# Ghana

Demographic and Health Survey

2014

Ghana

Demographic and Health Survey 2014

Ghana Statistical Service
Accra, Ghana

Ghana Health Service
Accra, Ghana

The DHS Program
ICF International
Rockville, Maryland, USA

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FOREWORD

This report presents findings from the 2014 Ghana Demographic and Health Survey (GDHS), a nationally representative survey of 9,396 women age 15-49 and 4,388 men age 15-59 from 11,835 interviewed households. The primary purpose of the GDHS was to generate recent and reliable information on fertility, family planning, infant and child mortality, maternal and child health, and nutrition. In addition, the survey collected information on malaria treatment, prevention, and prevalence among children age 6-59 months; blood pressure among adults; anaemia among women and children; and HIV prevalence among adults. This information is essential for making informed policy decisions and for planning, monitoring, and evaluating programmes related to health in general, and reproductive health in particular, at both the national and regional levels.

The 2014 GDHS is the sixth in a series of population and health surveys conducted in Ghana as part of the global Demographic and Health Surveys (DHS) Program. The survey was implemented by the Ghana Statistical Service (GSS), the Ghana Health Service (GHS), and the National Public Health Reference Laboratory (NPHRL) of the GHS. Financial support for the survey was provided by the United States Agency for International Development (USAID), the Global Fund through the Ghana AIDS Commission (GAC) and the National Malaria Control Programme (NMCP), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the International Labour Organization (ILO), the Danish International Development Agency (DANIDA), and the Government of Ghana. ICF International provided technical assistance through The DHS Program, a USAID-funded project offering support and technical assistance in the implementation of population and health surveys in countries worldwide.

Dr. Philomena Efua Nyarko

Government Statistician
Ghana Statistical Service

ACRONYMS

ACT   artemisinin-based combination therapy
AIDS   acquired immunodeficiency syndrome
ANC   antenatal care
ARI   acute respiratory infection
ASFR   age-specific fertility rate
BCG   Bacille Calmette-Guerin
BMI   body mass index
BOG   Bank of Ghana
CAFE   computer assisted field editing
CBR   crude birth rate
CDC   Centers for Disease Control and Prevention
CDD   Control of Diarrhoeal Diseases
CEDAW   Convention on the Elimination of All Forms of Discrimination against Women
CHPS   community-based health planning and services
CSPro   Census and Survey Processing System
CPR   contraceptive prevalence rate
DANIDA   Danish International Development Agency
DBS   dried blood spot
DFID   Department for International Development
DOTS   directly observed treatment, short-course
EA   enumeration area
ELISA   enzyme-linked immunosorbent assay
EQA   external quality assurance
GAR   gross attendance ratio
GAC   Ghana AIDS Commission
GDHS   Ghana Demographic and Health Survey
GDP   gross domestic product
GETFUND   Ghana Education Trust Fund
GFR   general fertility rate
GHS   Ghana Health Service
GPI   gender party index
GPS   Global Positioning System
GSS   Ghana Statistical Office
HCT   HIV counselling and testing
HepB   hepatitis B
HIV   human immunodeficiency virus
IFSS   Internet File Streaming System
ILO   International Labour Organization
IMCI   integrated management of childhood illnesses
IPTp   intermittent preventive treatment
IRS   indoor residual spraying
ITN   insecticide-treated net

IUD	intrauterine device
IYCF	Infant and Young Child Feeding
LAM	lactational amenorrhoea method
LEAP	livelihood empowerment against poverty
LPG	liquid petroleum gas
LLIN	long-lasting insecticidal net
MDG	Millenium Development Goal
MoH	Ministry of Health
MWRWH	Ministry of Water Resource Works and Housing
NACP	National AIDS/STI Control Programme
NAR	net attendance ratio
NDPC	National Development Planning Commission
NGO	nongovernmental organisation
NHIS	National Health Insurance Scheme
NMCP	National Malaria Control Programme
NMIMR	Noguchi Memorial Institute for Medical Research
NPHRL	National Public Health and Reference Laboratory
ORS	oral rehydration salt
ORT	oral rehydration therapy
PAHO	Pan American Health Organization
PHC	population and housing census
PLHIV	people living with HIV/AIDS
PMI	President's Malaria Initiative
PMTCT	prevention of mother-to-child transmission
RDT	rapid diagnostic test
RHF	recommended home fluid
RTI	reproductive tract infection
SHS	secondhand smoke
STI	sexually transmitted infection
TB	tuberculosis
TFR	total fertility rate
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAD	vitamin A deficiency
WASH	water, sanitation and hygiene
WHO	World Health Organization

MILLENNIUM DEVELOPMENT GOAL INDICATORS

Millennium Development Goal Indicators

Ghana 2014

		Sex		
Indicator		Male	Female	Total
1.	**Eradicate extreme poverty and hunger**			
	1.8 Prevalence of underweight children under age 5	10.6	11.6	11.0
2.	**Achieve universal primary education**			
	2.1 Net attendance ratio in primary education[1]	70.8	70.5	70.6
	2.3 Literacy rate of 15 to 24-year-olds[2]	89.3[a]	80.9	85.1[b]
3.	**Promote gender equality and empower women**			
	3.1 Ratio of girls to boys in primary, secondary, and tertiary education			
	3.1a Ratio of girls to boys in primary education[3]	na	na	1.0
	3.1b Ratio of girls to boys in secondary education[3]	na	na	1.0
	3.1c Ratio of girls to boys in tertiary education[3]	na	na	1.0
4.	**Reduce child mortality**			
	4.1 Under-5 mortality rate[4]	78	62	60
	4.2 Infant mortality rate[4]	52	43	41
	4.3 Proportion of 1-year-old children immunized against one dose of measles	88.2	90.3	89.3
5.	**Improve maternal health**			
	5.2 Percentage of births attended by skilled health personnel[5]	na	na	73.7
	5.3 Contraceptive prevalence rate[6]	na	26.7	na
	5.4 Adolescent birth rate[7]	na	76.3	na
	5.5a Antenatal care coverage: at least one visit[8]	na	97.0	na
	5.5b Antenatal care coverage: four or more visits[9]	na	87.3	na
	5.6 Unmet need for family planning	na	29.9	na
6.	**Combat HIV/AIDS, malaria, and other diseases**			
	6.1 HIV prevalence among the population age 15-24	0.2	1.5	0.8
	6.2 Condom use at last high-risk sex[10]	39.3	19.2	29.3
	6.3 Percentage of the population age 15-24 with comprehensive correct knowledge of HIV/AIDS[11]	27.2	19.9	23.6
	6.4 Ratio of school attendance of orphans to school attendance of non-orphans age 10-14	0.97	0.92	0.94
	6.7 Percentage of children under 5 sleeping under insecticide-treated bed nets	47.5	45.6	46.6
	6.8 Percentage of children under 5 with fever who are treated with appropriate antimalarial drugs[12]	46.8	50.6	48.5

		Urban	Rural	Total
7.	**Ensure environmental sustainability**			
	7.8 Percentage of population using an improved drinking water source[13]	57.0	71.4	64.2
	7.9 Percentage of population with access to improved sanitation[14]	20.5	9.6	15.0

na = Not applicable

[1] The ratio is based on reported attendance, not enrollment, in primary education among primary school age children (6-11 years). The rate also includes children of primary school age enrolled in secondary education. This is a proxy for MDG indicator 2.1, Net enrollment ratio.

[2] Refers to respondents who attended secondary school or higher or who could read a whole sentence or part of a sentence

[3] Based on reported net attendance, not gross enrollment, among 6-11-year-olds for primary, 12-17-year-olds for secondary, and 18-24-year-olds for tertiary education

[4] Expressed in terms of deaths per 1,000 live births. Mortality by sex refers to a 10-year reference period preceding the survey. Mortality rates for males and females combined refer to the five-year period preceding the survey.

[5] Among births in the five years preceding the survey

[6] Percentage of currently married women age 15-49 using any method of contraception

[7] Equivalent to the age-specific fertility rate for women age 15-19 for the three years preceding the survey, expressed in terms of births per 1,000 women age 15-19

[8] With a skilled provider

[9] With any health care provider

[10] High-risk sex refers to sexual intercourse with a non-marital, non-cohabiting partner. Expressed as a percentage of men and women age 15-24 who had higher-risk sex in the past 12 months.

[11] Comprehensive knowledge means knowing that consistent use of a condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about transmission or prevention of the AIDS virus.

[12] Measured as the percentage of children age 0-59 months who were ill with a fever in the two weeks preceding the interview and who received any antimalarial drug

[13] Percentage of de jure population whose main source of drinking water is a household connection (piped), public tap or standpipe, tubewell or borehole, protected dug well, protected spring, or rainwater collection.

[14] Percentage of de jure population whose household has a flush toilet, ventilated improved pit latrine, pit latrine with a slab, or composting toilet and does not share its facility with other households

[a] Restricted to men in a subsample of households selected for the male interview

[b] The total calculated as the simple arithmetic mean of the percentages in the columns for male and females

GHANA

BURKINA
FASO

Upper East

Upper West

Northern

BENIN

COTE
D'IVOIRE

TOGO

Brong
Ahafo

Ashanti

Eastern

Volta

Western

Central

Greater
Accra

0   50   100   200
Kilometers

INTRODUCTION

1
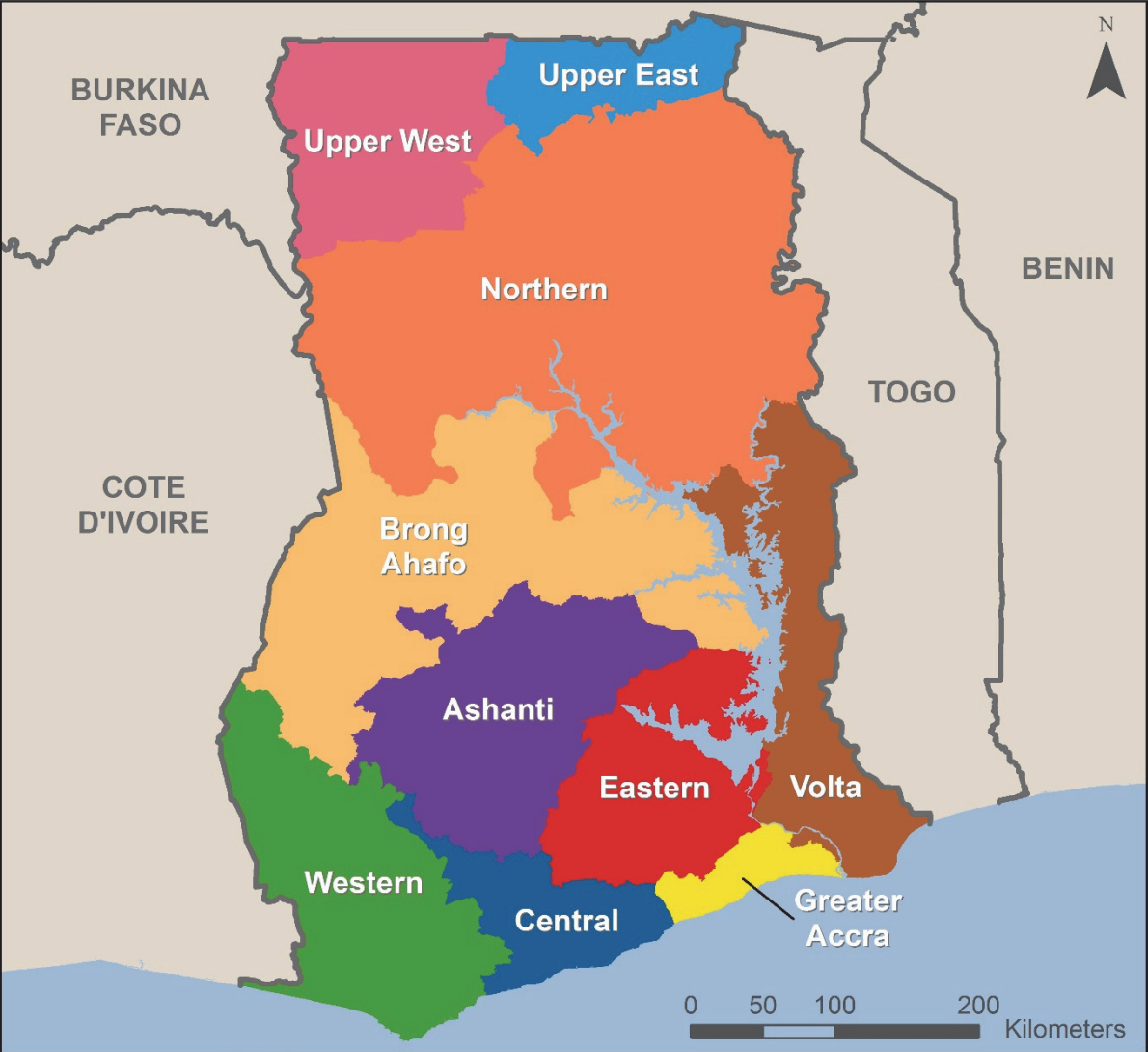
1.1   GEOGRAPHY, HISTORY, AND ECONOMY

1.1.1 Geography

The Republic of Ghana is centrally located on the West African coast. It has a total land area of 238,537 square kilometres, and it is bordered by three French-speaking countries: Togo on the east, Burkina Faso on the north and northwest, and Côte d'Ivoire on the west. The Gulf of Guinea lies to the south and stretches across the 560-kilometre coastline.

Ghana is a lowland country except for a range of highlands on the eastern border. The highest elevation is Mt. Afadjato, 884 metres above sea level, found in the Akuapem-Togo ranges, west of the Volta River. Ghana can be divided into three ecological zones: the low, sandy coastal plains, with several rivers and streams; the middle and western parts of the country, characterised by a heavy canopy of semi-deciduous rainforests, with many streams and rivers; and a northern savannah, which is drained by the Black and White Volta Rivers. The Volta Lake, created by the hydroelectric dam in the East, is one of the largest artificial lakes in the world.

Ghana has a tropical climate with temperatures and rainfall patterns that vary according to distance from the coast and elevation. The eastern coastal area is comparatively dry, the southwestern corner is hot and humid, and the north of the country is hot and dry. The average annual temperature is about 26ºC (79ºF). There are two distinct rainy seasons in the southern and middle parts of the country, from April to June and September to November. The North is, however, characterised by one rainfall season that begins in May, peaks in August, and lasts until September. Annual rainfall ranges from about 1,015 millimetres (40 inches) in the North to about 2,030 millimetres (80 inches) in the Southwest. The *harmattan*, a dry dusty desert wind, blows from the northeast and covers much of the country between December and March, lowering the humidity and visibility, and also creates very warm days and cool nights in the North. In the South, the effects of the *harmattan* are felt mainly in January.

1.1.2 History

Ghana gained independence from British colonial rule on 6 March 1957, and became a republic in the British Commonwealth of Nations on 1 July 1960 with Accra as its administrative and political capital. Ghana operates a multi-party democracy with an executive president who is elected for a term of four years with a maximum of two terms. There is a parliament elected every four years, an independent judiciary, and a vibrant media.

There are 10 administrative regions in Ghana: Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo, Northern, Upper East, and Upper West. Ghana's population was estimated at 27 million in 2014 (GSS 2013a). The Ashanti, Eastern, and Greater Accra regions together constitute about 50 percent of the country's population. Upper East is the least populated region, accounting for 2 percent of the total population of Ghana. The regions are subdivided into 216 districts to ensure equitable resource allocation and efficient, effective administration at the local level (GSS 2013b).

The Ghanaian population is made up of several ethnic groups, with the Akans constituting the largest group (48 percent), followed by the Mole-Dagbani (17 percent), Ewe (14 percent), Ga-Dangme (7 percent), and others (GSS 2013b).

1.1.3 Economy

The structure of the Ghanaian economy has seen minimal changes over the past two decades. The agriculture sector, previously the largest contributor to the Ghanaian economy, has been overtaken by the service and industry sectors. By 2014, the service sector was the fastest growing sector of the economy, contributing 52 percent of the gross domestic product (GDP), followed by the industry sector, at 27 percent, and the agriculture sector, at 22 percent. In 2014, the service sector recorded its highest growth, of 6 percent, followed by the agricultural sector with 5 percent growth, and the industry sector with 1 percent growth (GSS 2015).

Overall, the 2014 real annual GDP grew by 4 percent compared with 7 percent growth recorded in 2013 (GSS 2015).

About 45 percent of the economically active population are engaged in agriculture, and 41 percent provide services. A high proportion of the employed population of Ghana works in the informal sector, the majority being self-employed (GSS 2014).

The leading export commodities of Ghana are cocoa, gold, and timber. Recently, the economy has diversified to the export of non-traditional commodities such as pineapples, bananas, yams, and cashew nuts. The tourism industry contributes substantially to the country's economy, as a key driver of economic growth. The industry is currently the third largest foreign exchange earner after merchandise exports and remittances from abroad and has become one of the most important and fastest growing sectors of the Ghanaian economy (BOG 2007).

Over the past decade, the government of Ghana has embarked on various economic and poverty-reduction programmes designed to improve the living conditions of its citizenry. The Livelihood Empowerment Against Poverty (LEAP) programme was introduced in 2007 and, in 2008, the poor began to receive cash support on a monthly basis.

Many changes have occurred in the education sector over the past 15 years. Pre-school education has officially been incorporated into the basic education as a part of primary and junior high school. All primary schools are required to have nurseries or kindergartens. In the 2005-2006 academic year, the government absorbed school fees for all pupils enrolled in basic public schools, resulting in free education (Darko et al. 2009). During the same period, a school feeding programme was introduced on a pilot basis and has since been extended to all basic schools. While the programme aims at improving the nutritional status of school pupils, a secondary effect has been to increase enrolment.

At the secondary level, the senior high school was introduced in the 2007-2008 academic year, expanding the system from three to four years, but this policy was reversed in 2009.

The introduction of the Ghana Education Trust Fund (GETFUND), a public trust set up by an Act of Parliament in the year 2000, has brought many improvements to the education system. The fund provides educational infrastructure such as buildings to support the country's tertiary institutions and, as a result, has improved teaching and learning within these institutions.

1.2 DEMOGRAPHIC PROFILE

Sources of demographic information about the Ghanaian population include censuses, surveys, and administrative data. Population censuses provide more comprehensive demographic information than other sources. Ghana has completed five censuses since gaining independence in 1957. The first one was conducted in 1960 and reported a population of 6.7 million. The 1970 census recorded 8.6 million people, and the 1984 census, 12.3 million. In 2000, the Population and Housing Census (PHC) recorded 18.9 million, while in the 2010 PHC, 24.7 million were recorded. The average annual growth rate between 2000 and 2010 was 2.5 percent. The growth rates over individual periods were 2.4 percent, 2.6 percent, 2.7

percent, and 25 percent during 1960-1970, 1970-1984, 1984-2000, and 2000-2010, respectively (Table 1.1).

The population density has increased over the years from 29 persons per square kilometre (persons/km^2) in 1960 to 103 persons/km^2 in 2010. The proportion of the population living in urban areas has more than doubled in the last five decades, expanding from 23 percent in 1960 to 51 percent in 2010.

The sex ratio of 102.2 males per 100 females recorded in 1960 has declined to 95.2 males per 100 females in 2010. The proportion of the population under age 15 has also decreased from 45 percent in 1960 to 38 percent in 2010 (Table 1.1), while the proportion of the population age 65 years and older increased from 3 percent to 5 percent over the same period (data not shown separately). Over the last five decades, life expectancy at birth has increased from 38 years to 60 years among males and from 43 years to 63 years among females (GSS 1979, 1985, 2002, and 2013b).

Table 1.1 Basic demographic indicators

Indicators	Pop census 1960	Pop census 1970	Pop census 1984	Pop & housing census 2000	Pop & housing census 2010
Population (millions)	6.7	8.6	12.3	18.9	24.7
Annual growth rate (percent)	na	2.4	2.6	2.7	2.5
		(1960-1970)	(1970-1984)	(1984-2000)	(2000-2010)
Density (population/km^2)	29	36	52	79	103
Percent urban	23	29	32	44	51
Sex Ratio	102.2	98.5	97.3	97.9	95.2
Population under 15 years	45	48	46	42	40
Life expectancy (years)					
Male	38	45	50	55	60
Female	43	48	54	60	63

na= Not applicable
Sources: Ghana Statistical Service (GSS), 1979, 1985, 2002, and 2013b

Population and housing censuses are resource intensive, expensive to implement, and generally take place at 10-year intervals. Sample surveys are, therefore, important for informing demographic profiles during inter-censal periods. They are conducted to collect a wide range of data to complement the census data. Sample surveys are cheaper and can be implemented more frequently and at regular intervals. The Ghana Demographic and Health Survey (GDHS), which is a household survey, is an example of a sample survey data collection tool.

Another important but often neglected data source in Ghana is the administrative data. These data are generated as a by-product of events and processes, and they provide relatively up-to-date information to fill gaps in both censuses and surveys. Vital registration systems (birth and death registration), health systems (immunisations), and education data (enrolment) are examples of administrative data.

1.3 POPULATION POLICY AND REPRODUCTIVE HEALTH PROGRAMMES

The National Population Policy of Ghana was formulated in 1969 in recognition of the simultaneous high growth of population and fertility. The policy was revised in 1994 because of its modest impact after 25 years of implementation. The revision took into account emerging issues such as HIV/AIDS, population and the environment, and concerns about the elderly and children. It developed new strategies that would ensure the achievement of its goals and objectives. The revision of the population policy also entailed concerted effort to systematically integrate population variables in all areas of national development and programme planning (NPC 1994).

Some selected targets of the revised population policy included the following:

- Reduce the total fertility rate (TFR) from 5.5 in 1993 to 5.0 by 2000, 4.0 by 2010, and 3.0 by 2020

- Achieve a contraceptive prevalence rate (CPR) with modern methods of 15 percent by the year 2000, 28 percent by 2010, and 50 percent by the year 2020

- Reduce the population growth rate from about 3 percent per annum to 1.5 percent per annum by the year 2020

- Increase life expectancy to age 70 years by the year 2020 (NPC 1994)

The attainment of these population targets is recognised as an integral component of the national strategy to accelerate economic development, eradicate poverty, and enhance the quality of life of all Ghanaians.

In collaboration with the United Nations Population Fund (UNFPA), the United States Agency for International Development (USAID), the World Bank, and other development partners, Ghana has implemented several projects aimed at reducing reproductive health problems among its population. Support from these agencies has targeted policy coordination, implementation, and service delivery.

The government is committed to improving access and equity of access to essential health care services. The priority areas identified include HIV/AIDS and other sexually transmitted infections (STIs), malaria, tuberculosis, guinea worm disease, poliomyelitis, reproductive health, maternal and child health, accidents and emergencies, noncommunicable diseases, oral health and eye care, and specialised services. Emphasis is also being placed on regenerative health and preventive as well as community-based health care services. This has necessitated the introduction of the Community-based Health Planning and Services (CHPS) programme in which trained nurses are stationed in selected communities to provide health care services to members of the communities.

In response to the HIV/AIDS epidemic, the government of Ghana set up the National AIDS Commission to oversee the implementation of HIV/AIDS programmes using a multi-sectoral approach and to ensure that HIV/AIDS prevention education, treatment, care, and support reach every corner of the country. The Ghana Health Service (GHS) also set up the National AIDS Control Programme (NACP) to offer HIV/AIDS prevention and education services. The combined efforts of all stakeholders ensured the implementation of the Ghana HIV/AIDS Strategic Framework: 2001-2005 (World Bank 2003). These collaborative efforts have had a positive impact. In 2013, only 1.3 percent of Ghanaian adults were HIV positive (GHS 2014).

The Roll Back Malaria, tuberculosis (TB-DOTS), and integrated management of childhood illnesses (IMCI) are also priority areas under the country's health care system. Other health interventions instituted as part of the government's efforts to make health care accessible and affordable to all include the introduction of the National Health Insurance Scheme (NHIS) and a free maternal care programme (United Nations 2008).

Sustainable accessibility and availability of improved water and sanitation are essential to the health of a population. Therefore, extensive efforts are being made in Ghana to ensure universal access to safe drinking water and improved sanitation facilities by the year 2025 (MWRWH 2009). The Ghana WASH Project, under the auspices of the Ministry of Local Government and Rural Development, is a USAID-funded initiative. The goal of the project is to improve water and sanitation facilities and to increase hygiene education among rural and peri-urban communities to prevent the spread of diseases like diarrhoea, dysentery, cholera, and, recently, Ebola. The Ghana WASH Project is supported by a number of

agencies, including Relief International, the Adventist Development Relief Agency, and Winrock International.

1.4 OBJECTIVES AND ORGANISATION OF THE SURVEY

The primary objective of the 2014 GDHS was to generate recent reliable information on fertility, family planning, infant and child mortality, maternal and child health, and nutrition. In addition, the survey collected specialised data on malaria treatment, prevention, and prevalence among children age 6-59 months; blood pressure among adults; anaemia among women and children; and HIV prevalence among adults. This information is essential for making informed policy decisions and for planning, monitoring, and evaluating programmes related to health in general, and reproductive health in particular, at both the national and regional levels. Analysis of data collected in the 2014 GDHS provides updated estimates of basic demographic and health indicators covered in the earlier rounds of the 1988, 1993, 1998, 2003, and 2008 surveys.

The GDHS will assist policymakers and programme managers in evaluating and designing programmes and strategies for improving the health of Ghana's population. The 2014 GDHS also provides comparable data for long-term trend analysis in Ghana, since the surveys were implemented by the same organisation, using similar data collection procedures. Furthermore, the survey adds to the international database on demographic and health–related information for research purposes.

