*	*	*	*	9
20-24	11.7	8.8	5.5	4.0	15.0	12.3	168
25-29	8.7	6.0	6.5	5.5	12.4	9.5	534
30-39	7.1	3.8	4.3	3.1	9.4	5.8	1,115
40-49	9.8	5.0	3.0	2.0	11.7	6.3	799
<b>Marital status</b>							
Married or living together	7.1	4.4	3.9	3.0	9.4	6.4	2,405
Married once	5.2	4.0	3.4	2.8	7.3	5.9	2,096
Married more than once	19.9	7.0	7.1	4.7	23.7	10.2	309
Divorced/separated/widowed	25.4	12.4	11.1	6.2	30.6	15.9	216
<b>Residence</b>							
Urban	8.6	5.3	4.9	3.8	11.2	7.7	1,192
Rural	8.6	4.8	4.1	2.9	11.1	6.8	1,432
<b>Region</b>							
Coast	5.5	2.7	3.6	1.7	7.2	3.5	244
North Eastern	3.2	3.2	0.0	0.0	3.2	3.2	42
Eastern	7.5	4.7	3.4	3.2	9.8	7.0	371
Central	6.8	3.0	3.3	2.1	9.1	4.2	337
Rift Valley	7.1	4.6	3.7	2.6	9.5	6.5	655
Western	12.8	6.0	5.0	3.9	15.5	8.6	253
Nyanza	10.3	5.5	7.4	5.7	13.9	9.2	345
Nairobi	12.2	8.5	5.6	4.6	15.0	11.3	377
<b>Education</b>							
No education	3.3	1.8	0.8	0.2	4.2	2.0	101
Primary incomplete	9.3	5.2	4.9	3.8	12.9	8.1	603
Primary complete	8.6	4.3	5.2	3.2	11.7	6.9	770
Secondary+	8.7	5.7	4.0	3.4	10.4	7.4	1,150
<b>Wealth quintile</b>							
Lowest	9.5	5.7	5.3	3.1	12.7	8.0	375
Second	8.5	5.3	5.0	4.3	11.8	8.2	470
Middle	11.6	6.5	4.4	3.2	13.4	8.4	496
Fourth	7.0	4.0	3.6	2.6	9.3	5.8	638
Highest	7.6	4.4	4.4	3.4	9.7	6.5	645
Total 15-49	8.6	5.0	4.4	3.3	11.1	7.2	2,624
Men 50-54	8.2	3.2	2.7	2.1	8.8	4.1	265
Total 15-54	8.6	4.9	4.3	3.2	10.9	6.9	2,890

Note: Total includes 3 men with missing information as to marital status. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

<sup>1</sup> Includes violence in the past 12 months

The data show that divorced, separated, and widowed women and men are more likely to report having experienced physical or sexual violence than their currently married counterparts, ever and in the past 12 months. Among those who are currently married, however, women and men who have married more than once are more likely to have ever experienced physical or sexual violence than women and men who have married only once, ever and in the past 12 months.

Women and men with incomplete primary level of education were more likely to have experienced physical violence. The data show that 49 percent of women have experience physical violence with one in three (28 percent) experiencing such violence in the 12 months preceding the survey. Women in the highest wealth quintile were least likely to have experienced violence, although the relationship between household wealth and experience of violence was not as clear for men.

Women in Western, Nyanza, and Nairobi regions reported higher levels of physical and sexual violence committed by a spouse/partner than women in other regions; approximately one-half have ever experienced physical violence compared with the low reported in North Eastern region (12 percent). Similarly, men in these three regions also reported higher levels of physical and sexual violence committed by a spouse/partner compared with men in other regions.

### 3.10 FEMALE CIRCUMCISION

Female circumcision, also referred to as female genital mutilation (FGM) or female genital cutting (FGC), is practiced in many communities in Kenya. It involves the partial or total removal of the external female genitalia or other injury to the female organs for cultural or other non-therapeutic reasons. The practice poses risks to the health and even life of the women and girls who are subjected to it, and it violates internationally accepted human rights. In the 2014 KDHS, women were asked if they had ever heard of female circumcision and if so, whether they themselves had ever been circumcised.

Table 3.42 presents knowledge and prevalence of female circumcision. The results show that almost all women (96 percent) have heard of female circumcision, with only small differentials by background characteristics. Twenty-one percent of women report that they themselves are circumcised. The prevalence of female circumcision varies widely by background characteristics. The practice appears to be less common among younger women and is perhaps on the decline; 11 percent of women age 15-19 are circumcised compared with more than 20 percent among those over age 30. More than 40 percent of women age 45-49 are circumcised. Rural women (26 percent) are more likely to have been circumcised compared with their urban counterparts (14 percent).