The survey was implemented by the Ghana Statistical Service (GSS), the Ghana Health Service (GHS), and the National Public Health Reference Laboratory (NPHRL) of the GHS. The Noguchi Memorial Institute for Medical Research (NMIMR) performed the external quality assurance testing for the malaria and HIV testing component of the 2014 Ghana DHS survey. Financial support for the survey was provided by the United States Agency for International Development (USAID), the Global Fund through the Ghana AIDS Commission (GAC) and the National Malaria Control Programme (NMCP), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the International Labour Organization (ILO), the Danish International Development Agency (DANIDA), and the Government of Ghana. ICF International provided technical assistance through The DHS Program, a USAID-funded project offering support and technical assistance in the implementation of population and health surveys in countries worldwide.

In addition to the main survey, a follow up study on family planning was conducted by a different team on a subsample of households selected for the GDHS survey. The main goal of this study was to better understand the underlying factors behind observed variations in unmet need and to strengthen assessments of the demand for family planning. The research team re-interviewed a subsample of the selected GDHS original female respondents in 13 clusters who consented to be re-interviewed. Women age 15-44 who were not currently using family planning or who reported not wanting their current pregnancy or their most recent live birth were eligible for the follow-up survey. Additionally, a randomly selected 10 percent of current female users of family planning age 15-44 in those clusters also were eligible for the study. Results of the follow up study on unmet need for family planning are not discussed in this report and will be published in a separate report.

1.5 SAMPLE DESIGN

The sampling frame used for the 2014 GDHS is an updated frame from the 2010 Ghana Population and Housing Census provided by the Ghana Statistical Service (GSS 2013b). The sampling frame excluded nomadic and institutional populations such as persons in hotels, barracks, and prisons.

The 2014 GDHS followed a two-stage sample design and was intended to allow estimates of key indicators at the national level as well as for urban and rural areas and each of Ghana's 10 administrative regions. The first stage involved selecting sample points (clusters) consisting of enumeration areas (EAs)

delineated for the 2010 PHC. A total of 427 clusters were selected, 216 in urban areas and 211 in rural areas.

The second stage involved the systematic sampling of households. A household listing operation was undertaken in all the selected EAs in January-March 2014, and households to be included in the survey were randomly selected from the list. About 30 households were selected from each cluster to constitute the total sample size of 12,831 households. Because of the approximately equal sample sizes in each region, the sample is not self-weighting at the national level, and weighting factors have been added to the data file so that the results will be proportional at the national level.

All women age 15-49 who were either permanent residents of the selected households or visitors who stayed in the household the night before the survey were eligible to be interviewed and have their blood pressure measured.

In half of the households, all men age 15-59 who were either permanent residents of the selected households or visitors who stayed in the households the night before the survey were eligible to be interviewed. In addition, in the subsample of households selected for the male survey:

- blood pressure measurements were performed among eligible men who consented to being tested;

- children age 6-59 months were tested for anaemia and malaria with the parent's or guardian's consent;

- eligible women who consented were tested for anaemia;

- blood samples were collected for laboratory testing of HIV from eligible women and men who consented; and

- height and weight information was collected from eligible women, men, and children age 0-59 months.

1.6 QUESTIONNAIRES

Three questionnaires were used for the 2014 GDHS: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. These questionnaires, which were based on standard Demographic and Health Survey (DHS) questionnaires, were adapted to reflect the population and health issues relevant to Ghana. Comments on the questionnaires were solicited from various stakeholders representing government ministries and agencies, nongovernmental organisations, and international donors. The definitive questionnaires were first prepared in English; they were then translated into the major local languages, namely Akan, Ga, and Ewe.

The Household Questionnaire was used to list all the members of and visitors to the selected households. Basic demographic information was collected on the characteristics of each person listed, including his or her age, sex, marital status, education, and relationship to the head of the household. For children under age 18, parents' survival status was determined. The data on age and sex of household members obtained in the Household Questionnaire were used to identify women and men who were eligible for individual interviews. The Household Questionnaire also included questions on child education as well as the characteristics of the household's dwelling unit, such as source of water, type of toilet facilities, materials used for the floor of the dwelling unit, and ownership of various durable goods.

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

- Background characteristics (age, education, media exposure, etc.)

- Birth history and child mortality

- Residence of children under age 18 not living with their parents

- Knowledge and use of family planning methods

- Fertility preferences

- Antenatal, delivery, and postnatal care

- Breastfeeding and infant feeding practices

- Vaccinations and childhood illnesses

- Marriage and sexual activity

- Women's work and husbands' background characteristics

- Women's empowerment indicators, maternity leave, and bridewealth

- Knowledge, awareness, and behaviour regarding HIV/AIDS and other sexually transmitted infections (STIs)

- Knowledge, attitudes, and behaviour related to other health issues (e.g., smoking, tuberculosis, and blood pressure)

In half of the selected households, the Man's Questionnaire was administered to all men age 15-59. The Man's Questionnaire collected much of the same information found in the Woman's Questionnaire but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health.

1.7   BLOOD PRESSURE MEASUREMENT, ANTHROPOMETRY, ANAEMIA TESTING, AND HIV TESTING

In half of the households selected for the male survey, the 2014 GDHS incorporated several *biomarkers*: blood pressure measurement, anthropometry, anaemia testing, and HIV testing. The survey protocol, including biomarker collection, was reviewed and approved by the Ghana Health Service Ethical Review Committee and the Institutional Review Board of ICF International.

Blood pressure. During the individual interview, three blood pressure measurements were taken from consenting women age 15-49 in all the selected households and from consenting men age 15-59 in the subsample of households selected for the male survey (half of the households). Blood pressure was measured using the LIFE SOURCE® UA-767 Plus blood pressure monitor: a digital oscillometric blood pressure measuring device with automatic upper-arm inflation and automatic pressure release. Measurements were taken at intervals of 10 minutes or more. The average of the second and third measurements was used to classify the respondent with respect to hypertension, according to internationally recommended categories (WHO 1999). The results, as well as information about the symptoms of high blood pressure and ways in which it can be prevented, were provided to the respondent via a blood pressure reporting form.

Anthropometry. In the subsample of households selected for the male survey, height and weight measurements were recorded for children age 0-59 months, women age 15-49, and men age 15-59.

Anaemia testing. Blood specimens for anaemia testing were collected in half of the selected households (the subsample selected for the male survey) from women age 15-49 who voluntarily consented to be tested and from all children age 6-59 months for whom consent was obtained from their parents or the adult responsible for the children. Blood samples were drawn from a drop of blood taken

from a finger prick (or a heel prick in the case of children age 6-11 months) and collected in a microcuvette. Haemoglobin analysis was carried out on-site using a battery-operated portable HemoCue analyser.

All households in which anthropometry and/or anaemia testing was conducted were given an Anaemia and Height and Weight Brochure containing information on height and weight measurements of all children measured, as well as information on causes and prevention of anaemia. The haemoglobin test results for all children tested in the household were entered into the Malaria and Anaemia Brochure and given to the parent or responsible adult. Finally, an anaemia referral form was given to facilitate immediate treatment at a nearby health facility of children with a haemoglobin level less than 7.0 g/dl, of nonpregnant women with a haemoglobin level less than 7.0 g/dl, and of pregnant women with a haemoglobin level less than 9.0 g/dl.

Malaria testing. In half of the selected households, children age 6-59 months were also tested for malaria in the field using SDBioline Malaria Ag P.f/Pan, a rapid diagnostic test (RDT). This high-sensitivity and high-specificity test detects malaria antigens from capillary blood samples. The children's RDT results were recorded in the Malaria and Anaemia Brochure and given to the parent or responsible adult. In accordance with the Ghanaian national treatment guidelines, children who tested positive for malaria by the RDT and did not exhibit symptoms of severe malaria were provided with ACT (excluding children who were on ACT treatment at the time of the survey or who had taken ACT in the previous two weeks prior to the testing). Children showing signs or symptoms of severe malaria were given a malaria referral form to seek immediate treatment at a nearby health facility.

In addition, blood was collected on glass slides from the same children who were tested with RDT and sent to the National Public Health Reference Laboratory (NPHRL) in Accra for malaria microscopy through reading of thick-smear slides. As mentioned above, the Noguchi Memorial Institute for Medical Research (NMIMR) performed the external quality assurance testing (EQA) for the malaria testing component of the 2014 Ghana DHS survey.

HIV testing. Health technicians collected finger-prick blood specimens to test for HIV in women age 15-49 and men age 15-59 in the subsample of households selected for the male survey who consented to be tested. The protocol for blood specimen collection and analysis was based on the anonymous linked protocol developed for The DHS Program. This protocol allows for merging of HIV test results with the sociodemographic data collected in the individual questionnaires after removal of all information that could potentially identify an individual.

Health technicians explained the procedure, the confidentiality of the data, and the fact that the test results would not be made available to the respondent. If a respondent consented to HIV testing, five blood spots from the finger prick were collected on a filter paper card to which a barcode label unique to the respondent was affixed. A duplicate label was attached to the Biomarker Section of the Household Questionnaire. A third copy of the same barcode was affixed to a dried blood spot transmittal sheet to track the blood samples from the field to the laboratory.

Respondents were asked whether they would consent to having the laboratory store their blood sample for future unspecified testing. If respondents did not consent to additional testing using their sample, it was indicated on the Biomarker Section of the Household Questionnaire that they refused additional tests using their specimen, and the words *no additional testing* were written on the filter paper card. Each respondent, whether he or she provided consent or not, was given an informational brochure on HIV and a list of nearby sites providing HIV counselling and testing (HCT) services.

Blood samples were dried overnight and packaged for storage the following morning. Samples were periodically collected from the field and transported to NPHRL. Once they arrived at the central laboratory, each blood sample was logged into the CSPro HIV Test Tracking System database, given a laboratory number, and stored at -20˚C until tested.

The HIV testing protocol stipulated that blood could be tested only after questionnaire data collection had been completed, data had been verified and cleaned, and all unique identifiers other than the anonymous barcode number had been removed from the data file.

The testing algorithm calls for testing all samples on the first assay test, the Vironostika® HIV Ag/Ab (Biomérieux) enzyme-linked immunoassay (ELISA). A negative result is recorded as negative. All positives are subjected to a second ELISA, the Enzygnost® HIV Integral II assay (Siemens). Positive samples on the second test are recorded as positive. If the first and second tests are discordant, the two ELISAs are repeated in parallel. If the results remain discordant, a third confirmatory blot assay, the Inno-Lia HIV I/II Score (Innogenetics, Ghent, Belgium), is used. The final result is recorded as positive if the blot assay confirms it to be positive and negative if the blot assay confirms it to be negative. If the blot assay results are indeterminate, the sample is recorded as indeterminate. External quality assurance testing was done by the Noguchi Memorial Institute for Medical Research.

After HIV testing has been completed, the HIV test results for the 2014 GDHS were entered into a spreadsheet with a barcode as the unique identifier. The barcode was used to link the HIV test results with the data from the individual interviews. Data from the HIV results were then linked to demographic and health data.

1.8 PRETEST

Ten women and five men participated in the pretest training and field practice of the GDHS survey protocol and instruments over a three-week period, 9-28 June, 2014. Most participants had participated in previous GDHS surveys. During the first week of training, seven health technicians (one woman and six men) hired through the National Public Health and Reference Laboratory in Accra, were trained together with the interviewers on general interviewing techniques and how to conduct interviews using the Household Questionnaire. The biomarker portion of the training was conducted from 16-21 June, 2014.

The pretest participants were later used as field supervisors or editors, or as field coordinators to facilitate the data collection during the main fieldwork. Six trainers assigned by the GSS conducted the training with support from ICF International. The participants actively discussed the questionnaires and made suggestions to modify all versions. Field practice took place over four days in both rural and urban locations. Interviewers and health technicians were divided into five teams (two female interviewers, one male interviewer, and one health technician). During the pretest field practice, a total of 88 households, 77 women, and 34 men, were interviewed in English, Akan, Ewe, and Ga. Following field practice, a debriefing session was held with the pretest field staff, and modifications to the questionnaires were made based on lessons drawn from the exercise.

1.9 TRAINING OF FIELD STAFF

Training of the field staff took place over four weeks (4-30 August 2014) with 139 field data collectors (67 women and 72 men) and 55 health technicians (26 women and 29 men). Training was conducted at the Winneba Windy Lodge Hotel in the Central Region about 65 kilometres from Accra.

During the first week, all trainees were instructed in standard DHS procedures, including general interviewing techniques, conducting interviews at the household level, and measuring blood pressures. During the second week, health technicians began separate biomarker training while the other field staff (data collectors) continued to train on the Woman's and the Man's questionnaires, including a detailed review of each question and mock interviews between participants in the classroom. To provide the health technicians with practical experience measuring anthropometry among children, representatives from UNICEF and GHS organised a standardisation exercise with the health technicians. Measurements from health technicians were compared to a reference measure, which helped health technicians correct and improve on their measurement techniques whenever applicable.

All trainees were also given an overview of the 2014 GDHS biomarker collection protocol that summarised eligibility for each biomarker, appropriate procedures for obtaining informed consent, and sample transportation logistics. In addition, nine data entry personnel (seven women and two men) attended the first two weeks of questionnaire training, so that they would be familiar with the survey instruments at a later stage when they received and entered data from the completed questionnaires. During the final week, ICF staff trained field editors in the computer assisted field editing (CAFE) system. Field supervisors were trained in the collection of global positioning system (GPS) data using the Garmin eTrex10 model.

Practice interviews with real respondents took place over a course of three days (24-26 August 2014) in areas outside the 2014 GDHS sample points.

Participants were evaluated through homework, in-class exercises, quizzes, and observations made during field practice. After training, they were assigned to 25 teams composed of one supervisor, one field editor, two female interviewers, one male interviewer, and two health technicians. Fourteen interviewers and five health technicians were selected as reserve staff.

1.10 FIELDWORK

Data collection was carried out by the 25 field teams from early September to mid-December 2014. Senior staff members from the Ghana Statistical Service and the Ghana Health Service coordinated and monitored the fieldwork. Paper questionnaires were used to conduct the interviews. After the interviews, field editors entered the questionnaire data into laptops, using passwords to protect the files. Electronic data files were transferred to the central office every few days via the secured Internet File Streaming System (IFSS). Fieldwork monitoring was carried out by staff of GSS, GHS, and two survey technical specialists from The DHS Program. Data collection took 3.5 months.

1.11 DATA PROCESSING

The data processing operation included 100 percent verification (also called second data entry) and secondary editing, which involved resolution of computer-identified inconsistencies. The data processing activities at the central office were led by one key GSS officer who took part in the main fieldwork training. Data processing was accomplished using CSPro software. Data entry and editing were initiated in September 2014 and completed in February 2015.

1.12 RESPONSE RATES

Table 1.2 shows response rates for the 2014 GDHS. A total of 12,831 households were selected for the sample, of which 12,010 were occupied. Of the occupied households, 11,835 were successfully interviewed, yielding a response rate of 99 percent, the same as the 2008 GDHS household response rate (GSS, GHS, and ICF Macro 2009).

In the interviewed households, 9,656 eligible women were identified for individual interviews; interviews were completed with 9,396 women, yielding a response rate of 97 percent. In the subsample of households selected for the male survey, 4,609 eligible men were

Table 1.2 Results of the household and individual interviews

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

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	6,492	6,339	12,831
Households occupied	6,070	5,940	12,010
Households interviewed	5,939	5,896	11,835
Household response rate[1]	97.8	99.3	98.5
Interviews with women age 15-49			
Number of eligible women	4,753	4,903	9,656
Number of eligible women interviewed	4,602	4,794	9,396
Eligible women response rate[2]	96.8	97.8	97.3
Interviews with men age 15-59			
Number of eligible men	2,189	2,420	4,609
Number of eligible men interviewed	2,050	2,338	4,388
Eligible men response rate[2]	93.7	96.6	95.2

[1] Households interviewed/households occupied
[2] Respondents interviewed/eligible respondents

identified and 4,388 were successfully interviewed, yielding a response rate of 95 percent. The lower response rate for men was likely due to their more frequent and longer absences from the household.

HOUSING CHARACTERISTICS AND HOUSEHOLD POPULATION

2

Key Findings:

- Six in 10 households in Ghana have access to an improved source of drinking water, including a piped source within the dwelling, yard, or plot; a public tap, standpipe, tube well, or borehole; a hand pump, protected well, or protected spring; and rainwater. Three in 10 households use bottled or sachet water.
- Only 14 percent of households have an improved toilet facility that is not shared with other households.
- Seventy-eight percent of households have electricity.
- More than 7 in 10 of residents in Northern and Upper East regions and 6 in 10 residents in Upper West region are in the lowest wealth quintile.
- Forty-two percent of the population in Ghana is under age 15.
- Thirty-four percent of households are headed by women.
- Seventy-one percent of children under 5 had their births registered.
- Among households in which the place for hand washing was observed, 37 percent of households have no water, soap, or other cleansing agent for hand washing
- Twenty-six percent of females and 18 percent of males age 6 and older have no education.

This chapter provides an overview of demographic and socioeconomic characteristics of the household population, including information on housing facilities and characteristics, household assets, wealth status, and education. These data serve as a basis for understanding the socioeconomic status of households. The chapter also presents information on birth registration, children's living arrangements and orphanhood, and children's educational attainment, helping to provide an understanding of the general social environment in which children live.

In the 2014 GDHS, a household is defined as a person or group of related and unrelated persons who usually live together in the same dwelling unit(s) or in connected premises, who acknowledge one adult member as the head of the household, and who have common cooking and eating arrangements.

Information was collected from all usual members of a selected household (de jure population) as well as persons who had stayed in the selected household the night before the interview (de facto population). The difference between these two populations is very small, so all tables in this report refer to the de facto population unless otherwise specified to maintain comparability with other DHS reports.

2.1 HOUSEHOLD CHARACTERISTICS

Access to basic utilities, sources of drinking water, and water treatment practices; access to sanitation facilities, housing structure; crowdedness of dwelling spaces; and type of fuel used for cooking are physical characteristics of a household that are used to assess the general well-being and socioeconomic status of household members. Millennium Development Goal 7 (MDG 7), which focuses on environmental sustainability, is measured according to the percentage of the population using solid fuels, those with sustainable access to an improved water source, and the proportion with access to improved sanitation. This section provides information from the 2014 GDHS on household drinking water, household sanitation facilities, hand-washing practices, housing characteristics, and availability of basic amenities and utilities.

2.1.1 Water and Sanitation

The basic determinants of better health, such as access to safe water and sanitation, are still a basic problem in Ghana. Limited access to safe drinking water and sanitation facilities and poor hygiene are associated with skin diseases, acute respiratory infections (ARIs), and diarrhoeal diseases, the leading preventable diseases. The source of drinking water is important because potentially fatal diseases, such as diarrhoeal diseases, guinea worm, typhoid, cholera, schistosomiasis, trachoma, and dysentery, are water-related diseases.

Table 2.1 shows the percent distribution of the households and the de jure population by source of drinking water, time to obtain drinking water, and treatment of drinking water, according to background characteristics. The source of drinking water is an indicator of its suitability for drinking. Lack of ready access to a water source may limit the quantity of suitable drinking water that is available to a household. Even if the water is obtained from an improved source, it may be contaminated during transport or storage if fetched from a source not immediately accessible to the household. Six in ten households in Ghana (60 percent) obtain drinking water from an improved source, including a piped source within the dwelling, yard, or plot; a public tap, standpipe, tube well, or borehole; a hand pump, protected well, or protected spring; and rainwater. An additional 30 percent of households use bottled or sachet water.[1] Ten percent of households still rely on unimproved sources.

The most common source of drinking water in urban areas is sachet water (43 percent), followed by public tap or standpipe (23 percent). In rural households, the most common source for drinking water is tube well or borehole (41 percent), followed by public tap or standpipe (19 percent). The most notable change in access to drinking water sources between 2008 and 2014 is the increase in the proportion of households using sachet water from 8 percent to 29 percent in the past six years. On the other hand, the proportion of households that use drinking water from public tap/standpipe or tube well/borehole has decreased from 57 percent in the 2008 GDHS to 44 percent in the 2014 GDHS, most likely due to switching to sachet water in the latter survey.

Fifteen percent of households have water on their premises, a decline from 23 percent reported in the 2008 GDHS. This is mostly due to the decline in the percentage of households in urban areas with water on their premises, from 42 percent in 2008 to 22 percent in 2014. However, there is a substantial increase in the proportion of urban households that spend less than 30 minutes to obtain water, from 51 percent in 2008 to 71 percent in 2014. Overall, 70 percent of households in 2014 spend less than 30 minutes to obtain their drinking water, with no major differences between urban and rural households. Fifteen percent of households spend 30 minutes or longer to obtain their drinking water, 25 percent in rural areas compared with only 7 percent in urban areas.

The majority of households (93 percent) do not treat their drinking water, with similar proportions by residence. Boiling the water and straining it through cloth are the most common drinking water treatment methods (2 percent each). One percent of households are engaged in harmful practice of using camphor balls or naphthalene to purify their drinking water. Camphor or naphthalene are toxic and should not be used to treat drinking water. Overall, only 4 percent of households using an appropriate water treatment method. Over half of the households store their drinking water in a plastic container or a bucket (55 percent), 29 percent in a bottle or a sachet, 11 percent in a pot or earthenware vessel, and 6 percent in a metal container (data not shown).

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[1] The WHO-UNICEF Joint Monitoring Program for Water Supply and Sanitation (JMP) classifies bottled/sachet water used for drinking according to the source of water that households use for cooking and handwashing (secondary source). Where information about the secondary water source is not collected, JMP does not currently categorise bottled/sachet water as an improved drinking water source (WHO and UNICEF 2014). Since the 2014 Ghana DHS did not collect information on the secondary water source, the quality of bottled/sachet water is not known. However, to ensure consistency with the 2008 GDHS findings and in accordance with the The DHS Program tabulation plan, which categorises bottled/sachet water as improved, an additional category is included in Table 2.1 to show the percentage of households/population using "improved source, including bottled/sachet water".

Table 2.1 Household drinking water

Percent distribution of households and de jure population by source of drinking water, time to obtain drinking water, and treatment of drinking water, according to residence, Ghana 2014

Characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source, excluding bottled/sachet water	**52.6**	**69.0**	**60.1**	**57.0**	**71.4**	**64.2**
Improved source, including bottled//sachet water[1]	**97.0**	**80.9**	**89.8**	**96.0**	**79.6**	**87.7**
Piped into dwelling	7.9	0.6	4.6	8.4	0.5	4.4
Piped to yard/plot	8.2	1.3	5.1	8.5	1.2	4.8
Public tap/standpipe	22.5	19.1	21.0	24.5	18.2	21.4
Tube well/borehole	8.1	41.3	23.1	9.1	44.7	27.0
Protected dug well	5.2	5.5	5.4	6.1	6.0	6.0
Protected spring	0.2	0.4	0.3	0.1	0.3	0.2
Rainwater	0.4	0.8	0.6	0.3	0.5	0.4
Bottled water	1.3	0.2	0.8	1.0	0.1	0.6
Sachet water	43.1	11.8	29.0	38.0	8.0	22.8
Nonimproved source	**3.0**	**19.0**	**10.2**	**4.0**	**20.4**	**12.3**
Unprotected dug well	1.0	3.8	2.3	1.4	4.0	2.7
Unprotected spring	0.3	0.9	0.6	0.4	1.1	0.7
Tanker truck/cart with small tank	0.5	0.1	0.3	0.4	0.1	0.3
Surface water	1.2	14.2	7.1	1.7	15.3	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Time to obtain drinking water (round trip)						
Water on premises	21.7	6.1	14.7	22.9	5.6	14.2
Less than 30 minutes	70.9	68.6	69.9	69.0	65.0	67.0
30 minutes or longer	6.9	25.0	15.1	7.7	29.0	18.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Water treatment prior to drinking[2]						
Boiled	1.9	1.5	1.7	2.0	1.5	1.7
Bleach/chlorine/alum added	0.6	0.6	0.6	0.7	0.6	0.6
Strained through cloth	1.1	2.4	1.7	1.5	2.8	2.2
Ceramic, sand, composite, or other filter	1.4	0.1	0.8	1.0	0.1	0.6
Let stand and settle	0.8	0.9	0.9	1.0	1.0	1.0
Camphor/Naphthalene	0.9	0.8	0.9	1.0	1.0	1.0
Purification tablets	1.8	0.3	1.1	1.6	0.3	0.9
Other	0.2	0.1	0.1	0.2	0.1	0.1
No treatment	92.8	93.9	93.3	92.4	93.6	93.0
Percentage using an appropriate treatment method[3]	5.7	2.5	4.2	5.3	2.5	3.8
Number	6,503	5,332	11,835	20,432	20,791	41,223

Note: Totals may not add up to 100 percent because households with missing information are not shown separately.
[1] Since the 2014 Ghana DHS did not collect information on the secondary source of water, the quality of bottled/sachet water is not known. However, to ensure consistency with the 2008 GDHS findings and in accordance with the The DHS Program tabulation plan, which categorises bottled/sachet water as improved, an additional category is included to show the percentage of households/population using "improved source, including bottled/sachet water".
[2] Respondents may report multiple treatment methods, so the sum of treatments may exceed 100 percent.
[3] Appropriate water treatment methods include boiling, bleaching, filtering, solar disinfection, and purification tablets.

A household is classified as having an improved toilet if the toilet is used only by members of one household (i.e., it is not shared) and if the facility used by the household separates waste from human contact (WHO and UNICEF 2014). The types of facilities considered improved are toilets that flush or pour flush into a piped sewer system, septic tank, or pit latrine; ventilated improved pit (VIP) latrines; and pit latrines with a slab (Table 2.2).