Table 3.42 Knowledge and prevalence of female circumcision

Percentage of women who have heard of female circumcision and percentage circumcised, according to background characteristics, Kenya 2014

Background characteristic	Percentage of women who have heard of female circumcision	Percentage of women circumcised	Number of women
<b>Age</b>			
15-19	93.5	11.4	2,717
20-24	96.3	14.7	2,691
25-29	96.6	18.0	2,932
30-34	97.3	22.9	2,162
35-39	96.3	27.8	1,780
40-44	96.1	32.1	1,292
45-49	96.9	40.9	1,052
<b>Residence</b>			
Urban	97.3	13.8	5,929
Rural	95.2	25.9	8,696
<b>Region</b>			
Coast	87.3	10.2	1,421
North Eastern	99.7	97.5	299
Eastern	97.0	26.4	2,066
Central	98.5	16.5	1,905
Rift Valley	98.8	26.9	3,714
Western	94.7	0.8	1,571
Nyanza	92.4	32.4	1,908
Nairobi	97.7	8.0	1,742
<b>Education</b>			
No education	90.6	58.2	1,015
Primary incomplete	93.3	25.4	3,793
Primary complete	96.5	21.1	3,543
Secondary+	98.2	12.2	6,274
<b>Wealth quintile</b>			
Lowest	90.9	39.8	2,236
Second	94.8	26.0	2,590
Middle	95.7	17.8	2,859
Fourth	97.5	17.2	3,113
Highest	98.8	12.0	3,827
<b>Total</b>	<b>96.0</b>	<b>21.0</b>	<b>14,625</b>

The largest differentials are seen by region. Female circumcision is nearly universal in North Eastern region (98 percent) compared with Nyanza (32 percent), Rift Valley (27 percent), and Eastern regions (26 percent). Western region recorded the lowest prevalence at 1 percent. The practice decreases as education increases. About 58 percent of women with no education are reported to have been circumcised compared with 12 percent of those with a secondary level of education. Similarly, circumcision among women declines with increasing wealth. Twelve percent of women in the highest wealth quintile are circumcised compared with 40 percent of women in the lowest quintile.

Female circumcision is declining slowly over time. The 1998 KDHS reported 38 percent of women were circumcised. This declined to 32 percent in 2003, 27 percent in 2008-09, and 21 percent in 2014.

### 3.11 FISTULA

Fistula is a condition that may develop during prolonged or obstructed labour when the blood supply to the tissues of the vagina, bladder, and/or rectum is cut off, resulting in the formation of an opening through which urine and/or faeces pass uncontrollably. Women who develop fistula are often socially rejected. The inclusion of fistula questions in the 2014 KDHS was born out of the need to estimate the prevalence of fistula in Kenya. This is the initial step towards planning for effective management of obstetric fistula. After describing the condition, women were asked if they had ever experienced symptoms of fistula.

Table 3.43 shows that 1 percent of women in Kenya have experienced fistula. Small differences exist across background characteristics. Young women aged 15-19 are less likely to have had fistula, most likely because they have not yet started childbearing, compared with older women. Women age 30-34 were slightly more likely to have experienced fistula (2 percent). Women in the North Eastern, Central, and Nairobi regions also reported slightly higher levels of fistula (2 percent).

Table 3.43 Fistula

Percentage of women who have ever experienced fistula, according to background characteristics, Kenya 2014

Background characteristic	Percentage of women who have ever had fistula	Number of women
<b>Age</b>		
15-19	0.3	2,717
20-24	1.1	2,691
25-29	1.1	2,932
30-34	1.6	2,162
35-39	1.1	1,780
40-44	1.1	1,292
45-49	1.0	1,052
<b>Residence</b>		
Urban	1.3	5,929
Rural	0.8	8,696
<b>Region</b>		
Coast	0.7	1,421
North Eastern	1.8	299
Eastern	0.8	2,066
Central	1.8	1,905
Rift Valley	0.7	3,714
Western	0.5	1,571
Nyanza	1.3	1,908
Nairobi	1.6	1,742
<b>Education</b>		
No education	1.1	1,015
Primary incomplete	0.6	3,793
Primary complete	1.4	3,543
Secondary+	1.1	6,274
<b>Wealth quintile</b>		
Lowest	0.7	2,236
Second	0.9	2,590
Middle	0.7	2,859
Fourth	1.8	3,113
Highest	0.9	3,827
Total	1.0	14,625

# OVERVIEW OF DATA COLLECTED IN FULL AND SHORT QUESTIONNAIRES

## Appendix **A**

### Household Questionnaire

	Full	Short
Composition (e.g., headship, size, age, sex, education)	•	•
Characteristics (e.g., source of water, type of sanitation facilities; exposure to second-hand smoke inside the home)	•	•
Wealth index	•	•
Household ownership and use of mosquito nets	•	•
Household ownership of dwelling, land	•	
Household receipt of social assistance	•	
Nutritional status of women age 15-49 years <sup>1</sup>	•	
Nutritional status of children under age five years	•	•

### Woman's Questionnaire

	Full	Short
Individual characteristics (e.g., age, sex, education, marital status, media exposure)	•	•
Fertility and reproductive history	•	•
Knowledge and use of family planning methods	•	•
Fertility preferences	•	
Antenatal and delivery care	•	•
Breastfeeding	•	
Vaccinations and childhood illnesses	•	•
Infant and child feeding practices	•	
Childhood mortality	•	•
Marriage and sexual activity	•	•
Woman's work and husband's background characteristics	•	
Awareness and behaviour about HIV and other sexually transmitted infections	•	•
Adult and maternal mortality	•	
Domestic violence	•	
Female circumcision	•	
Fistula	•	

<sup>1</sup> Women's nutritional status, calculated from anthropometry measurements, is an exception to the 2014 KDHS recommendations for estimation of indicators at the county level. Although anthropometry data were only collected from women in the one-half of households administered the full questionnaire, there are sufficient cases to calculate county level estimates of women's nutritional status.





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