Table 2.2 shows that only 14 percent of households in Ghana use improved toilet facilities that are not shared with other households, and 61 percent use facilities that would be considered improved if they were not shared. Twice as many households in urban as in rural areas have improved toilet facilities that are not shared (18 percent versus 9 percent). More than one in four (26 percent) of households use a nonimproved toilet facility, 14 percent in urban areas and 41 percent in rural areas.

Seventeen percent of households in Ghana have no toilet facility and still use the bush or open field for defecation. As expected, rural households are much more likely to have no toilet facilities than urban households (29 percent versus 7 percent).

Table 2.2 further indicates that 4 in 10 households have a toilet facility in their dwelling, yard, or plot, 51 percent in urban areas compared with 27 percent in rural areas. About one-third of households (32 percent) take less than 30 minutes to reach a toilet facility, and 1 in 10 (11 percent) take more than 30 minutes to reach a toilet facility.

Table 2.2 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, according to residence, Ghana 2014

	Households			Population		
Type of toilet/latrine facility	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility	**17.8**	**8.5**	**13.6**	**20.5**	**9.6**	**15.0**
Flush/pour flush to piped sewer system	6.5	0.5	3.8	6.8	0.6	3.7
Flush/pour flush to septic tank	7.6	1.0	4.6	8.4	0.9	4.6
Flush/pour flush to pit latrine	0.4	0.2	0.3	0.5	0.2	0.3
Ventilated improved pit (VIP) latrine	2.5	3.2	2.8	3.5	3.6	3.6
Pit latrine with slab	0.9	3.6	2.1	1.3	4.4	2.8
Shared facility[1]	**68.5**	**50.7**	**60.5**	**65.0**	**44.5**	**54.7**
Flush/pour flush to piped sewer system	7.0	0.5	4.0	6.1	0.4	3.2
Flush/pour flush to septic tank	14.6	2.0	8.9	12.6	1.6	7.0
Flush/pour flush to pit latrine	4.7	0.8	3.0	4.3	0.7	2.5
Ventilated improved pit (VIP) latrine	34.3	26.9	30.9	33.7	22.9	28.3
Pit latrine with slab	8.0	20.6	13.6	8.3	18.9	13.7
Nonimproved facility	**13.7**	**40.8**	**25.9**	**14.4**	**45.9**	**30.3**
Flush/pour flush not to sewer/septic tank/pit latrine	1.3	0.0	0.7	1.3	0.0	0.6
Pit latrine without slab/open pit	4.8	11.4	7.7	4.7	11.5	8.1
Bucket	0.3	0.2	0.3	0.3	0.1	0.2
Hanging toilet/hanging latrine	0.1	0.3	0.2	0.2	0.3	0.3
No facility/bush/field	7.1	28.8	16.9	7.9	34.0	21.0
Time to reach facility						
No facility/bush/field	7.1	28.8	16.9	7.9	34.0	21.0
In own dwelling/yard/ plot	51.3	26.5	40.1	51.5	24.3	37.8
Less than 30 minutes	30.3	35.1	32.4	29.4	32.7	31.1
More than 30 minutes	11.2	9.6	10.5	11.0	9.0	10.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	6,503	5,332	11,835	20,432	20,791	41,223

Note: Totals may not add up to 100 percent because households with missing information are not shown separately.
[1] Facilities that would be considered improved if they were not shared by two or more households.

2.1.2   Housing Characteristics

Housing characteristics and household assets can be used as a measure of the socioeconomic status of household members. Cooking practices and cooking fuels also affect the health of family members and the environment. For example, the use of biomass fuels exposes household members to indoor pollution, which has a direct bearing on their health and surroundings.

Table 2.3 presents information on the availability of electricity, type of flooring material, number of rooms for sleeping, type of fuel used for cooking, and place where cooking is done. Overall, 78 percent of households in Ghana have access to electricity, 91 percent in urban areas and 63 percent in rural areas. This shows a marked improvement since the 2008 GDHS, when 61 percent of households had access to electricity; the sharpest increase has occurred in rural areas (from 38 percent to 63 percent). This increase is partially attributed to the rural electrification programmes implemented by successive governments in recent years.

Among flooring materials, cement is the most common (63 percent), with rural households being more likely than urban households to have cement flooring (70 percent versus 57 percent). Other common flooring materials include linoleum or rubber carpet (12 percent) and woolen or synthetic carpets (11 percent).

Table 2.3 Household characteristics

Percent distribution of households by housing characteristics, percentage using solid fuel for cooking, and percent distribution by frequency of smoking in the home, according to residence, Ghana 2014

Housing characteristic	Residence		
	Urban	Rural	Total
Electricity			
Yes	90.8	63.0	78.3
No	9.2	37.0	21.7
Total	100.0	100.0	100.0
Flooring material			
Earth, sand	1.2	10.3	5.3
Dung	0.0	1.4	0.7
Wood planks	0.6	0.0	0.3
Parquet, polished wood	0.4	0.1	0.3
Ceramic/marble/porcelain tiles/terrazo	13.2	1.9	8.1
Cement	57.1	70.1	63.0
Woolen carpets/synthetic carpet	15.1	5.5	10.8
Linoleum/rubber carpet	12.3	10.7	11.6
Total	100.0	100.0	100.0
Rooms used for sleeping			
One	65.0	57.1	61.4
Two	23.6	26.1	24.7
Three or more	11.4	16.7	13.7
Total	100.0	100.0	100.0
Place for cooking			
In the house	47.7	20.0	35.2
In a separate building	15.7	33.5	23.7
Outdoors	31.3	43.3	36.7
No food cooked in household	5.3	3.2	4.3
Total	100.0	100.0	100.0
Cooking fuel			
Electricity	2.2	0.2	1.3
LPG/natural gas/biogas	36.8	9.1	24.3
Kerosene	0.2	0.0	0.1
Charcoal	42.1	20.7	32.5
Wood	13.4	65.9	37.0
Straw/shrubs/grass	0.1	0.7	0.4
Agricultural crop	0.0	0.1	0.1
No food cooked in household	5.3	3.2	4.3
Total	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	55.6	87.5	70.0
Oil used for cooking			
Red palm oil	38.7	57.6	47.2
Yellow palm oil	1.7	1.1	1.4
Frytol/fortified vegetable oil	43.9	19.4	32.9
Other vegetable oil	8.5	4.3	6.6
Shea butter	1.5	13.6	6.9
Other	0.4	0.8	0.6
No food cooked in household	5.3	3.2	4.3
Total	100.0	100.0	100.0
Frequency of smoking in the home			
Daily	8.0	11.0	9.3
Weekly	1.8	1.7	1.7
Monthly	0.5	0.5	0.5
Less than monthly	0.4	0.5	0.4
Never	89.4	86.3	88.0
Total	100.0	100.0	100.0
Number	6,503	5,332	11,835

Note: Totals may not add up to 100 percent because households with missing information are not shown separately.
LPG = Liquid petroleum gas
[1] Includes coal/lignite, charcoal, wood/straw/shrubs/grass, agricultural crops, and animal dung

The number of rooms used for sleeping indicates the extent of crowding in households. Overcrowding increases the risk of contracting infectious diseases such as acute respiratory infections and skin diseases, which particularly affect children and the elderly population. Six in 10 households (61 percent) report using one room for sleeping, one in four (25 percent) use two rooms for sleeping, and 14

percent use three or more rooms. The proportion of households that uses one room for sleeping is higher in urban than in rural areas (65 percent versus 57 percent).

The presence and extent of indoor pollution depend on cooking practices, places used for cooking, and types of fuel used. According to the 2014 GDHS, 35 percent of households cook inside the house, 37 percent cook outdoors, and 24 percent cook in a separate building. The percentage of households that cook inside the dwelling is substantially higher in urban than in rural areas (48 percent versus 20 percent). By contrast, 34 percent and 43 percent of rural households cook in a separate building or outdoors, as compared with 16 percent and 31 percent, respectively, of urban households.

Table 2.3 also presents information on fuel and oil used for cooking by the Ghanaian households. Wood (37 percent), charcoal (33 percent), and liquid petroleum gas (LPG), natural gas, or biogas (24 percent) are the most commonly used cooking fuels. Urban households are much more likely than rural households to use LPG, natural gas, or biogas (37 percent versus 9 percent) or charcoal (42 percent versus 21 percent). On the other hand, a notably higher proportion of rural households use wood for cooking compared with urban households (66 percent versus 13 percent). Overall, 70 percent of households use solid fuel for cooking, i.e., charcoal, wood, straw, shrubs, grass and agricultural crops, and animal dung, a decline from 83 percent reported in the 2008 GDHS.

Red palm oil is the most commonly used cooking oil (47 percent), with a substantially higher percentage of rural households using it when compared with urban households (58 percent versus 39 percent). One-third of households use Frytol or fortified vegetable oil for cooking. Urban households are more than twice as likely as rural households to use Frytol or fortified vegetable oil (44 percent compared with 19 percent). Other vegetable oil and shear butter are each used by 7 percent of households.

A major concern for the government of Ghana is the effect of secondhand smoke, especially on the vulnerable groups, such as pregnant women, infants, and young children. The 2014 GDHS collected information on the frequency of smoking in the home in order to assess exposure of household members to secondhand smoking. Data show that 9 percent of households are exposed daily to secondhand smoke, with rural households being slightly more likely to be exposed than urban households (11 percent compared with 8 percent).

2.1.3 Household Possessions

Possession of durable consumer goods is another useful indicator of household socioeconomic status. The possession and use of household durable goods have multiple effects and implications. For instance, having access to a radio or television exposes household members to updated daily news events, information, and educational materials. Similarly, a refrigerator prolongs food storage and keeps food fresh and hygienic. A means of transportation allows greater access to services away from the local area and enhances social and economic activities. The 2014 GDHS collected information on possession of durable assets, means of transportation, and ownership of agricultural land and farm animals.

Table 2.4 shows that radios (69 percent), color televisions (62 percent), and mobile telephones (85 percent) are common durable goods owned by households in Ghana. Refrigerators are owned by 35 percent of households. Ownership of each of these household items is higher in urban than in rural areas. Possession of color televisions, mobile phones, and refrigerators has increased since the 2008 GDHS survey, while possession of radios has decreased slightly. It is noteworthy that there has been an especially sharp increase in mobile phone ownership in Ghana, from 57 percent in 2008 to 85 percent in 2014, especially in rural households where mobile phone ownership has more than doubled (from 37 percent to 76 percent). In addition, 42 percent of households own a video deck or DVD/VCD and 16 percent have a sewing machine. Computers and access to the internet was reported each by 14 percent of households (data not shown).

Looking at means of transport, bicycles continue to be common, with 23 percent of households owning a bicycle, 17 percent in urban areas and 31 percent in rural areas. Ownership of a motorcycle is more common in rural areas (11 percent) than in urban areas (7 percent), while ownership of a car or truck is more common in urban than in rural areas (13 percent compared with 4 percent).

Ghana is predominantly an agricultural economy, with a large proportion of the population engaged in this sector. The 2014 GDHS data indicate that 39 percent of households own agricultural land, with rural households notably more likely to own land (59 percent) than urban households (22 percent). Thirty-six percent of households in the country possess farm animals, 55 percent in rural areas as compared with 20 percent in urban areas.

Table 2.4 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land and livestock/farm animals by residence, Ghana 2014

	Residence		
Possession	Urban	Rural	Total
Household effects			
Radio	72.5	63.9	68.6
Color television	77.7	42.2	61.7
Mobile telephone	92.3	76.2	85.1
Non-mobile telephone	3.0	0.3	1.8
Refrigerator	50.5	16.4	35.1
Means of transport			
Bicycle	17.4	30.7	23.4
Animal drawn cart	0.7	1.4	1.0
Motorcycle/scooter	6.9	11.1	8.8
Car/truck	13.2	4.4	9.2
Boat with a motor	0.3	0.4	0.4
Ownership of agricultural land	**21.9**	**58.7**	**38.5**
Ownership of farm animals[1]	**19.7**	**54.7**	**35.5**
Number	6,503	5,332	11,835

[1] Cattle, milk cows, bulls, horses, donkeys, mules, goats, pigs, rabbits, grasscutters, sheep, chickens, or other poultry

2.2 SOCIOECONOMIC STATUS INDEX

The wealth index has been used in many DHS reports to measure inequalities in household characteristics, in the use of health and other services, and in health outcomes. It is an indicator of wealth that is consistent with expenditure and income measurement among households. The index was constructed from household asset data using principal components analysis. These assets or consumer items consist of a television, bicycle, or car, as well as dwelling characteristics, such as a source of drinking water, sanitation facilities, and type of flooring material.

In its current form, which takes better account of urban-rural differences in scores and indicators of wealth, the wealth index is created in three steps. In the first step, a subset of indicators common to urban and rural areas is used to create wealth scores for households in both areas. Categorical variables to be used are transformed into separate dichotomous (0-1) indicators. These indicators and those that are continuous are then examined using a principal components analysis to produce a common factor score for each household. In the second step, separate factor scores are produced for households in urban and rural areas using area-specific indicators. The third step combines the separate area-specific factor scores to produce a nationally applicable combined wealth index by adjusting area-specific scores through a regression on the common factor scores. This three-step procedure permits greater adaptability of the wealth index in both urban and rural areas. The resulting combined wealth index has a mean of zero and a standard deviation of one. Once the index is computed, national-level wealth quintiles (from lowest to highest) are obtained by assigning the household score to each de jure household member, ranking each person in the population by his or her score, and then dividing the ranking into five equal categories, each

comprising 20 percent of the population. The 2014 GDHS provides an opportunity to examine the distribution of Ghana's population by household wealth status.

Table 2.5 presents distributions across the five wealth quintiles by residence and region. These distributions indicate the degree to which wealth is evenly (or unevenly) distributed according to geographic area.

A large majority of the urban population (71 percent) is in the highest two wealth quintiles, while a much lower proportion of rural residents (10 percent) falls in this category. The majority of rural residents are in the lowest and the second wealth quintiles (36 percent and 33 percent, respectively). By contrast, only 4 percent and 7 percent, respectively, of urban residents fall in the lowest two quintiles.

By region, data show that Greater Accra is the richest region, with 52 percent of the population in the highest wealth quintile, compared with only 2 percent each of the population in the Northern and Upper East regions. More than 7 in 10 of the population in the Northern and Upper East regions (72 percent and 79 percent, respectively) and 6 in 10 of the population in the Upper West region (60 percent) is in the lowest wealth quintile.

Table 2.5 also presents information on the Gini coefficient, which indicates the level of concentration of wealth (0 being an equal distribution and 1 a totally unequal distribution). This ratio is expressed as a proportion between 0 and 1. Wealth inequality, as measured by the Gini coefficient, is higher in rural (0.25) than in urban areas (0.10). Inequality in wealth is highest in Upper West and lowest in Greater Accra (Gini coefficients of 0.33 and 0.14, respectively).

Table 2.5 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, and the Gini Coefficient, according to residence and region, Ghana 2014

Residence/region	Wealth quintile					Total	Number of persons	Gini coefficient
	Lowest	Second	Middle	Fourth	Highest			
Residence								
Urban	4.0	7.0	18.2	31.5	39.2	100.0	20,432	0.10
Rural	35.7	32.7	21.8	8.7	1.1	100.0	20,791	0.25
Region								
Western	6.0	23.3	29.4	25.3	16.1	100.0	4,144	0.24
Central	4.7	30.2	32.1	19.3	13.7	100.0	3,986	0.31
Greater Accra	2.6	3.7	11.4	30.1	52.2	100.0	7,583	0.14
Volta	21.7	33.3	28.2	12.8	4.1	100.0	3,444	0.25
Eastern	12.6	29.5	27.7	17.9	12.4	100.0	3,987	0.27
Ashanti	6.5	18.0	19.5	28.9	27.1	100.0	7,567	0.24
Brong Ahafo	25.2	30.9	22.8	13.9	7.2	100.0	3,531	0.31
Northern	71.6	15.3	7.7	3.5	2.0	100.0	4,081	0.30
Upper East	78.5	9.4	6.1	4.4	1.7	100.0	1,750	0.26
Upper West	60.2	19.9	9.3	7.7	3.0	100.0	1,149	0.33
Total	20.0	20.0	20.0	20.0	20.0	100.0	41,223	0.21

2.3   HAND WASHING

Hand washing is one of the most efficient ways to stop germs from spreading and protect people from contracting communicable diseases. The practice is promoted by the Ghanaian government, various institutions, and nongovernmental organisations. There is an ongoing campaign in communities at schools and households to boost awareness of the importance of having designated places for hand washing with running water and soap.

Table 2.6 provides information on designated places for hand washing in households and the use of water and cleansing agents for washing hands according to place of residence, region, and wealth quintile. In the 2014 GDHS, interviewers were asked to observe the place where household members usually washed their hands. They also observed the regularity of water supply and whether households had

cleansing agents near the place of hand washing. Such observations were made in 53 percent of households selected for the survey.

Among the observed households, 39 percent had soap and water at the place where household members washed their hands, 19 percent had water only, 4 percent had soap but no water, and less than 1 percent had water and other cleansing agents (such as ash, mud, or sand), or only cleaning agents other than soap. Thirty-seven percent of households did not have water, soap, or other cleansing agents. In general, although the hand washing place was observed, most likely these households did not have a fixed, designated place for hand washing.

Forty-six percent of the households in urban areas had soap and water, compared with 29 percent of rural households. At the regional level, more than half of households in Greater Accra (51 percent) had soap and water, compared with less than one in five (18 percent) households in Upper West. Presence of soap and water increases steadily with wealth, from 20 percent of the poorest households to 64 percent of the richest households.

Table 2.6 Hand washing

Percentage of households in which the place most often used for washing hands was observed, and among households in which the place for hand washing was observed, percent distribution by availability of water, soap, and other cleansing agents, Ghana 2014

Background characteristic	Percentage of households where place for washing hands was observed	Number of households	Among households where place for hand washing was observed, percentage with:							Number of households with place for hand washing observed
			Soap and water[1]	Water and cleansing agent[2] other than soap only	Water only	Soap but no water[3]	Cleansing agent other than soap only[2]	No water, no soap, no other cleansing agent	Total	
Residence										
Urban	58.0	6,503	46.2	0.2	17.5	3.9	0.2	32.0	100.0	3,770
Rural	47.8	5,332	29.0	0.5	21.1	4.6	0.4	44.5	100.0	2,548
Region										
Western	58.3	1,298	45.5	0.5	17.2	4.4	0.0	32.4	100.0	757
Central	43.0	1,180	39.4	0.0	17.6	10.7	0.0	32.3	100.0	507
Greater Accra	64.7	2,457	50.6	0.0	16.3	4.0	0.1	29.1	100.0	1,591
Volta	79.7	1,015	32.2	0.4	18.3	2.1	0.9	46.1	100.0	809
Eastern	50.9	1,255	20.7	0.3	7.3	5.3	0.8	65.5	100.0	639
Ashanti	47.9	2,216	45.2	0.7	29.2	0.7	0.3	23.9	100.0	1,062
Brong Ahafo	45.7	1,028	21.6	0.6	17.1	3.0	0.0	57.7	100.0	469
Northern	31.1	742	38.1	0.0	14.8	14.3	0.0	32.8	100.0	230
Upper East	27.1	378	40.6	0.3	29.6	2.1	0.0	27.4	100.0	102
Upper West	57.6	265	18.3	0.0	46.0	3.2	0.0	32.5	100.0	153
Wealth quintile										
Lowest	39.2	1,600	19.5	0.0	23.3	6.0	0.1	51.1	100.0	627
Second	48.5	2,211	21.5	0.3	20.5	4.7	0.6	52.4	100.0	1,072
Middle	50.9	2,647	26.8	0.4	18.9	4.2	0.3	49.5	100.0	1,347
Fourth	51.9	2,686	40.0	0.4	20.2	3.9	0.2	35.3	100.0	1,395
Highest	69.8	2,690	64.4	0.2	15.8	3.5	0.2	15.9	100.0	1,877
Total	53.4	11,835	39.2	0.3	19.0	4.2	0.3	37.0	100.0	6,318

[1] Soap includes soap or detergent in bar, liquid, powder, or paste form. This column includes households with soap and water only as well as those that had soap and water and another cleansing agent.
[2] Cleansing agents other than soap include locally available materials such as ash, mud or sand
[3] Includes households with soap only as well as those with soap and another cleansing agent

2.4   HOUSEHOLD POPULATION BY AGE AND SEX

Table 2.7 shows the distribution of the de facto household population by age and sex according to urban and rural residence. The 2014 GDHS enumerated a total of 40,337 persons (21,035 females and 19,302 males). More than 4 in 10 of the population in Ghana (42 percent) is under age 15 (Figure 2.1), similar to 41 percent reported in the 2008 GDHS. The data show that 14 percent of the population are under age 5, a slight increase from 13 percent in 2008. Persons age 65 and older account for about 5 percent of the total population, the same as in 2008.

There is a slightly higher proportion of children under 5 in rural than in urban areas (15 percent versus 13 percent). The concentration of the population is high in the 5-9 and 10-14 age groups (14 percent and 13 percent, respectively), potentially creating pressure for schooling and adolescent care. The overall sex ratio (the number of males for every 100 females) is 92, slightly higher than the sex ratio of 91 reported in the 2008 GDHS.

Table 2.7 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Ghana 2014

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	15.0	11.8	13.3	16.6	14.4	15.4	15.8	13.1	14.4
5-9	12.8	11.9	12.3	15.8	14.7	15.3	14.4	13.3	13.8
10-14	13.2	12.0	12.5	14.7	13.2	14.0	14.0	12.6	13.3
15-19	8.8	7.7	8.2	9.9	8.1	9.0	9.4	7.9	8.6
20-24	8.0	8.3	8.1	6.2	7.3	6.8	7.1	7.8	7.4
25-29	7.7	8.9	8.3	5.4	6.5	6.0	6.5	7.7	7.1
30-34	7.1	7.5	7.3	4.9	5.7	5.3	5.9	6.6	6.3
35-39	6.4	6.7	6.6	4.5	5.6	5.1	5.4	6.2	5.8
40-44	4.9	5.3	5.1	4.6	4.8	4.7	4.8	5.0	4.9
45-49	4.1	4.2	4.1	3.8	4.0	3.9	3.9	4.1	4.0
50-54	3.2	4.6	3.9	3.4	4.9	4.2	3.3	4.7	4.0
55-59	2.6	2.9	2.8	2.5	2.9	2.7	2.5	2.9	2.7
60-64	2.5	2.6	2.5	2.8	2.4	2.6	2.6	2.5	2.5
65-69	1.2	1.8	1.5	1.8	1.7	1.8	1.5	1.7	1.6
70-74	1.0	1.6	1.3	1.3	1.5	1.4	1.2	1.5	1.4
75-79	0.7	1.0	0.8	0.9	1.1	1.0	0.8	1.0	0.9
80+	0.9	1.4	1.2	0.9	1.4	1.2	0.9	1.4	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	9,360	10,546	19,905	9,942	10,490	20,432	19,302	21,035	40,337

Figure 2.1 Population pyramid
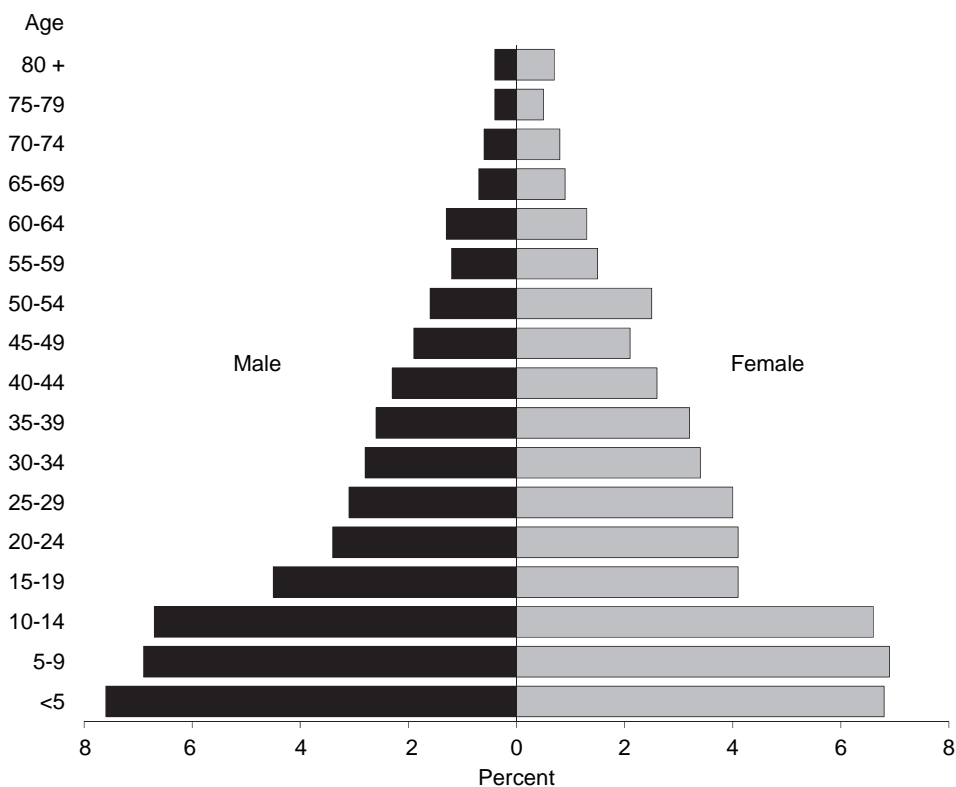
GDHS 2014

2.5   HOUSEHOLD COMPOSITION

Information on household composition is critical for understanding family size, household headship, and orphanhood and for implementing meaningful population-based policies and programmes. Household composition is also a determinant of health status and wellbeing.

Table 2.8 presents information on household composition in Ghana. Almost twice as many households are headed by men as by women (66 percent versus 34 percent), a pattern observed both in urban and in rural areas.

The average household size in 2014 is 3.5 persons, compared with 3.7 in 2008. The household size is somewhat larger in rural areas (mean size of 3.9 persons) when compared with urban areas (mean size of 3.1 persons). Single-person households are more common in urban areas (29 percent) than in rural areas (22 percent), perhaps due to the influx of unmarried young individuals migrating to urban areas in search of employment or to further their education.

Table 2.8 Household composition

Percent distribution of households by sex of head of household and by household size; mean size of household, and percentage of households with orphans and foster children under 18 years of age, according to residence, Ghana 2014

Characteristic	Residence		Total
	Urban	Rural	
Household headship			
Male	62.9	70.2	66.2
Female	37.1	29.8	33.8
Total	100.0	100.0	100.0
Number of usual members			
0	0.3	0.3	0.3
1	29.2	21.6	25.8
2	17.1	13.9	15.6
3	15.4	13.6	14.6
4	13.8	13.1	13.5
5	10.2	13.6	11.7
6	7.0	9.5	8.1
7	3.5	6.3	4.8
8	1.6	3.2	2.3
9+	1.8	4.9	3.2
Total	100.0	100.0	100.0
Mean size of households	3.1	3.9	3.5
Percentage of households with orphans and foster children under 18 years of age			
Foster children[1]	15.5	16.6	16.0
Double orphans	1.0	1.0	1.0
Single orphans[2]	5.9	7.7	6.7
Foster and/or orphan children	18.4	20.5	19.4
Number of households	6,503	5,332	11,835

Note: Table is based on de jure household members, i.e., usual residents.
[1] Foster children are those under age 18 living in households with neither their mother nor their father present.
[2] Includes children with one dead parent and an unknown survival status of the other parent.

The 2014 GDHS also collected information on the presence of foster children and orphans in households. Foster children are children under age 18 living in households with neither their mother nor their father present; orphans are children with one (single orphans) or both parents (double orphans) dead. Foster children and orphans are of concern because they may be at greater risk of neglect, maltreatment or exploitation with their mothers or fathers not present to assist them. Sixteen percent of all households in Ghana have foster children, 16 percent in urban households and 17 percent in rural households. Single orphans are present in 7 percent of the households, whereas double orphans are present in 1 percent of households.

Overall, 19 percent of households have foster and/or orphan children, a decrease from 22 percent in the 2008 GDHS.

2.6 BIRTH REGISTRATION

Although Ghana has a legal and administrative structure stipulating official registration of births according to standard procedures, only 6 out of 10 births are registered annually. The practice of formally registering births is not widely adhered to in the country, even though the registration system was implemented over 100 years ago. Despite the existence of compulsory nationwide registration laws in the country, registration centres are highly inadequate and poorly equipped, especially in the rural areas, due to a number of reasons, the predominant one being inadequate financial resources (UNICEF 2013).

The Births and Deaths Registry Act 301 of 1965 requires the issuance of a birth certificate immediately after birth, free of charge. Until mid-2003, the legal period for free birth registration of infants was within 21 days of birth. However, since mid-2013, the period has been extended to 12 months, in order to encourage early registration of all births by parents or caretakers (Government of Ghana 1965).

Birth registration information was solicited for all children age 0-4 years. Table 2.9 presents the percentage of the de jure population under age 5 whose births are registered with the civil authorities, according to background characteristics. About 7 in 10 children under age 5 (71 percent) have their births registered: 56 percent are registered and have a birth certificate, while 15 percent are registered but do not have a birth certificate.

Children under age 2 (66 percent) are less likely to be registered than children age 2-4 (74 percent). Although not legally required, the registration of older children may be primarily due to the practice of asking for a child's birth certificate for school admission.

Table 2.9 Birth registration of children under age 5

Percentage of de jure children under age 5 whose births are registered with the civil authorities, according to background characteristics, Ghana 2014

| Background characteristic | Children whose births are registered | | | |
	Percentage who had a birth certificate	Percentage who did not have a birth certificate	Percentage registered	Number of children
Age				
<2	49.1	16.8	65.9	2,335
2-4	60.3	13.2	73.5	3,483
Sex				
Male	55.9	14.9	70.8	3,067
Female	55.7	14.4	70.1	2,752
Residence				
Urban	68.3	10.7	79.0	2,678
Rural	45.2	18.0	63.2	3,141
Region				
Western	55.6	6.3	61.9	590
Central	51.2	30.1	81.3	613
Greater Accra	72.4	6.9	79.3	918
Volta	42.0	7.4	49.5	468
Eastern	55.3	9.0	64.3	560
Ashanti	68.5	13.0	81.5	1,041
Brong Ahafo	40.5	16.2	56.7	519
Northern	44.4	23.9	68.3	720
Upper East	50.1	21.3	71.3	237
Upper West	47.6	27.7	75.3	153
Wealth quintile				
Lowest	37.8	20.4	58.1	1,314
Second	43.4	17.5	60.9	1,216
Middle	54.9	13.9	68.8	1,152
Fourth	69.3	11.7	81.1	1,095
Highest	79.9	8.1	88.0	1,042
Total	55.8	14.7	70.5	5,819

Children in urban areas (79 percent) are notably more likely to be registered than those in rural areas (63 percent). At the regional level, only half of births in Volta are registered, as compared with more than 8 in 10 births registered in the Central and Ashanti regions (81 percent and 82 percent, respectively).

Birth registration increases with wealth, from 58 percent among children in the poorest households to 88 percent among children in the richest households.

2.7   CHILDREN'S LIVING ARRANGEMENTS, ORPHANHOOD, AND SCHOOL ATTENDANCE

The 2014 GDHS collected information on living arrangements of children and orphanhood. Living arrangements should be monitored together with the proportion of foster and orphan children because of their significant effects on the comprehensive development of children.

Table 2.10 shows the percent distribution of children under age 18 by their living arrangements and survivorship of parents. Of the 19,074 children under age 18 reported in the 2014 GDHS, 55 percent live with both parents, 21 percent live with their mother only, although their father is alive, 4 percent live with their father only, although their mother is alive, and 13 percent live with neither of their natural or biological parents, although both parents are alive.

Table 2.10 Children's living arrangements and orphanhood

Percent distribution of de jure children under 18 years of age by living arrangements and survival status of parents, the percentage of children not living with a biological parent, and the percentage of children with one or both parents dead, according to background characteristics, Ghana 2014

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent					Total	Percent- age not living with a biological parent	Percent- age with one or both parents dead[1]	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead	Missing infor- mation on father/ mother				
Age														
0-4	65.5	24.5	1.9	1.5	0.2	5.6	0.3	0.2	0.2	0.1	100.0	6.3	2.8	5,819
<2	71.3	25.9	1.4	0.3	0.1	0.8	0.2	0.0	0.1	0.0	100.0	1.0	1.7	2,335
2-4	61.7	23.5	2.2	2.3	0.3	8.9	0.3	0.3	0.3	0.2	100.0	9.9	3.5	3,483
5-9	56.0	19.7	3.2	3.9	0.7	13.8	0.9	1.0	0.6	0.2	100.0	16.3	6.4	5,641
10-14	47.3	19.5	5.0	5.4	1.1	16.8	1.2	2.1	1.4	0.2	100.0	21.5	10.8	5,421
15-17	42.2	19.4	7.5	5.6	1.8	16.8	1.9	2.7	1.6	0.6	100.0	22.9	15.5	2,193
Sex														
Male	56.4	20.9	3.8	4.3	0.9	10.9	0.7	1.2	0.7	0.2	100.0	13.5	7.4	9,734
Female	53.3	21.2	3.8	3.3	0.6	14.2	1.0	1.3	1.0	0.2	100.0	17.5	7.7	9,340
Residence														
Urban	48.8	24.5	3.8	3.9	0.5	14.7	1.1	1.4	1.0	0.2	100.0	18.2	7.8	8,736
Rural	60.0	18.1	3.8	3.7	1.0	10.6	0.7	1.2	0.7	0.2	100.0	13.2	7.4	10,338
Region														
Western	51.7	23.7	3.8	3.2	0.4	13.2	0.8	1.7	1.1	0.4	100.0	16.7	7.8	1,850
Central	46.9	28.7	4.6	4.0	1.0	12.0	0.8	0.7	1.2	0.2	100.0	14.7	8.3	1,942
Greater Accra	52.3	23.3	2.8	4.0	0.5	13.3	1.0	1.3	1.1	0.4	100.0	16.7	6.7	3,032
Volta	49.7	22.0	3.7	5.3	0.7	15.0	1.1	2.0	0.5	0.1	100.0	18.6	8.0	1,602
Eastern	45.1	26.0	3.8	3.9	0.9	16.5	1.3	1.2	1.1	0.3	100.0	20.0	8.2	1,840
Ashanti	52.8	25.6	3.4	3.1	0.2	12.5	0.8	1.0	0.6	0.0	100.0	14.8	6.0	3,547
Brong Ahafo	53.6	21.2	2.4	3.6	0.8	14.4	1.4	1.7	0.6	0.2	100.0	18.2	7.0	1,677
Northern	77.8	4.6	4.4	3.6	1.8	6.3	0.5	0.8	0.2	0.0	100.0	7.8	7.7	2,158
Upper East	64.6	7.7	8.4	4.8	1.6	9.3	0.4	1.7	1.4	0.1	100.0	12.8	13.5	855
Upper West	67.2	9.4	3.6	3.6	1.7	11.7	0.4	1.2	1.1	0.2	100.0	14.4	8.0	572
Wealth quintile														
Lowest	69.4	8.5	4.5	4.1	1.4	9.6	0.6	1.1	0.6	0.2	100.0	11.8	8.2	4,435
Second	52.1	24.6	3.6	3.3	0.8	12.6	1.1	1.3	0.6	0.0	100.0	15.6	7.4	4,102
Middle	43.6	30.3	4.5	3.7	0.7	13.7	1.4	1.2	0.8	0.2	100.0	17.1	8.6	3,816
Fourth	49.9	23.4	4.1	3.7	0.6	14.3	0.6	1.4	1.7	0.4	100.0	17.9	8.4	3,534
Highest	57.2	20.3	1.9	4.4	0.2	13.2	0.9	1.2	0.5	0.2	100.0	15.8	4.7	3,187
Total <15	56.5	21.3	3.3	3.6	0.7	12.0	0.8	1.1	0.7	0.1	100.0	14.5	6.5	16,881
Total <18	54.9	21.1	3.8	3.8	0.8	12.5	0.9	1.3	0.8	0.2	100.0	15.5	7.6	19,074

Note: Table is based on de jure members, i.e., usual residents.
[1] Includes children with father dead, mother dead, both dead, and one parent dead but missing information on survival status of the other parent.

Table 2.10 also provides information on the extent of orphanhood, that is, the proportion of children who have lost one or both parents. Less than 1 percent of children under age 18 have both parents dead and 8 percent have one or both parents dead. The percentage of children living with both biological parents decreases with increasing age of the child. This may be due to children moving to a relative's house to pursue further education or seek work. Children in rural areas are more likely than those in urban areas to live with both parents (60 percent versus 49 percent). The Northern region (78 percent) has the highest proportion of children living with both parents and the Eastern region has the lowest proportion (45 percent).

By wealth status, the proportion of children under age 18 living with both parents shows a U-shaped pattern with increasing wealth quintile. The highest proportions are among children in the lowest and highest wealth quintiles (69 percent and 57 percent, respectively) and the lowest proportion is in the middle wealth quintile (44 percent).

In the 2014 GDHS, eligible women were asked if they had any sons or daughters to whom they had given birth, who were still alive, but who did not live with their mother at the time of the survey. For each identified child under age 18 who did not live with the mother, the respondent was asked where and with whom the children lived at the time of the interview. The findings are shown in Figure 2.2.

The majority of female and male children under age 18 who did not live with their mother at home at the time of the survey were living with relatives (90 percent). Six percent of females and 5 percent of males were living in boarding schools, and 4 percent and 3 percent, respectively, were living with family or friends.

Figure 2.2 Children under age 18 living away from home: Place or person with whom they currently live
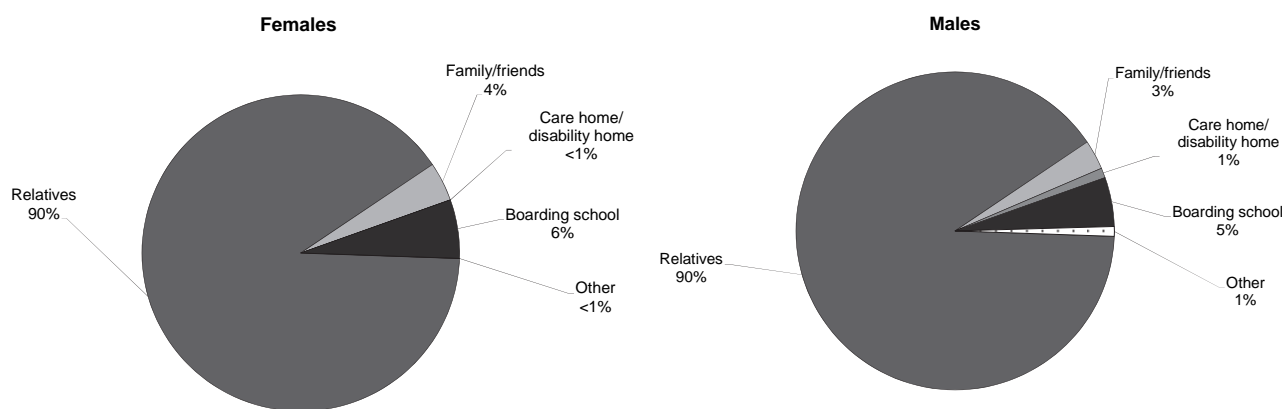
Children orphaned or vulnerable by death or acute illness of one or both parents may or may not go to school. Often, these children are compelled to work to pay their school fees or eventually drop out to assist in family businesses. The 2014 GDHS collected information on school attendance of children age 10-14 by parental survival. The findings are presented in Table 2.11. Seventy-six percent of children age 10-14 whose both parents are deceased are attending school, an increase from 67 percent in 2008. Among children age 10-14 whose parents are both alive and who live with at least one parent, 81 percent are attending school, compared with 88 percent in 2008. The overall ratio of school attendance of children whose parents are dead to those whose parents are living (when the child resides with at least one parent) is 0.94. Further breakdown by background characteristics is not possible due to the small number of orphans (95 unweighted cases).

Table 2.11 School attendance by survivorship of parents

For de jure children age 10-14 , the percentage attending school by parental survival and the ratio of the percentage attending, by parental survival, according to background characteristics, Ghana 2014

Background characteristic	Percentage attending school by survivorship of parents				
	Both parents deceased	Number	Both parents alive and living with at least one parent	Number	Ratio[1]
Sex					
Male	(78.2)	30	81.0	2,101	0.97
Female	74.5	45	81.3	1,816	0.92
Residence					
Urban	(71.0)	43	83.1	1,745	0.85
Rural	82.6	32	79.6	2,173	1.04
Region					
Western	*	10	93.8	366	0.61
Central	*	7	51.9	363	1.23
Greater Accra	*	14	82.1	620	1.22
Volta	*	5	89.6	310	0.83
Eastern	*	13	84.2	331	1.12
Ashanti	*	10	80.0	828	0.87
Brong Ahafo	*	8	88.9	345	0.60
Northern	*	1	79.9	471	1.25
Upper East	*	6	81.8	162	0.74
Upper West	*	3	85.4	121	1.00
Wealth quintile					
Lowest	(79.2)	11	78.4	965	1.01
Second	*	12	74.7	852	1.00
Middle	*	16	84.0	746	0.74
Fourth	*	30	85.0	709	1.01
Highest	*	7	86.3	645	0.75
Total	76.0	75	81.1	3,918	0.94

Note: Table is based only on children who usually live in the household. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Ratio of the percentage with both parents deceased to the percentage with both parents alive and living with a parent

2.8   EDUCATION OF HOUSEHOLD POPULATION

Studies have shown that education is one of the major socioeconomic factors to influence a person's behaviour and attitude. In general, the higher the level of education of a woman, the more knowledgeable she is about the use of health facilities, family planning methods, and the health of her children.

Education in Ghana has undergone several changes in recent years (see Chapter 1). Pre-school education has been incorporated into basic education, and all primary schools are required to have nurseries or kindergartens. The basic education is free and compulsory, with the goal of providing educational attainment for all. The Ghana Education Trust Fund (GETFUND), set up in 2000, has resulted in major improvements in the educational infrastructure to support the country's tertiary institutions.

The current educational system is based on a three-tier system: six years of primary education, followed by three years of junior high school (JHS), formerly called junior secondary school (JSS), and a further three years at the senior high school (SHS) level. At the secondary level, in the 2007/2008 academic year, the three-year Senior Secondary School (SSS) system was changed to the four-year Senior High School, but this policy was reversed in 2009.

2.8.1   Educational Attainment of Household Population

Tables 2.12.1 and 2.12.2 show the percent distribution of the de facto female and male household population age 6 and older by level of education and background characteristics.

Table 2.12.1 shows that 26 percent of the female household population has never been to school, a decline from 31 percent in 2008. Among females age 6 and older, 27 percent have some primary education, 5 percent have completed primary school only, 39 percent have some secondary education or have completed secondary school, and 4 percent have more than a secondary school education.

The data show that the proportion of females with no education is higher in the older ages, suggesting some improvement in education over the years. This may be due to the impact of the Free Compulsory Universal Basic Education (FCUBE) programme, which was introduced in 1996. Educational attainment varies by place of residence. Urban females are more likely to be educated than their rural counterparts. For instance, 18 percent of urban females have no education, compared with 35 percent of rural females. The proportion of urban females with some secondary education or higher (54 percent) is notably higher than that of their rural counterparts (30 percent).

Table 2.12.1 Educational attainment of the female household population

Percent distribution of the de facto female household population age 6 and over by highest level of schooling attended or completed and median years completed, according to background characteristics, Ghana 2014

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Total	Number	Median years completed
Age									
6-9	40.0	59.8	0.1	0.2	0.0	0.0	100.0	2,296	0.0
10-14	4.8	68.5	8.1	18.6	0.0	0.0	100.0	2,646	3.6
15-19	4.6	16.2	8.1	64.9	6.0	0.2	100.0	1,661	7.1
20-24	12.2	9.0	5.3	40.1	26.0	7.3	100.0	1,637	8.5
25-29	17.2	9.9	4.0	38.1	16.4	14.4	100.0	1,622	8.4
30-34	21.6	12.2	5.3	42.8	9.9	8.1	100.0	1,387	8.1
35-39	24.5	13.6	4.4	43.2	9.2	5.0	100.0	1,300	7.8
40-44	32.5	14.9	6.0	41.5	2.3	2.8	100.0	1,056	5.4
45-49	35.6	14.1	5.2	41.4	0.6	3.2	100.0	859	5.0
50-54	42.1	12.6	4.8	36.0	1.3	3.2	100.0	990	3.9
55-59	40.7	13.1	3.9	38.1	0.2	4.1	100.0	608	3.7
60-64	49.0	10.9	2.3	34.0	0.0	3.8	100.0	517	0.6
65+	73.4	7.5	1.4	14.7	0.3	2.7	100.0	1,197	0.0
Residence									
Urban	17.9	23.6	4.3	38.5	9.3	6.4	100.0	9,063	6.5
Rural	34.9	29.8	5.2	25.8	2.9	1.3	100.0	8,715	2.3
Region									
Western	21.1	26.7	4.9	38.3	6.4	2.6	100.0	1,850	5.4
Central	23.9	26.2	6.4	33.8	6.3	3.3	100.0	1,766	5.0
Greater Accra	14.4	23.7	3.9	38.0	10.5	9.6	100.0	3,321	7.3
Volta	28.3	29.5	5.2	30.2	4.4	2.4	100.0	1,480	3.6
Eastern	20.6	27.2	7.0	36.5	5.4	3.3	100.0	1,725	5.3
Ashanti	18.5	26.8	4.7	39.9	6.6	3.5	100.0	3,340	5.8
Brong Ahafo	31.3	28.0	4.8	29.4	4.6	2.0	100.0	1,506	3.3
Northern	58.9	25.4	1.9	10.5	2.3	1.0	100.0	1,569	0.0
Upper East	44.8	32.0	5.2	13.7	3.0	1.3	100.0	731	0.6
Upper West	53.3	27.8	3.2	11.6	1.8	2.2	100.0	490	0.0
Wealth quintile									
Lowest	52.1	31.1	3.7	12.2	0.8	0.1	100.0	3,277	0.0
Second	36.1	31.5	5.7	25.2	1.4	0.2	100.0	3,548	2.1
Middle	23.3	28.3	6.2	36.6	4.5	1.1	100.0	3,716	4.7
Fourth	14.5	24.8	4.8	43.0	9.1	3.8	100.0	3,717	6.7
Highest	7.8	17.7	3.2	42.2	14.7	14.4	100.0	3,520	8.7
Total	26.2	26.6	4.7	32.3	6.2	3.9	100.0	17,778	4.4

[1] Completed 6th grade at the primary level
[2] Completed 6th grade at the secondary level

Findings show that females in the northern half of the country are disadvantaged. The percentage of females who have never been to school is high in Northern (59 percent), followed by Upper West (53 percent) and Upper East (45 percent), as compared with only 14 percent of females in Greater Accra. On the other hand, 20 percent of females in Greater Accra have completed secondary education or higher, compared with 4 percent or less each in the Northern, Upper East, and Upper West regions.

The proportion of female household members who have never attended school decreases sharply with increasing wealth, from 52 percent in the lowest quintile to 8 percent in the highest quintile. Overall, the median number of completed years of schooling among females age 6 and older is 4.4.

Table 2.12.2 shows that 18 percent of males have never been to school, a decline from 22 percent in 2008. Thirty-one percent of males have had some primary education or have completed primary education, 44 percent have had some secondary or have completed secondary education, and 8 percent have more than a secondary education.

Similar to females, the proportion of males with no education is higher in the older ages. Twenty-five percent of males in rural areas have no education, compared with 10 percent in urban areas. There is a marked urban-rural differential in secondary and higher education: 23 percent of males in urban areas have completed secondary or higher education, compared with 9 percent in rural areas.

Across the regions, the pattern for males is similar to that observed for females. Higher proportions of males in the three northern regions (Northern, 44 percent; Upper West, 41 percent; and Upper East, 32 percent) have never been to school, compared with 20 percent or less of males in other regions. The percentage of males with no education is strongly associated with wealth; those in the lowest quintile are the most likely to have no education (38 percent), compared with only 5 percent of males in the richest households.

The median number of completed years of schooling among the male household population age 6 and older is 5.9.

Table 2.12.2 Educational attainment of the male household population

Percent distribution of the de facto male household population age 6 and over by highest level of schooling attended or completed and median years completed, according to background characteristics, Ghana 2014

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Total	Number	Median years completed
Age									
6-9	43.6	56.2	0.0	0.2	0.0	0.0	100.0	2,292	0.0
10-14	4.9	70.1	8.9	16.0	0.0	0.0	100.0	2,700	3.6
15-19	3.2	18.0	8.0	63.9	6.0	0.9	100.0	1,814	7.1
20-24	6.1	8.5	3.9	40.9	32.0	8.6	100.0	1,366	9.0
25-29	11.0	8.7	3.3	33.6	22.6	20.7	100.0	1,255	8.9
30-34	12.0	8.4	4.3	41.1	16.0	18.2	100.0	1,143	8.6
35-39	14.2	8.5	3.6	44.2	15.8	13.8	100.0	1,047	8.5
40-44	15.4	8.0	3.9	54.9	7.2	10.6	100.0	920	8.9
45-49	19.6	7.6	3.6	55.6	3.3	10.3	100.0	754	9.2
50-54	21.1	10.1	1.7	53.8	1.6	11.7	100.0	643	9.2
55-59	25.8	7.7	2.9	49.0	2.4	12.1	100.0	486	9.2
60-64	28.2	5.3	3.5	48.8	2.1	12.3	100.0	511	9.1
65+	43.7	8.3	1.1	37.4	1.2	8.2	100.0	837	3.0
Residence									
Urban	10.3	23.2	3.6	39.5	11.9	11.5	100.0	7,763	8.2
Rural	24.5	30.5	5.1	31.3	4.9	3.7	100.0	8,008	4.1
Region									
Western	13.0	25.3	4.8	40.3	10.4	6.2	100.0	1,580	7.2
Central	15.3	26.7	5.5	37.8	7.3	7.3	100.0	1,456	6.4
Greater Accra	7.7	23.1	3.4	38.8	14.0	12.9	100.0	3,025	8.3
Volta	15.8	30.7	4.6	37.6	5.7	5.6	100.0	1,347	5.6
Eastern	13.4	27.6	5.2	40.2	6.9	6.7	100.0	1,537	6.4
Ashanti	11.7	24.1	5.1	42.4	8.5	8.1	100.0	2,792	7.8
Brong Ahafo	19.6	29.4	4.1	35.2	6.9	4.9	100.0	1,344	5.2
Northern	44.3	28.9	2.4	16.0	3.8	4.6	100.0	1,555	0.5
Upper East	31.6	38.8	5.3	16.3	3.9	3.9	100.0	678	2.1
Upper West	41.3	30.3	2.7	16.4	4.2	5.1	100.0	458	1.0
Wealth quintile									
Lowest	37.7	34.9	4.0	20.3	2.2	0.8	100.0	3,252	1.4
Second	22.0	31.9	6.7	34.0	3.8	1.6	100.0	3,104	4.4
Middle	14.4	28.1	5.1	40.2	8.0	4.2	100.0	3,034	6.2
Fourth	8.7	23.1	3.8	45.0	11.6	7.7	100.0	3,081	8.2
Highest	4.5	16.8	2.2	38.0	15.8	22.6	100.0	3,301	9.5
Total	17.5	26.9	4.3	35.4	8.3	7.5	100.0	15,771	5.9

[1] Completed 6th grade at the primary level
[2] Completed 6th grade at the secondary level

2.8.2 School Attendance Ratios

The 2014 GDHS collected information on school attendance for the population age 3-24 that allows the calculation of net attendance ratios (NARs) and gross attendance ratios (GARs). The NAR for primary school is the percentage of the primary-school-age (6-11 years) population that is attending primary school. The NAR for secondary school is the measure of the secondary-school-age (12-17 years) population that is attending secondary school. By definition, the NAR cannot exceed 100 percent. The GAR however, measures participation at each level of schooling among persons age 6-25. The GAR is almost always higher than the NAR for the same level because the GAR includes participation by those who may be older, because they may have started school late, may have repeated one or more grades in school, or may have dropped out of school and later returned, or may be younger than the official age range for that level.

Table 2.13 presents data on the NAR and GAR for the de facto household population by level of schooling and sex, according to place of residence, region, and wealth quintile. Seventy percent of children age 6-11 who should be attending primary school are currently doing so, a slight decrease from 74 percent in 2008. The GAR at the primary school level is 99 percent. The distribution shows that both the NAR and the GAR are much lower at the secondary school level: 39 percent of students age 12-17 who should be attending secondary school are in school (NAR), a slight decrease from 42 percent in 2008. The GAR for secondary school is 50 percent.

The results show no differences in the primary or secondary school NARs between males and females, indicating no notable gender gap in school attendance for the Ghanaian school-age population who should be attending school at a given level. However, the GAR at the secondary school level is slightly higher for males than for females (53 percent versus 47 percent).

The NAR at both the primary and secondary levels are lower in rural than in urban areas. For instance, the NAR at the primary school level is 66 percent in rural areas compared with 74 percent in urban areas. Similarly, the NAR at the secondary school level is 32 percent in rural areas, compared with 46 percent in urban areas. Regional differences are also pronounced. The primary school NAR is lowest in the Upper West region (64 percent) and the secondary school NAR is lowest in the Northern, Upper East, and Upper West regions (30 percent each). The GAR at the secondary school level is also higher in urban areas. However, there is almost no urban-rural difference in the GAR at the primary school level. The GAR at the primary school level is highest in the Upper East region, indicating higher overage or underage attendance than in other regions. The lowest GAR at the secondary level is in Central region (31 percent) and the highest is in Volta (58 percent).

There is a strong relationship between household economic status and school attendance at both the primary and secondary levels and among both males and females. For example, the primary school NAR increases from 61-64 percent among students from households in the lowest two wealth quintiles to 81 percent among students from the richest households. Similarly, the NAR for secondary school rises from 25 percent among students in the lowest wealth quintile to 50-54 percent among those in the top two wealth quintiles.

Table 2.13 also shows the Gender Parity Index (GPI), which represents the ratio of the NAR and GAR for females to the NAR and GAR for males. It is a more precise indicator of gender differences in the schooling system. A GPI less than 1 indicates that a smaller proportion of females than males attend school. In Ghana, the GPI is 1.00 for primary school attendance and 1.01 for secondary school attendance, indicating no gender gaps. There are no notable differences in the primary school GPI for NAR by background characteristics. At the secondary school level, the widest gender gap in attendance is in Northern region (GPI of 0.88) and among the richest households (GPI of 0.84). The indexes for GAR at the primary and secondary levels are slightly less than 1 (0.98 for primary school and 0.89 for secondary

school), indicating some gender gap, especially at the secondary school level. The gender gap in attendance has remained unchanged over the last six years at the primary and secondary levels.

Table 2.13 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de facto household population by sex and level of schooling; and the Gender Parity Index (GPI), according to background characteristics, Ghana 2014

Background characteristic	Net attendance ratio[1]				Gross attendance ratio[2]			
	Male	Female	Total	Gender Parity Index[3]	Male	Female	Total	Gender Parity Index[3]
PRIMARY SCHOOL								
Residence								
Urban	74.5	74.3	74.4	1.00	98.4	99.0	98.7	1.01
Rural	65.8	65.8	65.8	1.00	101.2	97.7	99.5	0.97
Region								
Western	77.4	80.6	78.9	1.04	103.0	115.8	109.2	1.12
Central	45.8	46.3	46.1	1.01	69.0	58.4	63.4	0.85
Greater Accra	74.7	74.8	74.7	1.00	91.5	96.8	94.1	1.06
Volta	73.4	73.6	73.5	1.00	117.3	105.8	111.7	0.90
Eastern	70.5	65.2	68.0	0.92	107.0	96.4	101.9	0.90
Ashanti	74.2	73.5	73.8	0.99	101.3	101.6	101.5	1.00
Brong Ahafo	70.5	68.2	69.4	0.97	103.9	104.4	104.2	1.00
Northern	66.1	70.3	68.1	1.06	103.5	103.9	103.7	1.00
Upper East	70.0	76.5	73.1	1.09	111.0	115.5	113.2	1.04
Upper West	65.0	63.9	64.4	0.98	111.9	100.2	105.9	0.90
Wealth quintile								
Lowest	62.5	64.8	63.6	1.04	102.5	102.7	102.6	1.00
Second	63.4	58.1	60.8	0.92	97.6	88.1	92.9	0.90
Middle	70.0	71.5	70.8	1.02	100.7	99.2	100.0	0.99
Fourth	78.4	76.8	77.5	0.98	103.6	97.5	100.3	0.94
Highest	79.9	82.0	80.9	1.03	94.3	106.7	100.1	1.13
Total	69.6	69.6	69.6	1.00	99.9	98.3	99.1	0.98
SECONDARY SCHOOL								
Residence								
Urban	45.5	45.5	45.5	1.00	61.0	54.8	57.8	0.90
Rural	32.5	32.0	32.3	0.99	45.9	39.5	42.8	0.86
Region								
Western	48.5	46.2	47.2	0.95	67.2	57.9	61.9	0.86
Central	23.2	24.6	23.8	1.06	32.6	29.7	31.3	0.91
Greater Accra	47.1	44.5	45.7	0.94	62.1	50.5	56.2	0.81
Volta	40.6	41.8	41.2	1.03	59.6	55.3	57.7	0.93
Eastern	39.4	38.0	38.7	0.96	46.1	47.4	46.7	1.03
Ashanti	42.0	42.8	42.4	1.02	52.3	49.7	51.0	0.95
Brong Ahafo	38.5	36.0	37.2	0.94	61.0	45.3	52.8	0.74
Northern	31.8	27.8	30.0	0.88	48.3	34.2	41.9	0.71
Upper East	26.3	34.5	30.4	1.31	44.0	47.6	45.8	1.08
Upper West	27.7	33.4	30.4	1.21	45.6	40.8	43.3	0.89
Wealth quintile								
Lowest	24.9	25.0	25.0	1.00	41.5	32.7	37.5	0.79
Second	30.8	28.7	29.8	0.93	42.5	35.2	39.1	0.83
Middle	40.9	37.8	39.3	0.93	54.8	47.9	51.3	0.87
Fourth	46.3	53.8	50.3	1.16	63.1	62.2	62.6	0.99
Highest	58.8	49.5	53.9	0.84	71.2	58.8	64.7	0.83
Total	38.4	38.6	38.5	1.01	52.7	47.0	49.9	0.89

[1] The NAR for primary school is the percentage of the primary-school age (6-11 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school age (12-17 years) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.
[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of overage and underage students at a given level of schooling, the GAR can exceed 100 percent.
[3] The Gender Parity Index for primary school is the ratio of the primary school NAR (GAR) for females to the NAR (GAR) for males. The Gender Parity Index for secondary school is the ratio of the secondary school NAR (GAR) for females to the NAR (GAR) for males.

Figure 2.3 shows that attendance rates increase up to ages 9-11 for both males and females, with some fluctuations for females, then they drop gradually.

Figure 2.3 **Age-specific attendance rates of the de-facto population 5 to 24 years**

GDHS 2014

CHARACTERISTICS OF RESPONDENTS

3
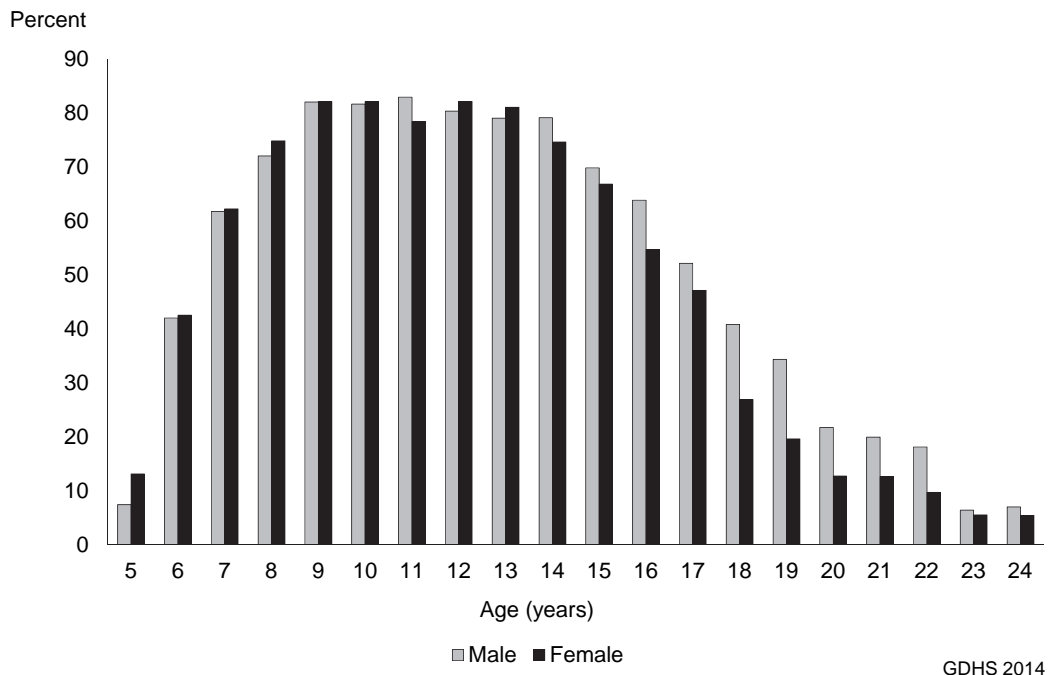
Key Findings:

- More than half of women and men age 15-49 (54 percent and 53 percent, respectively) live in urban areas, an increase from 49 percent and 46 percent, reported in the 2008 GDHS.
- Nineteen percent of women and 9 percent of men age 15-49 have never attended school; more are in school now than in 2008 when 21 percent and 13 percent did not attend.
- The median age of enrolment in primary school among women and men age 15-24 is 6.5 years.
- Large percentages of women and men age 15-24 who stopped going to school (38 percent and 39 percent, respectively) indicated they had no money to cover the education costs.
- Sixty-seven percent of women and 82 percent of men age 15-49 are literate, an increase from the 2008 literacy levels of 63 percent and 77 percent, respectively.
- Men are more likely to have access to the media than women; 13 percent of men are exposed to all three media at least once a week compared with only 5 percent of women.
- Thirty-one percent of women and 14 percent of men age 15-49 are not exposed to any media.
- Overall, 26 percent of employed women in the agricultural sector are not paid at all, mainly because they are employed by a family member. On the other hand, 14 percent of women who are employed in the nonagricultural sector are not paid for their work.

T he purpose of this chapter is to create a demographic and socioeconomic profile of individual female and male respondents in the 2014 Ghana Demographic and Health Survey (GDHS). This information helps in the interpretation of findings presented later in the report and provides an indication of the representativeness of the survey. The chapter first describes basic background characteristics, including age, religion, ethnicity, marital status, residence, and wealth status. It then provides more detailed information on education, literacy, media exposure, and employment.

Throughout this report, numbers in the tables reflect weighted numbers. Percentages based on 25 to 49 unweighted cases are shown in parentheses, and percentages based on fewer than 25 unweighted cases are suppressed and replaced with an asterisk, to caution readers when interpreting data that a percentage based on fewer than 50 cases may not be statistically reliable.[1]

3.1 CHARACTERISTICS OF SURVEY RESPONDENTS

Table 3.1 shows the weighted and unweighted numbers and the weighted percent distributions of women and men age 15-49 who were interviewed in the 2014 GDHS, by background characteristics. More than half of the respondents age 15-49 (52 percent of women and 53 percent of men) are under age 30, reflecting the young age structure of the population. The vast majority of respondents are Christian. More than 4 in 10 women (41 percent) and 3 in 10 men (32 percent) are Pentecostal/Charismatic, and 39 percent

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[1] Parentheses are used if early childhood mortality rates are based on 250 to 499 children exposed to the risk of mortality in any of the component rates; early childhood mortality rates are suppressed if they are based on fewer than 250 children exposed to the risk of mortality in any of the component rates.

of women and 42 percent of men are Catholic, Anglican, Methodist, Presbyterian, or other Christian. Fifteen percent of women and 18 percent of men are Muslim.

Table 3.1 Background characteristics of respondents

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

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	17.3	1,625	1,756	22.1	855	889
20-24	17.2	1,613	1,571	15.2	588	620
25-29	17.1	1,604	1,564	15.2	589	577
30-34	14.6	1,372	1,343	14.3	552	497
35-39	13.8	1,295	1,260	12.2	473	472
40-44	11.0	1,030	1,032	11.8	456	442
45-49	9.1	857	870	9.2	355	358
Religion						
Catholic	10.0	944	1,341	10.7	416	538
Anglican/Methodist/Presbyterian	14.0	1,312	1,132	13.0	504	425
Pentecostal/Charismatic	41.1	3,859	3,457	31.5	1,217	1,025
Other Christian	15.1	1,416	1,239	18.0	695	614
Muslim	15.2	1,423	1,726	17.6	680	823
Traditional/Spiritualist	2.0	188	226	3.3	128	210
No religion	2.7	251	273	5.9	227	218
Other	0.0	2	1	0.0	1	2
Missing	0.0	1	1	0.0	0	0
Ethnic group						
Akan	50.1	4,705	3,876	49.2	1,905	1,557
Ga/Dangme	7.7	728	519	8.3	323	228
Ewe	13.5	1,266	1,118	13.3	514	450
Guan	2.3	216	256	2.1	79	102
Mole-Dagbani	14.8	1,388	2,270	14.7	568	932
Grusi	2.9	271	415	2.6	101	176
Gurma	5.8	545	658	5.8	226	266
Mande	0.9	85	110	1.2	47	55
Other	2.0	191	173	2.7	106	89
Missing	0.0	1	1	0.0	0	0
Marital status						
Never married	32.9	3,094	3,041	47.8	1,851	1,854
Married	42.2	3,968	4,243	38.3	1,480	1,527
Living together	14.4	1,353	1,213	9.5	366	309
Divorced/separated	7.7	728	630	4.1	159	146
Widowed	2.7	253	269	0.3	13	19
Residence						
Urban	53.8	5,051	4,602	53.0	2,050	1,826
Rural	46.2	4,345	4,794	47.0	1,819	2,029
Region						
Western	11.0	1,038	1,027	11.6	447	447
Central	10.0	937	941	9.8	380	363
Greater Accra	20.2	1,898	999	21.5	831	422
Volta	7.7	720	795	7.6	295	312
Eastern	9.3	878	907	9.4	362	377
Ashanti	19.1	1,798	1,040	17.6	680	390
Brong Ahafo	8.2	769	1,005	8.3	320	422
Northern	8.4	786	1,042	8.2	316	431
Upper East	3.8	358	914	3.8	146	382
Upper West	2.3	215	726	2.3	91	309
Education						
No education	19.1	1,792	2,281	9.4	362	502
Primary	17.8	1,672	1,747	14.0	543	636
Middle/JSS/JHS	41.1	3,862	3,528	42.0	1,626	1,512
Secondary+	22.0	2,070	1,840	34.5	1,336	1,205
Wealth quintile						
Lowest	16.1	1,511	2,335	16.5	639	990
Second	17.4	1,636	1,759	16.8	648	717
Middle	20.6	1,938	1,902	19.9	770	735
Fourth	22.5	2,117	1,771	21.9	848	726
Highest	23.3	2,194	1,629	24.9	963	687
Total 15-49	100.0	9,396	9,396	100.0	3,869	3,855
50-59	na	na	na	na	519	533
Total 15-59	na	na	na	na	4,388	4,388

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

As expected, the Akans form the largest ethnic group, with about half of respondents belonging to this group, followed by the Mole-Dagbanis, which account for 15 percent each of women and men, and the Ewes, which account for 14 percent of women and 13 percent of men.

One-third of women (33 percent) and nearly half of men (48 percent) have never been married. Women are more likely to be married or living together with a partner (i.e., in union) than men (57 percent versus 48 percent). More women than men are also divorced or separated (8 percent versus 4 percent) or widowed (3 percent versus less than 1 percent).

More than half of women (54 percent) and men (53 percent) live in urban areas, an increase from 49 percent and 46 percent, respectively, in the 2008 GDHS. By region, the largest proportion of women and men reside in Greater Accra (20 percent and 22 percent, respectively), and the smallest proportion reside in the Upper West region (2 percent each).

In general, most men and women in Ghana have some formal education. However, 19 percent of women and 9 percent of men have never attended school, a decrease from the figures of 21 percent and 13 percent, respectively, reported in the 2008 GDHS survey. Men tend to be more educated than women: 35 percent of men have a secondary or higher education, as compared with 22 percent of women.

3.2   EDUCATIONAL ATTAINMENT BY BACKGROUND CHARACTERISTICS

Education provides people with the knowledge and skills that can lead to better employment opportunities and a better quality of life. Education level is closely associated with the health of women and children as well as reproductive health behaviours of women and men.

Tables 3.2.1 and 3.2.2 show the distribution of women and men by highest level of schooling attended or completed and the median number of years of schooling, according to background characteristics. Table 3.2.1 shows that 19 percent of women age 15-49 have never been to school, 13 percent have some primary education, 5 percent have completed primary school, 46 percent have some secondary education, 11 percent have completed secondary school, and 6 percent have attained more than a secondary education.

Older women age 40-49 (32-36 percent), those who reside in rural areas (29 percent), women who live in Northern region (66 percent), and those in the poorest wealth quintile (52 percent) are most likely to have no education. The urban-rural and wealth quintile differences in education are more pronounced at the secondary and higher levels. For example, women in urban areas are more than twice as likely as those in rural areas to have completed secondary education (16 percent versus 6 percent). Similarly, 22 percent of women in the highest wealth quintile have completed secondary education, compared with just 2 percent of women in the lowest wealth quintile.

Nationally, women have completed a median of 7.8 years of schooling. Looking at age, women in the 20-24 age group have the highest median years of schooling (8.5 years) while those age 45-49 have the lowest number of median years of schooling (4.9 years). Urban women have completed a median of 8.5 years of schooling compared with 5.7 years among rural women. Median number of years completed is highest among women from Greater Accra (8.7 years) and lowest among women in the Northern region (0.0 years). There is a notable difference in median number of schooling years by wealth quintile; it is 9.6 years among women in the highest wealth quintile versus 0.0 years among those in the lowest quintile.

Table 3.2.1 Educational attainment: Women

Percent distribution of women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Ghana 2014

| Background characteristic | Highest level of schooling | | | | | | | Median years completed | Number of women |
	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Total		
Age									
15-24	8.1	12.0	6.4	53.8	15.7	4.0	100.0	7.9	3,238
15-19	4.3	14.5	8.1	67.0	6.1	0.1	100.0	7.2	1,625
20-24	11.9	9.5	4.6	40.6	25.4	8.0	100.0	8.5	1,613
25-29	17.2	10.2	3.8	39.0	15.4	14.3	100.0	8.3	1,604
30-34	21.3	12.6	5.2	43.4	9.5	7.9	100.0	8.1	1,372
35-39	25.4	12.9	4.3	42.6	9.4	5.5	100.0	7.8	1,295
40-44	31.6	15.8	5.7	41.9	2.1	2.9	100.0	5.4	1,030
45-49	35.7	14.5	4.5	41.7	0.3	3.3	100.0	4.9	857
Residence									
Urban	11.0	9.9	4.0	49.8	15.7	9.7	100.0	8.5	5,051
Rural	28.5	15.7	6.7	41.1	5.5	2.5	100.0	5.7	4,345
Region									
Western	14.2	14.1	5.8	51.3	11.0	3.6	100.0	8.1	1,038
Central	15.1	10.6	7.3	50.0	10.6	6.3	100.0	8.0	937
Greater Accra	8.3	10.5	3.7	46.3	17.5	13.7	100.0	8.7	1,898
Volta	19.1	16.2	6.0	46.0	8.4	4.2	100.0	7.0	720
Eastern	10.4	13.5	8.1	52.4	10.3	5.4	100.0	8.0	878
Ashanti	10.8	11.3	4.2	56.4	11.5	5.8	100.0	8.4	1,798
Brong Ahafo	20.5	16.4	6.1	45.2	8.5	3.2	100.0	6.5	769
Northern	65.8	8.6	2.6	17.0	4.4	1.7	100.0	0.0	786
Upper East	40.0	19.7	7.4	24.8	5.9	2.3	100.0	2.9	358
Upper West	48.7	15.4	4.6	23.1	3.6	4.6	100.0	1.0	215
Wealth quintile									
Lowest	51.7	16.9	5.7	24.0	1.6	0.1	100.0	0.0	1,511
Second	27.4	20.0	7.4	42.0	3.0	0.3	100.0	5.3	1,636
Middle	15.0	14.7	7.8	52.4	8.0	2.1	100.0	7.3	1,938
Fourth	9.0	9.1	4.2	56.4	15.6	5.7	100.0	8.5	2,117
Highest	3.8	5.5	2.0	47.6	21.5	19.5	100.0	9.6	2,194
Total	19.1	12.6	5.2	45.8	11.0	6.3	100.0	7.8	9,396

[1] Completed 6th grade at the primary level
[2] Completed 6th grade at the secondary level

Similar patterns in educational attainment are observed among men (Table 3.2.2). Nationally, 9 percent of men age 15-49 have no education, 10 percent have some primary education, 4 percent have completed primary education, 50 percent have some secondary education, 15 percent have completed secondary education, and 12 percent have completed secondary or higher schooling.

Men age 45-49 are most likely to have no education (17 percent), while the youngest men age 15-19 are the least likely to have no education (3 percent). Urban residents have higher levels of educational attainment than their rural counterparts; only 4 percent of urban men have no education, compared with 15 percent of rural men. By contrast, 16 percent of men in urban areas have more than a secondary education, compared with 6 percent of rural men. The percentage with no education is highest among men in the Northern region (47 percent) and lowest among men in the Eastern region (2 percent). Thirty-two percent of men in the lowest wealth quintile have no schooling compared with less than 1 percent of men in the highest quintile. On the other hand, 29 percent of men in the highest wealth quintile have more than a secondary education compared with less than 1 percent of men in the lowest quintile.

At the national level, men age 15-49 have completed a median of 8.5 years of schooling. Men age 20-24 (12.2 years) and men in urban areas (9.1 years) have the highest median number of school years when compared with other age groups and with rural residents. The median number of completed years of schooling ranges from 9.5 years in Greater Accra to 2.7 years in Northern. Median years of schooling increases from 5.0 years among the poorest men to 13.3 years among the wealthiest men.

Survey results show that men have more education than women above the primary level. For example, twice as many men as women have completed more than a secondary education (12 percent compared with 6 percent).

Table 3.2.2 Educational attainment: Men

Percent distribution of men age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Ghana 2014

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Total	Median years completed	Number of men
Age									
15-24	3.2	11.6	4.8	59.0	17.3	4.1	100.0	8.1	1,443
15-19	2.5	14.6	6.4	70.5	5.5	0.4	100.0	7.3	855
20-24	4.3	7.3	2.4	42.4	34.4	9.3	100.0	12.2	588
25-29	10.7	9.5	2.7	34.1	20.2	22.8	100.0	8.8	589
30-34	10.3	9.2	5.2	40.8	16.3	18.0	100.0	8.6	552
35-39	13.6	8.6	3.3	45.8	14.2	14.5	100.0	8.5	473
40-44	15.7	9.2	4.5	52.7	9.4	8.5	100.0	8.8	456
45-49	16.8	7.5	2.7	55.6	3.7	13.7	100.0	9.2	355
Residence									
Urban	4.1	6.8	2.1	51.5	19.2	16.4	100.0	9.1	2,050
Rural	15.3	13.4	6.4	48.3	10.3	6.2	100.0	7.6	1,819
Region									
Western	5.1	11.9	2.6	55.6	16.5	8.3	100.0	8.6	447
Central	5.1	7.2	5.3	56.8	11.6	14.0	100.0	8.5	380
Greater Accra	2.9	7.9	2.0	47.3	21.4	18.4	100.0	9.5	831
Volta	4.7	17.1	5.6	54.6	9.8	8.1	100.0	8.1	295
Eastern	1.8	12.6	5.1	56.6	15.1	8.7	100.0	8.5	362
Ashanti	4.6	4.7	4.2	57.8	16.1	12.5	100.0	8.8	680
Brong Ahafo	10.1	11.5	4.5	53.8	13.4	6.7	100.0	8.3	320
Northern	47.4	8.7	3.4	24.5	8.0	7.9	100.0	2.7	316
Upper East	23.5	22.0	11.8	28.3	9.5	4.9	100.0	5.4	146
Upper West	30.7	14.6	4.7	27.9	11.5	10.7	100.0	5.8	91
Wealth quintile									
Lowest	31.9	18.2	7.1	37.3	4.8	0.7	100.0	5.0	639
Second	10.9	17.0	8.8	51.2	9.7	2.5	100.0	7.1	648
Middle	6.8	12.1	3.8	56.8	13.9	6.6	100.0	8.3	770
Fourth	3.9	5.7	2.4	58.1	18.5	11.5	100.0	8.9	848
Highest	0.3	1.7	0.8	44.9	23.3	29.0	100.0	13.3	963
Total 15-49	9.4	9.9	4.1	50.0	15.0	11.6	100.0	8.5	3,869
50-59	20.6	7.2	1.9	55.5	1.4	13.4	100.0	9.3	519
Total 15-59	10.7	9.6	3.8	50.6	13.4	11.8	100.0	8.6	4,388

[1] Completed 6th grade at the primary level
[2] Completed 6th grade at the secondary level

3.3 SCHOOL ATTENDANCE

In the 2014 Ghana DHS all respondent age 15-24 who ever attended school were asked at what age the respondent age 24 or younger started primary school and whether the respondent age 24 or younger is currently attending school at any level. If the respondent is currently not attending school, she or he was asked why the respondent is not currently attending any school.

Table 3.3.1 and Table 3.3.2 show the median age of enrollment in primary school among women and men age 15-24, respectively, who ever attended school, and percent distribution of respondents age 15-24 who ever attended school and who are not currently attending school, by reason for stopping school, according to background characteristics.

The median age for enrolment in primary school among women age 15-24 is 6.5 years. The median age for enrolment is slightly lower for women in urban than in rural areas (6.2 years versus 6.9 years). Young women in Upper East (8.1 years) and Upper West (8.0 years) and those in the lowest wealth quintile (7.9 years) have the highest median age for enrolment in primary school when compared with other sub groups.

Respondents age 15-24 who had attended school but were not attending school at the time of the survey were asked why they stopped going. About 4 in 10 women age 15-24 (38 percent) indicated they had no money to cover the education costs. Other reasons for quitting include having completed the

desired level of education (13 percent), waiting for approved admission (11 percent), having family reasons or getting married (9 percent), having bad grades (7 percent), having no desire to continue education (6 percent), having to work (5 percent), becoming pregnant and health reasons (2 percent each), and moving or changing residence (1 percent).

The percentage of women age 15-24 who reported they stopped going to school because they had no money to cover the education costs is highest among rural residents (40 percent), those living in Eastern region (45 percent), and among young women in the middle wealth quintile (44 percent).

Table 3.3.1 School attendance: Women 15-24

Median age of enrolment in primary school among women age 15-24 who ever attended school, and percent distribution of women age 15-24 who ever attended school and who are not currently attending school, by reason for stopping school, according to background characteristics, Ghana, 2014

Background characteristic	Women 15-24 who ever attended school		Reason for stopping school among women 15-24 who ever attended school and who are currently not attending school:												
	Median age of enrolment in primary school	Number of women	Had to work	Moved	No money to cover costs	Had bad grades	Health reasons	Family reasons/ got married	Completed desired level of education	No desire to continue	Waiting for approved admission	Became pregnant	Other	Total	Number of women
Residence															
Urban	6.2	1,582	5.3	1.4	36.1	7.8	1.8	6.1	15.4	5.0	13.8	1.4	5.7	100.0	1,089
Rural	6.9	1,395	3.9	0.8	39.7	6.1	1.7	12.3	9.8	7.8	7.6	1.5	8.9	100.0	846
Region															
Western	6.6	368	2.8	0.0	30.5	8.5	2.1	16.2	19.0	5.5	5.2	0.3	9.9	100.0	257
Central	6.9	298	10.0	1.6	39.2	7.3	1.9	8.3	11.1	5.9	5.9	1.1	7.8	100.0	208
Greater Accra	5.9	547	5.4	1.9	35.5	3.5	0.8	6.5	21.7	5.0	14.6	0.0	5.0	100.0	386
Volta	6.7	227	0.3	2.8	41.7	2.7	3.0	9.3	3.7	4.6	15.2	3.8	12.8	100.0	148
Eastern	6.8	307	4.7	1.3	44.9	5.0	1.3	4.0	16.0	9.6	4.6	3.6	4.9	100.0	205
Ashanti	6.2	592	6.3	0.0	42.1	10.3	2.0	5.2	7.8	3.4	14.8	0.0	8.0	100.0	395
Brong Ahafo	6.5	273	1.7	1.5	31.8	5.5	1.4	10.2	10.7	15.0	10.4	6.9	5.0	100.0	170
Northern	7.6	166	1.4	0.0	38.5	12.7	4.2	19.0	1.6	7.7	11.4	0.5	2.9	100.0	75
Upper East	8.1	127	4.0	2.8	29.5	14.6	1.4	25.2	2.4	4.1	11.5	0.0	4.4	100.0	57
Upper West	8.0	72	0.0	1.4	43.5	8.4	0.6	4.9	7.4	9.1	17.1	1.0	6.5	100.0	34
Wealth quintile															
Lowest	7.9	430	2.6	1.1	36.7	7.9	3.7	15.5	5.1	10.9	7.5	1.3	7.8	100.0	224
Second	6.9	564	3.6	1.6	41.4	5.1	1.4	11.5	5.7	7.1	8.5	4.8	9.4	100.0	364
Middle	6.7	675	4.4	1.5	44.3	5.1	2.4	8.1	8.6	8.3	7.7	1.4	8.1	100.0	475
Fourth	6.1	695	5.4	1.0	37.9	9.5	1.1	6.7	15.5	3.7	11.0	0.3	7.9	100.0	489
Highest	5.9	612	6.3	0.5	26.8	7.4	0.9	6.9	26.0	3.9	19.1	0.0	2.2	100.0	382
Total 15-24	6.5	2,977	4.7	1.1	37.8	7.0	1.8	9.0	12.8	6.3	10.9	1.5	7.1	100.0	1,935

Table 3.3.2 shows that the median age of enrolment in primary school is the same among men as it is among women age 15-24 (6.5 years). Rural residents (7.0 years), those living in Volta (8.3 years), and young men in the lowest wealth quintile (7.7 years) have the highest median age of enrollment in primary school.

As with women, almost four in ten men (39 percent) not attending school at the time of the survey indicated lack of money to cover costs as the main reason for stopping. Other reasons included having completed the desired level of education (18 percent), having to work (12 percent), waiting for approved admission (11 percent), no desire to continue education (8 percent), bad grades (3 percent), and moving or changing place of residence, health reasons, family reasons, or getting married (1 percent each).

Young men who reside in rural areas (43 percent), those who live in Volta (66 percent), and men who belong to the second wealth quintile (52 percent) are the most likely to report that they stopped going to school because of lack of money to cover costs.

Table 3.3.2 School attendance: Men 15-24

Median age of enrolment in primary school among men age 15-24 who ever attended school, and percent distribution of men age 15-24 who ever attended school and who are not currently attending school, by reason for stopping school, according to background characteristics, Ghana, 2014

| Background characteristic | Men 15-24 who ever attended school | | Reason for stopping school among men 15-24 who ever attended school and who are currently not attending school: | | | | | | | | | | | |
	Median age of enrolment in primary school	Number of men	Had to work	Moved	No money to cover costs	Had bad grades	Health reasons	Family reasons/ got married	Completed desired level of education	No desire to continue	Waiting for approved admission	Other	Total	Number of men
Residence														
Urban	6.2	722	12.6	0.9	36.2	2.8	0.3	1.1	20.7	5.9	12.0	7.6	100.0	429
Rural	7.0	675	11.6	0.2	43.0	2.4	1.5	1.9	14.1	10.1	8.9	6.5	100.0	344
Region														
Western	6.3	167	9.1	2.3	39.7	1.5	2.3	2.5	21.8	11.1	8.9	0.9	100.0	97
Central	6.4	131	21.0	0.0	29.8	2.9	0.0	2.9	20.8	3.0	6.1	13.5	100.0	73
Greater Accra	6.2	268	15.2	0.9	29.9	1.7	0.0	0.0	28.3	4.7	10.1	9.1	100.0	177
Volta	8.3	115	9.8	1.5	66.3	0.0	2.8	1.8	4.1	5.3	7.4	1.1	100.0	49
Eastern	6.2	158	14.6	0.0	52.4	3.6	1.6	1.0	11.1	4.2	8.5	2.9	100.0	93
Ashanti	6.2	250	10.9	0.0	39.9	2.5	0.0	1.9	14.2	7.0	10.2	13.4	100.0	155
Brong Ahafo	7.3	123	4.9	0.0	46.0	5.3	0.8	0.0	10.9	12.5	16.7	2.9	100.0	63
Northern	7.3	87	(2.6)	(0.0)	(24.6)	(3.6)	(0.0)	(5.7)	(11.8)	(18.9)	(32.7)	(0.0)	100.0	30
Upper East	6.9	62	2.9	0.0	32.0	5.4	2.6	0.0	13.3	29.3	9.4	5.2	100.0	23
Upper West	7.2	37	(25.9)	(0.0)	(19.9)	(5.6)	(0.0)	(0.0)	(24.6)	(8.2)	(7.1)	(8.6)	100.0	12
Wealth quintile														
Lowest	7.7	259	8.9	0.7	34.0	4.2	1.0	3.9	8.8	12.4	13.3	12.6	100.0	105
Second	7.0	269	7.3	0.0	51.8	1.7	1.7	0.5	11.6	10.6	9.9	4.8	100.0	140
Middle	6.7	292	14.1	0.0	45.2	2.0	1.6	1.0	14.7	10.9	6.2	4.3	100.0	176
Fourth	6.0	326	11.3	1.8	42.5	4.1	0.0	0.8	18.8	5.1	7.5	8.1	100.0	210
Highest	5.9	251	18.2	0.0	18.2	1.0	0.0	2.0	32.6	1.6	19.3	7.1	100.0	142
Total 15-24	6.5	1,397	12.2	0.6	39.2	2.6	0.8	1.4	17.8	7.8	10.6	7.1	100.0	773

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

3.4 LITERACY

The ability to read and write is an important personal asset that empowers women and men by increasing opportunities in life. Knowing the distribution of the literate population of a country can help programme managers—especially those concerned with health and family planning—reach their targeted audiences with their messages. The 2014 GDHS assessed literacy by asking respondents to read a simple sentence in the local language (or in English). Respondents were scored on whether they could not read at all, or read part or all of the sentence shown to them. Only women and men who had never attended school and those who had primary or middle/JSS/JHS education were asked to read the sentence in the language they were most familiar with. Respondents with a secondary or higher education were assumed to be literate. Persons who were blind or visually impaired were excluded. Results are shown in Table 3.4.1 for women and in 3.4.2 for men.

Table 3.4.1 indicates that two-thirds of women in Ghana (67 percent) are literate, an increase from 63 percent in the 2008 GDHS. Literacy is much higher among the youngest women age 15-19 (85 percent), and it decreases steadily with age to 47 percent among the oldest women age 45-49, suggesting more education opportunities for the younger generation. Literacy varies by place of residence; 78 percent of women in urban areas are literate, compared with 54 percent of rural women. Regional differences with regard to literacy are notable; literacy is highest among women in the Greater Accra region (81 percent) and lowest among women in the Northern region (27 percent). By wealth, literacy ranges from 32 percent among women in the lowest wealth quintile to 91 percent among women in the highest quintile, reaffirming a positive association between economic status and literacy.

Table 3.4.1 Literacy: Women

Percent distribution of women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Ghana 2014

| Background characteristic | Secondary school or higher | No schooling or primary school | | | | Total | Percent-age literate[1] | Number of women |
		Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language			
Age								
15-24	73.6	4.3	3.1	19.0	0.0	100.0	80.9	3,238
15-19	73.1	6.8	5.0	14.9	0.1	100.0	84.9	1,625
20-24	74.0	1.8	1.1	23.1	0.0	100.0	76.9	1,613
25-29	68.7	1.1	1.2	29.0	0.0	100.0	71.0	1,604
30-34	60.8	0.6	1.1	37.4	0.0	100.0	62.6	1,372
35-39	57.4	0.8	1.4	40.3	0.0	100.0	59.7	1,295
40-44	46.9	1.2	1.5	50.3	0.0	100.0	49.6	1,030
45-49	45.2	1.2	0.9	52.4	0.3	100.0	47.3	857
Residence								
Urban	75.2	1.7	1.5	21.5	0.1	100.0	78.4	5,051
Rural	49.1	2.5	2.4	45.9	0.0	100.0	54.0	4,345
Region								
Western	65.9	1.6	2.8	29.7	0.0	100.0	70.3	1,038
Central	67.0	2.5	1.6	29.0	0.0	100.0	71.0	937
Greater Accra	77.5	1.8	1.5	19.0	0.1	100.0	80.8	1,898
Volta	58.7	4.3	1.9	34.9	0.2	100.0	64.9	720
Eastern	68.0	2.4	0.9	28.7	0.0	100.0	71.3	878
Ashanti	73.8	1.7	1.1	23.5	0.0	100.0	76.5	1,798
Brong Ahafo	57.0	2.4	1.1	39.4	0.1	100.0	60.5	769
Northern	23.1	1.1	3.3	72.4	0.2	100.0	27.4	786
Upper East	32.9	3.2	5.7	58.2	0.0	100.0	41.8	358
Upper West	31.3	1.9	3.6	63.2	0.0	100.0	36.8	215
Wealth quintile								
Lowest	25.8	2.9	2.9	68.3	0.0	100.0	31.6	1,511
Second	45.3	2.5	2.5	49.5	0.2	100.0	50.3	1,636
Middle	62.5	2.3	2.1	33.1	0.0	100.0	66.9	1,938
Fourth	77.7	1.9	1.4	18.9	0.1	100.0	81.0	2,117
Highest	88.7	1.4	0.9	8.9	0.0	100.0	91.0	2,194
Total	63.1	2.1	1.9	32.8	0.1	100.0	67.1	9,396

[1] Refers to women who attended secondary school or higher and women who can read a whole sentence or part of a sentence

Table 3.4.2 shows that men have a higher literacy level than women (82 percent versus 67 percent). This is an increase from the 2008 GDHS, which reported a literacy level of 77 percent among men. Similar to women, literacy among men is highest for the 15-24 age group (89 percent). Seventy-two percent of rural men are literate, as compared with 91 percent of urban men. There are variations across regions. Greater Accra has the highest proportion of literate men (92 percent), while Northern has the lowest proportion (45 percent). Literacy increases steadily with wealth from 52 percent among the poorest men to 99 percent among men in the highest wealth quintile.

Table 3.4.2 Literacy: Men

Percent distribution of men age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Ghana 2014

Background characteristic	Secondary school or higher	No schooling or primary school				Total	Percentage literate[1]	Number of men
		Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language			
Age								
15-24	80.4	4.4	4.6	10.7	0.0	100.0	89.3	1,443
15-19	76.5	6.5	6.8	10.3	0.0	100.0	89.7	855
20-24	86.1	1.3	1.4	11.3	0.0	100.0	88.7	588
25-29	77.1	0.6	2.2	19.9	0.0	100.0	80.0	589
30-34	75.2	0.5	2.9	21.4	0.0	100.0	78.6	552
35-39	74.5	0.9	2.8	21.9	0.0	100.0	78.1	473
40-44	70.6	1.9	3.6	23.5	0.4	100.0	76.1	456
45-49	73.0	1.5	1.6	23.7	0.2	100.0	76.0	355
Residence								
Urban	87.1	1.4	2.7	8.8	0.0	100.0	91.2	2,050
Rural	64.8	3.2	4.1	27.7	0.1	100.0	72.1	1,819
Region								
Western	80.4	1.4	5.2	12.6	0.4	100.0	87.0	447
Central	82.4	2.3	1.3	14.0	0.0	100.0	86.0	380
Greater Accra	87.2	1.2	3.9	7.7	0.0	100.0	92.3	831
Volta	72.5	5.4	5.1	16.8	0.0	100.0	83.0	295
Eastern	80.4	3.5	3.1	12.9	0.0	100.0	87.1	362
Ashanti	86.5	1.0	2.6	9.9	0.0	100.0	90.1	680
Brong Ahafo	73.9	2.7	1.3	21.8	0.2	100.0	77.9	320
Northern	40.4	2.0	2.5	55.0	0.0	100.0	45.0	316
Upper East	42.7	5.4	5.7	46.2	0.0	100.0	53.8	146
Upper West	50.1	4.7	6.0	39.2	0.0	100.0	60.8	91
Wealth quintile								
Lowest	42.8	4.8	4.6	47.9	0.0	100.0	52.1	639
Second	63.3	4.9	4.6	27.0	0.1	100.0	72.8	648
Middle	77.3	1.8	4.5	16.2	0.3	100.0	83.5	770
Fourth	88.1	0.8	3.0	8.1	0.0	100.0	91.9	848
Highest	97.2	0.5	1.2	1.0	0.0	100.0	99.0	963
Total 15-49	76.6	2.3	3.4	17.7	0.1	100.0	82.2	3,869
50-59	70.3	1.3	2.0	26.3	0.0	100.0	73.7	519
Total 15-59	75.8	2.2	3.2	18.7	0.1	100.0	81.2	4,388

[1] Refers to men who attended secondary school or higher and men who can read a whole sentence or part of a sentence

3.5 ACCESS TO MASS MEDIA

In the 2014 GDHS, exposure to media was assessed by asking respondents whether they listened to the radio, watched television, or read a newspaper or magazine at least once a week. Programme managers and planners use this information to determine which media may be most effective for disseminating health-related information to targeted audiences. Tables 3.5.1 and 3.5.2 show exposure to specific media on a weekly basis, by background characteristics, for women and men.

The data show that 52 percent of women and 78 percent of men age 15-49 listen to the radio at least once a week, and 51 percent of women and 66 percent of men watch television at least once a week. Exposure to print media is much less common; 9 percent of women and 17 percent of men reported reading a newspaper or magazine at least once a week.

Overall media exposure is higher among men than women; 13 percent of men are exposed to all three media at least once a week, as compared with 5 percent of women. Thirty-one percent of women and 14 percent of men age 15-49 are not exposed to any media source.

There is a wide gap in exposure to mass media by place of residence. For example, the proportion of newspaper readers is notably higher among urban women and men (12 percent and 26 percent, respectively) than among their rural counterparts (4 percent and 8 percent, respectively). Women and men residing in the Greater Accra region are most likely to be exposed to all three media on a weekly basis (11 percent and 24 percent, respectively).

Media exposure is highly related to the educational level as well as economic status of respondents. While 17 percent of women and 28 percent of men with a secondary or higher education access all three specific media at least once a week, 1 percent or less of those with no education or with primary education do so. Likewise, 12 percent of women and 31 percent of men in the highest wealth quintile access all three media at least once a week compared with less than 1 percent of women and 2 percent of men in the lowest quintile. The reason for the lower level of exposure to media among poor respondents may be that they are less likely to own a radio or television and, therefore, less likely to be consistently exposed to these media sources.

Table 3.5.1 Exposure to mass media: Women

Percentage of women age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Ghana 2014

Background characteristic	Reads a newspaper or magazine at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Number of women
Age						
15-19	11.2	48.9	46.6	5.8	33.1	1,625
20-24	10.9	56.7	52.2	6.7	26.5	1,613
25-29	10.5	56.5	56.3	6.4	26.2	1,604
30-34	7.5	51.4	54.7	5.1	30.8	1,372
35-39	7.2	48.8	52.5	3.0	30.9	1,295
40-44	5.1	44.8	53.1	3.2	35.9	1,030
45-49	4.7	41.9	49.9	2.7	37.4	857
Residence						
Urban	12.4	65.7	57.1	7.8	21.9	5,051
Rural	4.4	33.5	46.6	1.7	41.3	4,345
Region						
Western	9.9	47.5	50.3	3.9	31.0	1,038
Central	8.7	47.6	54.0	4.0	29.6	937
Greater Accra	18.2	72.4	59.0	11.1	16.5	1,898
Volta	7.9	44.4	48.7	5.7	38.2	720
Eastern	10.1	49.9	53.3	6.3	29.7	878
Ashanti	3.8	52.7	53.1	2.4	31.7	1,798
Brong Ahafo	5.4	40.2	51.0	3.1	37.2	769
Northern	2.0	32.9	36.8	1.2	48.6	786
Upper East	2.3	26.2	52.4	1.3	39.3	358
Upper West	3.1	43.8	55.3	1.5	33.1	215
Education						
No education	0.0	30.2	41.3	0.0	47.5	1,792
Primary	1.1	42.3	45.2	0.5	38.2	1,672
Middle/JSS/JHS	6.2	53.1	54.2	3.0	29.1	3,862
Secondary+	26.9	71.2	63.7	16.6	13.7	2,070
Wealth quintile						
Lowest	1.0	15.5	38.8	0.3	54.6	1,511
Second	3.0	33.8	48.1	1.4	40.2	1,636
Middle	5.5	49.6	48.1	2.9	33.0	1,938
Fourth	10.4	66.5	58.4	5.4	19.2	2,117
Highest	19.3	73.8	62.3	12.3	16.8	2,194
Total	8.7	50.8	52.2	5.0	30.8	9,396

Table 3.5.2 Exposure to mass media: Men

Percentage of men age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Ghana 2014

Background characteristic	Reads a newspaper or magazine at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Number of men
Age						
15-19	13.7	61.6	66.7	9.4	18.7	855
20-24	20.0	67.2	82.2	14.0	10.3	588
25-29	18.5	68.7	76.6	15.1	14.4	589
30-34	18.4	71.5	82.9	14.8	10.8	552
35-39	16.8	66.7	84.7	14.2	10.7	473
40-44	15.4	61.4	78.4	11.4	13.0	456
45-49	18.6	62.0	79.1	15.6	15.0	355
Residence						
Urban	25.6	79.3	79.7	21.4	10.8	2,050
Rural	7.5	50.1	75.2	3.9	16.9	1,819
Region						
Western	12.8	69.4	83.1	8.6	5.4	447
Central	17.6	48.3	52.5	8.3	30.5	380
Greater Accra	27.8	86.8	87.1	23.7	5.1	831
Volta	8.7	63.0	78.5	6.3	12.5	295
Eastern	17.9	63.8	81.1	12.0	7.4	362
Ashanti	21.3	76.4	85.8	18.2	10.7	680
Brong Ahafo	11.2	51.3	83.5	8.8	13.2	320
Northern	3.4	36.4	58.2	3.1	32.6	316
Upper East	11.4	50.1	69.2	8.7	19.9	146
Upper West	8.3	34.6	50.1	4.8	38.6	91
Education						
No education	0.0	30.8	62.1	0.0	29.8	362
Primary	2.2	51.4	68.2	0.8	21.3	543
Middle/JSS/JHS	11.8	68.0	78.8	8.2	12.0	1,626
Secondary+	34.2	77.8	84.2	27.7	8.1	1,336
Wealth quintile						
Lowest	5.1	26.8	64.3	2.1	27.5	639
Second	5.2	49.6	74.5	2.6	16.2	648
Middle	9.8	69.1	79.2	6.1	12.9	770
Fourth	19.3	80.4	79.8	15.3	10.8	848
Highest	37.0	86.1	85.2	31.3	5.9	963
Total 15-49	17.1	65.6	77.6	13.1	13.6	3,869
50-59	20.0	55.4	83.8	16.8	11.4	519
Total 15-59	17.4	64.4	78.3	13.6	13.4	4,388

3.6   EMPLOYMENT

3.6.1 Employment Status

The 2014 GDHS asked respondents a number of questions regarding their employment status, including whether they were working during the seven days preceding the survey and, if not, whether they had worked in the 12 months before the survey. The results for women and men are presented in Tables 3.6.1 and 3.6.2, respectively.

At the time of the survey, 73 percent of women were currently employed, and 3 percent were not currently employed but had worked sometime during the past 12 months (Figure 3.1).

Figure 3.1 Women's employment status in the past 12 months

Not employed in the
12 months preceding
the survey
23%

Not currently
employed but
worked in past
12 months
3%

Currently employed
73%
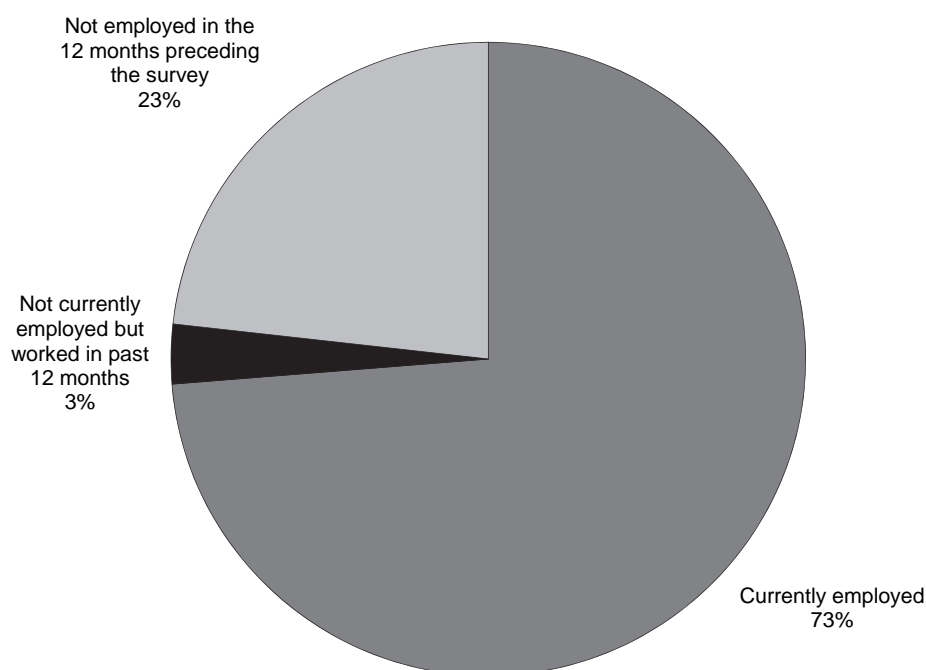
GDHS 2014

Table 3.6.1 shows that the proportion of women currently employed increases from 33 percent in the 15-19 age group to more than 90 percent for those age 40-44 and 45-49 (91 percent and 93 percent, respectively). Never-married women are less likely to be currently employed (50 percent) compared with currently or previously married women (85 percent and 88 percent, respectively). Current employment increases with the number of living children from 51 percent of women with no children to 89 percent among those with five or more children.

There are no notable variations in women's current employment by place of residence. Across regions, women in Ashanti are most likely to be currently employed (77 percent), while women in Eastern and Upper East regions are least likely to be currently employed (66 percent each).

Current employment among women decreases steadily with their level of education from 86 percent of women with no education to 66 percent of those with a secondary or higher education. There are no pronounced differences in women's current employment by wealth status.

Table 3.6.1 Employment status: Women

Percent distribution of women age 15-49 by employment status, according to background characteristics, Ghana 2014

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number of women
	Currently employed[1]	Not currently employed			
Age					
15-19	32.6	2.8	64.5	100.0	1,625
20-24	60.8	4.8	34.4	100.0	1,613
25-29	81.8	3.4	14.8	100.0	1,604
30-34	86.0	2.6	11.4	100.0	1,372
35-39	89.3	3.9	6.9	100.0	1,295
40-44	92.7	1.8	5.4	100.0	1,030
45-49	91.3	2.0	6.7	100.0	857
Marital status					
Never married	49.6	4.0	46.4	100.0	3,094
Married or living together	84.5	2.8	12.7	100.0	5,321
Divorced/separated/widowed	88.0	2.8	9.2	100.0	981
Number of living children					
0	51.1	3.9	45.0	100.0	2,994
1-2	78.0	3.3	18.7	100.0	2,843
3-4	88.2	2.4	9.4	100.0	2,119
5+	89.0	2.4	8.5	100.0	1,440
Residence					
Urban	73.0	3.7	23.3	100.0	5,051
Rural	73.9	2.6	23.5	100.0	4,345
Region					
Western	72.7	0.3	27.0	100.0	1,038
Central	74.5	3.0	22.5	100.0	937
Greater Accra	76.0	4.7	19.3	100.0	1,898
Volta	67.8	1.7	30.4	100.0	720
Eastern	65.7	4.6	29.5	100.0	878
Ashanti	76.8	3.8	19.3	100.0	1,798
Brong Ahafo	74.6	2.9	22.6	100.0	769
Northern	76.0	2.2	21.8	100.0	786
Upper East	65.7	3.6	30.6	100.0	358
Upper West	70.0	1.5	28.6	100.0	215
Education					
No education	86.1	2.6	11.3	100.0	1,792
Primary	75.5	2.3	22.2	100.0	1,672
Middle/JSS/JHS	70.6	3.0	26.4	100.0	3,862
Secondary+	65.8	4.8	29.4	100.0	2,070
Wealth quintile					
Lowest	75.4	2.1	22.5	100.0	1,511
Second	72.2	2.8	24.9	100.0	1,636
Middle	73.0	2.9	24.0	100.0	1,938
Fourth	73.2	3.3	23.5	100.0	2,117
Highest	73.4	4.3	22.3	100.0	2,194
Total	73.4	3.2	23.4	100.0	9,396

[1] "Currently employed" is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

Table 3.6.2 shows that the proportion of men age 15-49 who are currently employed (82 percent) is higher than the proportion of women (73 percent). The percentage of currently employed men is lowest in the 15-19 age group (45 percent). Similar to women, never-married men (64 percent) and those with no living children (66 percent) are much less likely to be currently employed than ever-married men (96-99 percent) and men with living children (98-100 percent).

Men living in rural areas (86 percent) are more likely to be currently employed than men in urban areas (79 percent). Current employment among men ranges from 76 percent among residents of Upper West to 88 percent among men living in Brong Ahafo and Northern (88 percent each). Men with no education (99 percent) and those in the lowest wealth quintile (86 percent) are more likely to be currently employed when compared with the other subgroups.

Twenty-three percent of women and 15 percent of men were not employed during the 12 months preceding the survey.

Table 3.6.2 Employment status: Men

Percent distribution of men age 15-49 by employment status, according to background characteristics, Ghana 2014

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number of men
	Currently employed[1]	Not currently employed			
Age					
15-19	45.1	4.4	50.4	100.0	855
20-24	74.7	5.3	20.0	100.0	588
25-29	92.1	3.2	4.7	100.0	589
30-34	98.6	0.8	0.6	100.0	552
35-39	99.5	0.2	0.3	100.0	473
40-44	98.8	0.7	0.5	100.0	456
45-49	98.7	0.0	1.3	100.0	355
Marital status					
Never married	64.4	4.7	30.9	100.0	1,851
Married or living together	99.0	0.3	0.7	100.0	1,846
Divorced/separated/widowed	95.8	2.2	2.0	100.0	172
Number of living children					
0	66.1	4.4	29.4	100.0	1,944
1-2	98.2	0.9	0.9	100.0	839
3-4	98.6	0.3	1.0	100.0	649
5+	99.6	0.0	0.4	100.0	437
Residence					
Urban	79.1	2.8	18.1	100.0	2,050
Rural	85.9	2.2	11.9	100.0	1,819
Region					
Western	85.9	3.4	10.7	100.0	447
Central	79.3	2.6	18.1	100.0	380
Greater Accra	81.1	2.5	16.5	100.0	831
Volta	80.9	3.6	15.2	100.0	295
Eastern	76.8	1.8	21.4	100.0	362
Ashanti	82.2	2.1	15.7	100.0	680
Brong Ahafo	87.6	2.8	9.6	100.0	320
Northern	88.0	0.7	11.3	100.0	316
Upper East	82.6	3.3	14.1	100.0	146
Upper West	76.0	4.0	20.0	100.0	91
Education					
No education	99.3	0.4	0.3	100.0	362
Primary	82.5	2.9	14.5	100.0	543
Middle/JSS/JHS	80.1	2.0	17.9	100.0	1,626
Secondary+	80.3	3.5	16.2	100.0	1,336
Wealth quintile					
Lowest	85.6	2.0	12.4	100.0	639
Second	83.3	2.7	13.9	100.0	648
Middle	83.9	3.1	13.0	100.0	770
Fourth	78.8	2.4	18.8	100.0	848
Highest	81.2	2.3	16.5	100.0	963
Total 15-49	82.3	2.5	15.2	100.0	3,869
50-59	97.7	0.3	2.1	100.0	519
Total 15-59	84.1	2.2	13.7	100.0	4,388

[1] *Currently employed* is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

3.6.2 Occupation

Respondents who were currently employed or who had worked in the 12 months preceding the survey were asked to state their occupation. The results presented in Tables 3.7.1 and 3.7.2 show the percent distribution of currently employed women and men by occupation, and background characteristics.

The type of occupation varies greatly by gender. The leading occupation among women is sales and services, which employs more than half of women (51 percent). Other occupations in which women are engaged include agriculture (24 percent), skilled manual labour (14 percent), professional, technical, or managerial work (7 percent), and unskilled manual labour and clerical positions (2 percent each).

Among men, on the other hand, agriculture is the leading occupation, with 35 percent of men engaged in this occupation. Twenty percent of men report doing skilled manual labour, 15 percent are engaged in unskilled manual labour, 14 percent do professional, technical, or managerial work or work in sales and services, and only 2 percent do clerical work.

The percentage of women and men age 15-49 who work in agriculture has decreased since the 2008 GDHS survey, dropping from 30 percent to 24 percent for women and from 41 percent to 35 percent for men.

The relationship between occupation and age varies. One notable finding is that the proportion of young women and men engaged in agriculture is relatively high among youth age 15-19 (28 percent for women and 53 percent for men); then it decreases somewhat, before it increases again for the older respondents age 40-49.

Table 3.7.1 Occupation: Women

Percent distribution of women age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Ghana 2014

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agriculture	Total	Number of women
Age								
15-19	2.2	0.3	53.4	13.6	2.8	27.7	100.0	576
20-24	9.7	3.0	50.6	15.2	2.4	18.9	100.0	1,057
25-29	13.3	2.7	47.8	15.8	2.2	17.9	100.0	1,366
30-34	7.3	1.7	52.0	15.1	2.0	21.6	100.0	1,215
35-39	5.7	0.8	52.6	13.8	1.8	24.8	100.0	1,206
40-44	3.5	0.8	51.6	12.3	1.8	29.9	100.0	973
45-49	4.6	0.8	46.8	9.0	2.1	36.8	100.0	800
Marital status								
Never married	13.1	3.9	50.7	16.1	3.0	13.0	100.0	1,657
Married or living together	5.9	1.0	48.7	13.1	1.4	29.5	100.0	4,647
Divorced/separated/widowed	3.7	0.3	60.0	13.4	4.0	18.3	100.0	891
Number of living children								
0	14.4	4.5	50.6	14.8	2.8	12.8	100.0	1,647
1-2	8.5	1.4	55.7	16.0	1.9	16.2	100.0	2,311
3-4	4.0	0.5	53.1	12.8	2.3	27.1	100.0	1,920
5+	1.2	0.0	37.9	10.5	1.3	49.0	100.0	1,317
Residence								
Urban	10.2	2.5	64.0	14.9	2.4	5.7	100.0	3,871
Rural	3.9	0.5	34.9	12.6	1.8	46.1	100.0	3,323
Region								
Western	6.3	1.7	54.5	14.5	1.8	21.1	100.0	758
Central	7.6	1.0	53.6	16.0	2.0	19.6	100.0	726
Greater Accra	11.7	3.1	66.1	12.7	4.2	2.2	100.0	1,531
Volta	7.2	0.4	38.3	19.4	0.9	33.5	100.0	501
Eastern	7.9	0.6	60.6	8.7	1.2	20.8	100.0	618
Ashanti	7.3	2.3	54.8	14.6	2.2	18.5	100.0	1,449
Brong Ahafo	4.6	1.0	36.2	14.7	0.5	43.0	100.0	595
Northern	2.0	0.3	22.8	10.3	0.3	64.2	100.0	615
Upper East	3.0	0.5	35.3	13.6	3.6	44.1	100.0	248
Upper West	4.3	0.4	13.2	19.4	1.5	59.4	100.0	153
Education								
No education	0.6	0.0	30.6	11.9	1.7	55.1	100.0	1,589
Primary	0.9	0.0	51.9	14.8	2.8	29.4	100.0	1,301
Middle/JSS/JHS	1.5	0.4	62.2	17.9	2.1	15.8	100.0	2,843
Secondary+	31.7	7.1	48.4	7.4	2.0	3.0	100.0	1,462
Wealth quintile								
Lowest	0.4	0.1	17.9	11.2	1.2	69.3	100.0	1,171
Second	1.0	0.3	32.8	13.4	1.8	50.5	100.0	1,228
Middle	3.9	0.4	56.2	17.6	3.2	18.5	100.0	1,471
Fourth	8.7	2.1	69.3	14.8	2.2	2.5	100.0	1,621
Highest	18.3	4.1	63.1	12.0	2.0	0.4	100.0	1,703
Total	7.3	1.6	50.6	13.9	2.1	24.3	100.0	7,195

Note: Totals may not add up to 100 percent because women with missing information are not shown separately.

Place of residence has a significant effect on type of occupation. As expected, a high proportion of respondents in rural areas, 46 percent of employed women and 61 percent of employed men—are engaged in agricultural work. Urban women (64 percent) are more likely to be engaged in sales and services, while urban men are more likely to be engaged in skilled manual labour (28 percent). Rural regions such as Northern have a high proportion of women and men who work in agriculture (64 percent and 75 percent, respectively). Urban regions, such as Greater Accra, by contrast, have a high proportion of women and men who work in sales and service (66 percent of women and 24 percent of men), and who do professional, technical or managerial work (12 percent of women and 22 percent of men). About one-fifth of women in Volta and Upper West regions (19 percent each) and more than one-quarter of men living in Greater Accra, Volta and Ashanti regions (26-27 percent) are engaged in skilled manual labor.

Table 3.7.2 Occupation: Men

Percent distribution of men age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Ghana 2014

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agriculture	Missing	Total	Number of men
Age									
15-19	4.2	0.9	14.6	15.3	11.9	53.0	0.2	100.0	423
20-24	11.2	3.1	17.1	21.6	16.9	29.9	0.2	100.0	471
25-29	20.2	2.2	11.1	22.8	15.2	27.7	0.7	100.0	561
30-34	17.6	2.6	15.1	23.2	14.6	26.8	0.1	100.0	549
35-39	16.9	1.8	12.3	20.1	16.8	30.5	1.6	100.0	472
40-44	11.6	0.9	13.0	18.3	15.5	40.6	0.1	100.0	454
45-49	14.6	2.6	14.5	19.6	9.3	39.0	0.4	100.0	350
Marital status									
Never married	15.3	2.8	16.7	19.4	12.9	32.4	0.4	100.0	1,278
Married or living together	13.1	1.6	12.0	21.5	14.9	36.3	0.6	100.0	1,833
Divorced/separated/widowed	16.4	0.9	13.1	14.9	23.3	31.4	0.0	100.0	169
Number of living children									
0	15.6	2.7	16.3	20.1	12.9	31.9	0.3	100.0	1,371
1-2	18.0	1.8	12.9	22.7	18.0	26.1	0.6	100.0	831
3-4	9.9	1.5	14.0	21.1	17.2	35.4	0.9	100.0	643
5+	8.6	0.9	8.1	15.4	9.3	57.5	0.2	100+	435
Residence									
Urban	20.6	2.8	20.5	28.4	17.6	9.5	0.6	100.0	1,679
Rural	7.4	1.2	7.0	12.0	11.3	60.8	0.4	100.0	1,601
Region									
Western	8.7	2.2	15.6	18.3	19.7	35.3	0.3	100.0	399
Central	18.4	2.7	13.9	17.9	15.7	31.1	0.2	100.0	311
Greater Accra	21.8	3.0	23.9	25.8	19.7	5.3	0.6	100.0	694
Volta	9.9	0.2	4.9	27.0	9.7	45.9	2.3	100.0	249
Eastern	16.5	2.6	9.7	18.8	15.1	36.1	1.2	100.0	285
Ashanti	15.9	2.5	16.5	27.2	16.1	21.9	0.0	100.0	573
Brong Ahafo	8.4	1.2	6.7	16.1	9.6	58.0	0.0	100.0	289
Northern	7.6	0.8	5.3	6.4	4.4	75.3	0.2	100.0	280
Upper East	4.7	0.0	9.9	9.1	7.5	68.9	0.0	100.0	125
Upper West	9.7	0.2	4.0	10.5	6.0	68.9	0.7	100.0	73
Education									
No education	1.5	0.0	7.2	6.0	8.6	76.7	0.0	100.0	361
Primary	2.8	0.3	6.4	17.0	14.2	59.2	0.0	100.0	464
Middle/JSS/JHS	3.8	0.8	14.9	28.5	18.7	32.8	0.5	100.0	1,335
Secondary+	35.4	4.8	17.9	16.7	11.6	12.7	0.9	100.0	1,119
Wealth quintile									
Lowest	0.7	0.0	2.8	5.0	3.4	88.1	0.0	100.0	559
Second	5.1	0.5	5.3	12.5	8.5	67.9	0.3	100.0	557
Middle	9.5	2.1	12.8	24.1	19.9	31.3	0.5	100.0	670
Fourth	14.9	2.7	19.9	32.7	23.1	5.9	0.8	100.0	689
Highest	33.0	3.9	23.4	22.9	14.8	1.4	0.7	100.0	804
Total 15-49	14.2	2.0	13.9	20.4	14.6	34.5	0.5	100.0	3,280
50-59	12.3	2.4	7.5	14.3	13.0	50.6	0.0	100.0	509
Total 15-59	13.9	2.1	13.0	19.6	14.3	36.7	0.4	100.0	3,788

The percentage of respondents who work in agriculture decreases notably with increasing level of education and wealth. For example, 55 percent of women with no education work in agriculture compared with just 3 percent of those with a secondary or higher education. Furthermore, less than 1 percent of the wealthiest women work in agriculture compared with 69 percent of women in the lowest wealth quintile.

As expected, the opposite patterns are observed for professional, technical, or managerial work. The percentage of respondents who work in these fields is highest among those with a secondary or higher education and among the wealthiest respondents. The same pattern is also observed among men who work in sales in services.

3.6.3   Earnings, Employers, and Continuity of Employment

Table 3.8 shows the percent distribution of women age 15-49 employed in the 12 months preceding the survey by the type of earnings and employer, and continuity of employment, according to type of employment (agricultural or nonagricultural occupations).

Overall, 26 percent of employed women in the agricultural sector are not paid at all while 31 percent are paid in cash and in-kind. Women are more likely to be paid in cash if they are employed in the nonagricultural sector; 71 percent of women employed in the nonagricultural sector receive cash earnings, compared with 32 percent of women in the agriculture sector. Fourteen percent of women who work in the nonagricultural sector are not paid, and 13 percent are paid in cash and in-kind.

The large majority of women employed in the agricultural and nonagricultural sector are self-employed (70 percent and 66 percent, respectively). Twenty-seven percent of women working in agriculture are employed by family members (27 percent), as compared with only 9 percent of women working in the nonagricultural sector. The opposite pattern is observed for employment by nonfamily members; more than one in four women in the nonagricultural sector is employed by a nonfamily member (26 percent), compared with 4 percent of women who work in the agricultural sector.

Sixty-two percent of women who work in agriculture are employed throughout the year, compared with 88 percent of those who do nonagricultural work. Women are more likely to do seasonal work if they work in the agricultural sector than if they work in the nonagricultural sector (35 percent versus 8 percent).

Table 3.8 Type of employment: Women

Percent distribution of women age 15-49 employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Ghana 2014

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	32.2	71.4	61.9
Cash and in-kind	31.0	12.7	17.1
In-kind only	11.2	2.3	4.4
Not paid	25.7	13.7	16.6
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	26.5	8.5	12.9
Employed by nonfamily member	3.9	25.8	20.5
Self-employed	69.6	65.6	66.6
Total	100.0	100.0	100.0
Continuity of employment			
All year	62.4	87.8	81.7
Seasonal	35.0	8.4	14.9
Occasional	2.5	3.7	3.5
Total	100.0	100.0	100.0
Number of women employed during the last 12 months	1,751	5,429	7,195

Note: Total includes women with missing information on type of employment who are not shown separately.

MARRIAGE AND SEXUAL ACTIVITY

4

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Key Findings:

- Median age at first marriage increased somewhat between the 2008 and 2014 GDHS surveys, from 19.8 to 20.7 years among women age 25-49 and from 25.9 years to 26.4 years among men age 30-59.
- The proportion of women married by age 15 ranges from 2 percent among women age 15-19 to 11 percent among women age 45-49.
- Ghanaian men marry later than women.
- The proportion of currently married women and men in polygynous unions is on the decline. Over the last six years, it has decreased from 18 percent to 16 percent among women and from 9 percent to 7 percent among men age 15-49.
- The median age at first sexual intercourse among respondents age 25-49 is lower among women (18.4 years) than among men (19.8 years).
- Overall, 44 percent of never-married men have never had sexual intercourse, as compared with 38 percent of never-married women.
- Eleven percent women and 5 percent men age 25-49 had their first sex by age 15, and 44 percent of women and 27 percent of men had their first intercourse by age 18.
- Forty-three percent of women and 46 percent of men age 15-49 were sexually active during the four weeks preceding the survey.

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This chapter discusses the principal factors other than contraception that affect women's chances of becoming pregnant. These factors include marriage and sexual activity. Marriage signals the onset of exposure to the risk of pregnancy for most women, and thus it is an important fertility indicator. In the context of the 2014 GDHS, marriage also includes living with partners in consensual but informal unions. In addition, this chapter includes information on more direct measures of the beginning of exposure to pregnancy and level of exposure, for example age at first sexual intercourse and frequency of recent sexual intercourse.

4.1 CURRENT MARITAL STATUS

Table 4.1 shows current marital status by age and sex. Fifty-seven percent of women and 48 percent of men age 15-49 are currently in a union; 42 percent and 38 percent, respectively, are married and 14 percent and 10 percent, respectively, are living together with a partner. A higher proportion of men (48 percent) than women (33 percent) have never been married. In combination, the percentage who are divorced, separated, or widowed is almost three times as high among women as among men (11 percent and 4 percent, respectively).

The proportion of women and men who have never been married decreases sharply with age, from more than 9 in 10 respondents age 15-19 to 1 percent of women and 4-5 percent of men in the 40-49 age group.

By contrast, the proportion of currently married women increases rapidly from 2 percent among women age 15-19 to 19 percent among those age 20-24 and peaks at 65 percent among women age 35-44. Among men, the percentage currently married also increases sharply with age, from less than 1 percent in the youngest age group to 5 percent among those age 20-24 and a high of 79-80 percent among men age 40-49.

The proportion of respondents who are divorced, separated, or widowed tends to increase with age among both women and men.

Table 4.1 Current marital status

Percent distribution of women and men age 15-49 by current marital status, according to age, Ghana 2014

| Age | Marital status | | | | | | Total | Percentage of respondents currently in union | Number of respondents |
	Never married	Married	Living together	Divorced	Separated	Widowed			
	WOMEN								
15-19	92.8	2.3	4.1	0.1	0.7	0.0	100.0	6.4	1,625
20-24	57.9	19.4	18.2	0.7	3.7	0.1	100.0	37.6	1,613
25-29	27.1	45.9	20.3	1.5	3.9	1.3	100.0	66.2	1,604
30-34	9.9	61.3	17.3	3.1	6.5	1.9	100.0	78.6	1,372
35-39	4.6	64.9	15.4	6.0	5.6	3.5	100.0	80.3	1,295
40-44	1.3	65.1	14.6	4.6	8.3	6.1	100.0	79.7	1,030
45-49	1.0	61.6	9.6	8.8	7.8	11.2	100.0	71.2	857
Total	32.9	42.2	14.4	3.0	4.8	2.7	100.0	56.6	9,396
	MEN								
15-19	99.5	0.1	0.4	0.0	0.0	0.0	100.0	0.5	855
20-24	88.1	4.5	5.8	0.0	1.6	0.0	100.0	10.3	588
25-29	51.0	28.7	15.8	1.1	3.2	0.3	100.0	44.5	589
30-34	20.4	53.7	20.5	2.0	3.3	0.1	100.0	74.2	552
35-39	6.6	72.9	12.8	3.2	3.5	1.0	100.0	85.7	473
40-44	5.2	78.5	8.7	5.5	1.7	0.5	100.0	87.2	456
45-49	4.0	79.9	6.3	5.4	3.4	1.0	100.0	86.2	355
Total 15-49	47.8	38.3	9.5	2.0	2.1	0.3	100.0	47.7	3,869
50-59	2.6	79.4	6.1	6.2	2.3	3.3	100.0	85.6	519
Total 15-59	42.5	43.1	9.1	2.5	2.1	0.7	100.0	52.2	4,388

4.2 POLYGYNY

Marital unions are predominantly of two types, those that are monogamous and those that are polygynous. The distinction has social significance and probable fertility implications, although the association between union type and fertility is complex and not well understood. Polygyny, the practice of having more than one wife, has connotations for the frequency of sexual intercourse and thus may have an effect on fertility. The extent of polygyny in Ghana was measured by asking all currently married female respondents whether their husband or partner had other wives (co-wives) and, if so, how many. Currently married men were also asked whether they had one or more wives or partners with whom they were living.

Tables 4.2.1 and 4.2.2 show the percent distribution of currently married women with co-wives and the percentage of currently married men with two or more wives. The data show that, overall, the majority of Ghanaian women (84 percent) and men (93 percent) age 15-49 are in monogamous unions. Thirteen percent of women have one co-wife, and 2 percent have two or more co-wives.

The percentage of respondents in polygynous unions increases with age among both women and men. For example, 9 percent of women age 15-19 report that they have co-wives, as compared with 23 percent in the 45-49 age group. Polygyny is more prevalent in the rural areas, with 20 percent of women and 10 percent of men age 15-49 being in polygynous unions. Across the regions, polygyny among women is highest in Northern (42 percent) and lowest in Greater Accra (8 percent). Among men, it is highest in the Northern region (27 percent) and lowest in the Western, Central, and Ashanti regions (2 percent each).

The data further show that education and wealth are negatively associated with polygyny among both women and men. Thirty-one percent of women with no education are in a polygynous union compared with 5 percent of those with a secondary or higher education. Similarly, the percentage of men in a polygynous union decreases from 22 percent among those with no education to 3 percent among those with a secondary or higher education. Polygyny is highest among the poorest respondents; 36 percent of women and 23 percent of men in the lowest quintile are in a polygynous union.

Polygyny has decreased somewhat since the 2008 GDHS survey, from 18 percent to 16 percent among women and from 9 percent to 7 percent among men.

Table 4.2.1 Number of women's co-wives

Percent distribution of currently married women age 15-49 by number of co-wives, according to background characteristics, Ghana 2014

Background characteristic	Number of co-wives					Number of women
	0	1	2+	Don't know	Total	
Age						
15-19	87.6	9.1	0.0	3.3	100.0	104
20-24	87.3	10.0	1.9	0.9	100.0	606
25-29	88.8	9.4	0.9	0.7	100.0	1,062
30-34	85.3	11.8	2.3	0.6	100.0	1,078
35-39	83.7	14.0	1.9	0.4	100.0	1,040
40-44	77.5	17.4	4.6	0.5	100.0	821
45-49	76.4	19.0	4.1	0.5	100.0	611
Residence						
Urban	88.5	9.4	1.3	0.7	100.0	2,664
Rural	79.0	16.9	3.5	0.5	100.0	2,657
Region						
Western	89.2	8.9	0.9	1.1	100.0	547
Central	88.9	10.5	0.2	0.2	100.0	532
Greater Accra	91.2	6.4	1.3	1.1	100.0	1,005
Volta	77.0	18.3	4.4	0.4	100.0	405
Eastern	88.9	9.5	0.6	1.0	100.0	500
Ashanti	90.6	7.4	1.4	0.5	100.0	969
Brong Ahafo	83.6	13.4	2.5	0.5	100.0	439
Northern	57.2	34.4	7.9	0.4	100.0	561
Upper East	67.7	27.3	5.0	0.0	100.0	218
Upper West	75.0	19.2	5.7	0.1	100.0	146
Education						
No education	68.4	24.7	6.2	0.7	100.0	1,478
Primary	85.1	12.7	1.9	0.2	100.0	979
Middle/JSS/JHS	89.9	8.6	0.6	0.8	100.0	2,063
Secondary+	94.5	4.4	0.5	0.5	100.0	801
Wealth quintile						
Lowest	63.0	29.7	6.7	0.6	100.0	1,016
Second	83.1	13.2	3.3	0.4	100.0	964
Middle	85.7	12.1	1.1	1.0	100.0	1,001
Fourth	90.3	8.5	0.6	0.5	100.0	1,090
Highest	93.8	4.6	0.8	0.6	100.0	1,250
Total	83.7	13.2	2.4	0.6	100.0	5,321

Note: Totals may not add up to 100 percent because women with missing information have been deleted.

Table 4.2.2 Number of men's wives

Percent distribution of currently married men age 15-49 by number of wives, according to background characteristics, Ghana 2014

Background characteristic	Number of wives		Total	Number of men
	1	2+		
Age				
15-19	*	*	100.0	4
20-24	100.0	0.0	100.0	61
25-29	97.0	3.0	100.0	262
30-34	95.9	4.1	100.0	410
35-39	93.6	6.4	100.0	406
40-44	88.7	11.3	100.0	398
45-49	90.0	10.0	100.0	306
Residence				
Urban	96.3	3.7	100.0	935
Rural	89.9	10.1	100.0	911
Region				
Western	98.2	1.8	100.0	207
Central	97.8	2.2	100.0	196
Greater Accra	96.9	3.1	100.0	395
Volta	86.0	14.0	100.0	150
Eastern	95.7	4.3	100.0	159
Ashanti	98.5	1.5	100.0	298
Brong Ahafo	92.6	7.4	100.0	159
Northern	72.9	27.1	100.0	168
Upper East	83.2	16.8	100.0	69
Upper West	90.0	10.0	100.0	44
Education				
No education	78.3	21.7	100.0	287
Primary	91.4	8.6	100.0	243
Middle/JSS/JHS	96.3	3.7	100.0	768
Secondary+	97.3	2.7	100.0	547
Wealth quintile				
Lowest	77.3	22.7	100.0	312
Second	92.8	7.2	100.0	308
Middle	95.8	4.2	100.0	373
Fourth	97.4	2.6	100.0	374
Highest	98.4	1.6	100.0	479
Total 15-49	93.2	6.8	100.0	1,846
50-59	88.4	11.6	100.0	444
Total 15-59	92.2	7.8	100.0	2,290

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

4.3   AGE AT FIRST MARRIAGE

Whether or not the start of marriage coincides with the initiation of sexual intercourse, and thus the beginning of exposure to the risk of pregnancy, it is an important social and demographic indicator and, in most societies, represents the point in a person's life when childbearing first becomes acceptable. Duration of exposure to the risk of pregnancy depends primarily on the age at which women first marry. Women who marry early, on average, are more likely to have their first child at a young age and give birth to more children overall, contributing to higher fertility.

Table 4.3 shows the percentage of women and men age 15-49 who have married by specific ages, according to current age. Age at first marriage is defined as the age at which the respondent began living with her or his first spouse/partner. Marriage occurs relatively early among women in Ghana; among women age 25-49, 45 percent were married by age 20 and 58 percent by age 22. The median age at first marriage among women age 25-49 is 20.7 years. The proportion of women married by age 15 declines from 11 percent in the 45-49 age group to 2 percent in the 15-19 age group, indicating a rising age at first marriage.

Men in Ghana generally marry later than women. Overall, 10 percent of men age 25-49 were married by age 20, compared with 45 percent of women the same age. Only 2 percent of men age 20-24

were married by age 18, as compared with 21 percent of women in the same age group. By age 25, 42 percent of men age 45-49 are married, compared with 83 percent of women.

Table 4.3 Age at first marriage

Percentage of women and men age 15-49 who were first married by specific exact ages and median age at first marriage, according to current age, Ghana 2014

Current age	Percentage first married by exact age:					Percentage never married	Number of respondents	Median age at first marriage
	15	18	20	22	25			
WOMEN								
15-19	1.6	na	na	na	na	92.8	1,625	a
20-24	4.9	20.7	31.9	na	na	57.9	1,613	a
25-29	5.4	23.9	37.5	47.9	62.8	27.1	1,604	22.4
30-34	6.2	26.9	41.7	54.2	68.1	9.9	1,372	21.2
35-39	8.7	28.3	44.0	58.5	73.5	4.6	1,295	20.7
40-44	8.4	35.2	51.3	67.2	79.4	1.3	1,030	19.8
45-49	11.0	34.6	56.7	68.4	83.3	1.0	857	19.3
20-49	7.0	27.2	42.1	na	na	20.4	7,771	a
25-49	7.6	28.9	44.8	57.6	71.9	10.6	6,158	20.7
MEN								
15-19	0.0	na	na	na	na	99.5	855	a
20-24	0.0	2.3	5.0	na	na	88.1	588	a
25-29	0.0	2.4	7.8	18.7	34.5	51.0	589	a
30-34	0.0	4.3	10.8	20.1	40.2	20.4	552	26.6
35-39	0.0	4.7	9.9	23.8	38.8	6.6	473	26.8
40-44	0.0	3.1	12.1	20.2	39.3	5.2	456	25.9
45-49	0.0	3.8	10.4	24.1	41.5	4.0	355	26.3
20-49	0.0	3.4	9.1	na	na	33.2	3,014	a
25-49	0.0	3.6	10.1	21.1	38.6	19.9	2,425	a
20-59	0.0	3.3	9.3	na	na	28.7	3,533	a
25-59	0.0	3.5	10.2	21.1	39.1	16.8	2,945	a

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents began living with their spouse or partner for the first time before reaching the beginning of the age group

4.4 MEDIAN AGE AT FIRST MARRIAGE

Table 4.4 presents the median age at first marriage for women age 25-49 and men age 30-59 according to background characteristics. The data show that median age at first marriage is 20.7 years among women and 26.4 years among men.

Urban women marry 3.5 years later than rural women (22.7 years versus 19.2 years). By region, women in Northern marry the earliest, at a median age of 18.7 years, and women in Greater Accra marry the latest, at a median age of 23.7 years, a five-year difference.

The data further show that women with no education or with a primary education (18.8 years each) and those in the lowest wealth quintile (18.7 years) marry at a lower median age than women in the other subgroups.

Similar patterns are observed among men. Among men age 30-59, those living in urban areas marry more than three years later than their rural counterparts (28.2 years and 24.9 years, respectively). Men in Greater Accra have the highest median age at first marriage (28.7 years) and men in Upper East have the lowest median (24.4 years). Men with no education marry at a median age of 24.5 years, more than five years earlier than men with a secondary or higher education, who have a median age at first marriage of 29.6 years. Similar to women, median marriage at first marriage among men increases with wealth and is lowest among the poorest men (24.6 years).

Median age at first marriage increased somewhat between the 2008 and 2014 GDHS surveys, from 19.8 to 20.7 years among women age 25-49 and from 25.9 years to 26.4 years among men age 30-59.

4.5   AGE AT FIRST SEXUAL INTERCOURSE

Age at first marriage is often used as a proxy for the onset of women's exposure to the risk of pregnancy. However, because some women are sexually active before marriage, the age at which women initiate sexual intercourse more precisely marks the beginning of their exposure to pregnancy. Information on age at first sexual intercourse allows an assessment of trends across age cohorts.

Table 4.5 shows the percentage of women and men who had first sexual intercourse by specific ages and the median age at first intercourse, irrespective of marital status. The data show that among women age 25-49, 11 percent had their first sexual intercourse by age 15, 44 percent by age 18, and 68 percent by age 20. The median age at first intercourse among women age 25-49 is 18.4 years, more than two years lower than the median age at first marriage (20.7 years), suggesting that Ghanaian women in general initiate sexual intercourse before their first marriage.

The median age at first sexual intercourse among men age 25-49 is 19.8 years, higher than among women in the same age group (18.4 years). Among men age 25-49, 5 percent had their first sexual intercourse by age 15, 27 percent by age 18, and 52 percent by age 20. Among respondents age 15-24, a substantially higher proportion of men (53 percent) than women (35 percent) have never had intercourse. However, within the 25-49 age group, just 1 percent of women and 2 percent of men have never had sexual intercourse.

Table 4.4 Median age at first marriage by background characteristics

Median age at first marriage among women age 25-49 and median age at first marriage among men age 30-59, according to background characteristics, Ghana 2014

Background characteristic	Women age 25-49	Men age 30-59
Residence		
Urban	22.7	28.2
Rural	19.2	24.9
Region		
Western	19.8	26.4
Central	20.0	25.9
Greater Accra	23.7	28.7
Volta	20.5	25.2
Eastern	20.4	25.5
Ashanti	20.8	27.2
Brong Ahafo	21.5	25.0
Northern	18.7	25.2
Upper East	18.9	24.4
Upper West	18.9	24.6
Education		
No education	18.8	24.5
Primary	18.8	25.4
Middle/JSS/JHS	21.0	25.6
Secondary+	a	29.6
Wealth quintile		
Lowest	18.7	24.6
Second	19.2	25.0
Middle	19.4	25.2
Fourth	21.6	26.8
Highest	24.8	a
Total	20.7	26.4

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.
a = Omitted because less than 50 percent of the respondents began living with their spouse or partner for the first time before reaching the beginning of the age group

Table 4.5 Age at first sexual intercourse

Percentage of women and men age 15-49 who had first sexual intercourse by specific exact ages, percentage who never had sexual intercourse, and median age at first sexual intercourse, according to current age, Ghana 2014

| Current age | Percentage who had first sexual intercourse by exact age: | | | | | Percentage who never had sexual intercourse | Number | Median age at first sexual intercourse |
	15	18	20	22	25			
				WOMEN				
15-19	11.8	na	na	na	na	57.3	1,625	a
20-24	9.7	43.3	72.2	na	na	12.9	1,613	18.4
25-29	9.2	39.2	65.2	79.8	90.4	2.8	1,604	18.6
30-34	10.6	41.0	64.3	79.3	86.7	0.5	1,372	18.6
35-39	10.9	41.9	65.5	80.0	89.6	0.1	1,295	18.6
40-44	10.8	50.9	74.0	85.6	91.9	0.0	1,030	17.9
45-49	13.6	51.2	73.2	83.3	90.7	0.0	857	17.9
20-49	10.5	43.7	68.6	na	na	3.3	7,771	18.4
25-49	10.7	43.8	67.7	81.2	89.7	0.8	6,158	18.4
15-24	10.7	na	na	na	na	35.2	3,238	a
				MEN				
15-19	9.3	na	na	na	na	73.4	855	a
20-24	7.8	29.2	58.2	na	na	22.6	588	19.4
25-29	6.4	29.3	55.7	74.9	88.4	6.2	589	19.6
30-34	6.2	27.2	51.5	69.1	81.1	2.1	552	19.8
35-39	5.4	26.3	51.1	70.7	81.6	0.4	473	19.9
40-44	3.4	25.5	47.3	67.6	80.4	1.0	456	20.2
45-49	2.4	25.3	52.3	69.9	84.0	0.0	355	19.8
20-49	5.6	27.4	53.0	na	na	6.2	3,014	19.7
25-49	5.0	26.9	51.8	70.6	83.3	2.2	2,425	19.8
15-24	8.7	na	na	na	na	52.7	1,443	a
20-59	5.3	26.5	51.7	na	na	5.5	3,533	19.8
25-59	4.8	26.0	50.4	69.4	82.5	2.0	2,945	20.0

na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents had sexual intercourse for the first time before reaching the beginning of the age group

4.6   MEDIAN AGE AT FIRST SEXUAL INTERCOURSE

Table 4.6 shows the median age at first sexual intercourse among women age 20-49 and 25-49 and among men age 20-59 and 25-59 by background characteristics.

Urban women initiate sexual intercourse at a higher median age than their rural counterparts. The median age at first sexual intercourse among urban women age 25-49 is 18.8 years, one year later than their rural counterparts (17.8 years). By region, the median age at first sexual intercourse among women is highest in Greater Accra (19.0 years) and lowest in Northern (17.5 years).

Women age 25-49 with no education and those with a primary education have the lowest median age at first sexual intercourse (17.5 years and 17.2 years, respectively), and those with a secondary or higher education have the highest median age (20.6 years). Similarly, when looking at wealth, women in the lowest three quintiles have a lower median age at first sexual intercourse (17.5-17.7 years) than women in the highest quintile (19.9 years).

Table 4.6 further shows that the median age at first sexual intercourse is 19.8 years among men age 20-59 and 20.0 years among those age 25-59. Median age at first sexual intercourse is slightly higher among urban than rural men age 25-59 (20.1 years and 19.8 years, respectively). It is highest in Greater Accra (20.3 years) and lowest in Volta (18.8 years). Men's level of education and wealth do not show a clear relationship with their median age at first intercourse.

4.7 RECENT SEXUAL ACTIVITY

In the absence of contraception, the possibility of pregnancy is related to the frequency of sexual intercourse. Thus, information on intercourse is important for refining measurement of exposure to pregnancy. All women and men were asked how long ago their last sexual contact occurred. Tables 4.7.1 and 4.7.2 show the percent distribution of women and men age 15-49, respectively, by the timing of their last sexual intercourse, according to background characteristics.

Table 4.7.1 shows that 43 percent of women age 15-49 were sexually active during the four weeks preceding the survey. Twenty-eight percent had been sexually active in the 12 months preceding the survey but not in the past month, and 16 percent had not been sexually active for one or more years. One in eight women (13 percent) had never had sexual intercourse.

Table 4.6 Median age at first sexual intercourse by background characteristics

Median age at first sexual intercourse among women age 20-49 and age 25-49, and median age at first sexual intercourse among men age 20-59 and age 25-59, according to background characteristics, Ghana 2014

Background characteristic	Women age		Men age	
	20-49	25-49	20-59	25-59
Residence				
Urban	18.8	18.8	20.0	20.1
Rural	17.8	17.8	19.7	19.8
Region				
Western	18.3	18.3	19.3	19.4
Central	18.3	18.2	18.9	19.0
Greater Accra	19.0	19.0	a	20.3
Volta	18.0	18.0	18.9	18.8
Eastern	18.3	18.4	19.8	20.0
Ashanti	18.4	18.4	19.9	19.9
Brong Ahafo	18.0	18.2	a	20.1
Northern	17.6	17.5	a	20.6
Upper East	18.4	18.5	a	21.0
Upper West	18.6	18.8	a	20.5
Education				
No education	17.5	17.5	a	20.4
Primary	17.1	17.2	19.1	19.0
Middle/JSS/JHS	18.3	18.4	19.4	19.6
Secondary+	a	20.6	a	20.4
Wealth quintile				
Lowest	17.6	17.7	a	20.3
Second	17.5	17.5	19.3	19.4
Middle	17.8	17.7	19.6	19.7
Fourth	18.6	18.6	19.5	19.6
Highest	19.8	19.9	a	20.4
Total	18.4	18.4	19.8	20.0

a = Omitted because less than 50 percent of the respondents had intercourse for the first time before reaching the beginning of the age group

The proportion of women who were sexually active in the four weeks preceding the survey is lowest among those age 15-19 (14 percent) and highest among those age 40-44 (56 percent). The data further show that never-married and previously married women are much less likely to have had sexual intercourse in the last four weeks (18 percent and 19 percent, respectively) than women currently in a union (63 percent).

The proportion of women who were sexually active within the four weeks prior to the survey fluctuates by marital duration: it is lowest among those who have been married for 25 or more years (57 percent) compared with those married for shorter periods of time (62-64 percent).

The results further show that a higher proportion of women in rural areas (46 percent) were sexually active within the last four weeks than women in urban areas (41 percent). There are marginal variations in recent sexual activity among women across regions; recent sexual activity is highest in Brong Ahafo (48 percent) and lowest in the Upper West region (35 percent).

Women with no education (50 percent) and those in the lowest, second and highest wealth quintiles (44-45 percent) are more likely to have had recent sexual activity than other women.

Table 4.7.1 Recent sexual activity: Women

Percent distribution of women age 15-49 by timing of last sexual intercourse, according to background characteristics, Ghana 2014

| Background characteristic | Timing of last sexual intercourse | | | | Total | Number of women |
	Within the past 4 weeks	Within 1 year[1]	One or more years	Never had sexual intercourse		
Age						
15-19	14.2	18.1	10.3	57.3	100.0	1,625
20-24	38.2	34.1	14.7	12.9	100.0	1,613
25-29	53.2	31.0	13.1	2.8	100.0	1,604
30-34	53.8	30.0	15.6	0.5	100.0	1,372
35-39	51.9	30.4	17.6	0.1	100.0	1,295
40-44	56.2	25.1	18.6	0.0	100.0	1,030
45-49	45.1	25.2	29.7	0.0	100.0	857
Marital status						
Never married	17.6	27.0	16.9	38.4	100.0	3,094
Married or living together	62.9	28.4	8.6	0.0	100.0	5,321
Divorced/separated/widowed	18.8	28.2	53.0	0.0	100.0	981
Marital duration[2]						
0-4 years	64.0	28.6	7.4	0.1	100.0	1,015
5-9 years	63.7	27.8	8.4	0.0	100.0	924
10-14 years	62.7	29.8	7.5	0.0	100.0	760
15-19 years	62.5	26.4	11.1	0.0	100.0	600
20-24 years	61.6	25.9	12.3	0.0	100.0	444
25+ years	57.3	28.8	13.9	0.0	100.0	398
Married more than once	64.1	29.5	6.3	0.1	100.0	1,180
Residence						
Urban	40.8	28.9	16.7	13.5	100.0	5,051
Rural	46.4	26.7	15.2	11.7	100.0	4,345
Region						
Western	47.2	28.2	13.9	10.7	100.0	1,038
Central	45.1	29.4	15.5	10.0	100.0	937
Greater Accra	43.6	25.9	17.0	13.4	100.0	1,898
Volta	45.7	28.4	15.5	10.5	100.0	720
Eastern	40.9	34.4	13.6	11.0	100.0	878
Ashanti	40.9	27.7	16.5	14.8	100.0	1,798
Brong Ahafo	47.8	27.8	14.6	9.8	100.0	769
Northern	41.5	24.9	18.7	14.8	100.0	786
Upper East	40.6	24.7	17.3	17.4	100.0	358
Upper West	35.1	27.5	19.3	18.1	100.0	215
Education						
No education	50.1	27.3	20.0	2.5	100.0	1,792
Primary	45.7	26.8	14.3	13.2	100.0	1,672
Middle/JSS/JHS	42.7	26.9	15.1	15.2	100.0	3,862
Secondary+	36.9	31.2	15.6	16.2	100.0	2,070
Wealth quintile						
Lowest	44.7	24.5	16.6	14.2	100.0	1,511
Second	44.4	27.5	16.6	11.6	100.0	1,636
Middle	42.0	31.0	17.2	9.8	100.0	1,938
Fourth	41.2	29.9	15.7	13.2	100.0	2,117
Highest	45.2	25.9	14.4	14.4	100.0	2,194
Total	43.4	27.9	16.0	12.7	100.0	9,396

[1] Excludes women who had sexual intercourse within the last 4 weeks
[2] Excludes women who are not currently married

Table 4.7.2 shows that less than half of men age 15-49 (46 percent) were sexually active in the four weeks preceding the survey, about one in four (24 percent) were sexually active in the past year but not in the past four weeks, and 9 percent had not been sexually active for one or more years. About one in five men (21 percent) had never had sexual intercourse.

The proportion of men who were sexually active in the four weeks preceding the survey is lowest in the 15-19 age group (7 percent) and highest among men age 35-49 (70-73 percent). Similar to women, men who have never been married (18 percent) and those who are divorced, separated, or widowed (46 percent) are substantially less likely to have had recent sexual intercourse than men who are married or cohabiting with a partner (74 percent).

There are no major variations in recent sexual activity among men according to marital duration or urban-rural residence. By region, men in Eastern are most likely to have been sexually active in the past four weeks (51 percent), while men in Northern are least likely to have been recently active (34 percent).

Table 4.7.2 Recent sexual activity: Men

Percent distribution of men age 15-49 by timing of last sexual intercourse, according to background characteristics, Ghana 2014

| Background characteristic | Timing of last sexual intercourse | | | | Total | Number of men |
	Within the past 4 weeks	Within 1 year[1]	One or more years	Never had sexual intercourse		
Age						
15-19	6.7	11.9	8.1	73.4	100.0	855
20-24	26.7	33.9	16.7	22.6	100.0	588
25-29	49.5	33.4	10.9	6.2	100.0	589
30-34	64.2	27.0	6.7	2.1	100.0	552
35-39	72.6	20.4	6.7	0.4	100.0	473
40-44	69.7	24.2	5.2	1.0	100.0	456
45-49	70.2	24.3	5.5	0.0	100.0	355
Marital status						
Never married	18.1	23.6	14.2	44.0	100.0	1,851
Married or living together	73.5	24.0	2.5	0.0	100.0	1,846
Divorced/separated/widowed	46.2	34.4	19.4	0.0	100.0	172
Marital duration[2]						
0-4 years	71.9	26.0	2.0	0.0	100.0	404
5-9 years	71.2	26.4	2.4	0.0	100.0	347
10-14 years	73.7	23.1	3.2	0.0	100.0	256
15-19 years	74.6	22.1	3.3	0.0	100.0	213
20-24 years	72.8	25.0	2.2	0.0	100.0	109
25+ years	(78.8)	(19.0)	(2.2)	(0.0)	100.0	36
Married more than once	75.5	22.0	2.5	0.0	100.0	481
Residence						
Urban	46.3	24.6	9.4	19.7	100.0	2,050
Rural	45.2	23.9	8.3	22.6	100.0	1,819
Region						
Western	47.5	24.8	8.3	19.4	100.0	447
Central	49.9	22.0	8.8	19.2	100.0	380
Greater Accra	49.5	25.3	8.8	16.5	100.0	831
Volta	49.8	24.4	4.8	21.0	100.0	295
Eastern	50.7	18.8	8.9	21.6	100.0	362
Ashanti	42.5	24.6	10.6	22.3	100.0	680
Brong Ahafo	42.9	28.6	8.4	19.9	100.0	320
Northern	33.7	28.3	11.5	26.5	100.0	316
Upper East	39.0	17.6	7.6	35.7	100.0	146
Upper West	40.9	22.3	8.1	28.8	100.0	91
Education						
No education	54.3	27.5	9.3	8.9	100.0	362
Primary	44.5	21.5	5.9	28.2	100.0	543
Middle/JSS/JHS	45.7	21.2	8.0	25.1	100.0	1,626
Secondary+	44.1	28.3	11.1	16.6	100.0	1,336
Wealth quintile						
Lowest	36.1	22.3	9.8	31.8	100.0	639
Second	43.3	22.3	9.4	25.0	100.0	648
Middle	49.4	26.3	7.5	16.7	100.0	770
Fourth	44.5	27.7	9.2	18.6	100.0	848
Highest	52.1	22.3	8.7	16.9	100.0	963
Total 15-49	45.8	24.3	8.9	21.0	100.0	3,869
50-59	64.5	20.1	14.3	1.1	100.0	519
Total 15-59	48.0	23.8	9.5	18.7	100.0	4,388

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes men who had sexual intercourse within the last 4 weeks
[2] Excludes men who are not currently married

A comparison of data between the 2008 and 2014 GDHS surveys shows a slight increase in recent sexual activity among women and men age 15-49, from 40 percent each in 2008 to 43 percent and 46 percent, respectively, in 2014.

FERTILITY

5

Key Findings:

- The total fertility rate for the three years preceding the survey is 4.2 children per woman, with rural women having 1.7 children more than urban women.
- Fertility has declined from 6.4 children per woman in the1988 GDHS to 4.2 children per woman in the 2014 GDHS—a drop of two births per woman over the past twenty-six years. There has been a slight increase in the TFR over the past six years, from 4.0 to 4.2 children per woman.
- More than1 in 10 non-first births (13 percent) occur after too short an interval following a preceding birth (less than 24 months).
- The median age at first birth among women age 25-49 is 21.4 years.
- About one-fifth of Ghanaian women age 25-49 (22 percent) have given birth before reaching age 18, while nearly two-fifths (39 percent) have given birth by age 20.
- Ghanaian women are amenorrhoeic for a median of 8.4 months, abstain for a median of 5.9 months, and are insusceptible to pregnancy for a median of 10.4 months.
- Ten percent of women age 30-49 are menopausal.
- Overall, 14 percent of women age 15-19 have begun childbearing, either having had a live birth (11 percent) of having become pregnant with their first child (3 percent).

Fertility is one of the three principal components of population dynamics that determine the size, structure, and composition of the population in any country. The government of Ghana initiated its first national population policy in 1969 to manage population resources in a consistent manner. This approach was consistent with the government's ultimate objective to accelerate the rate of economic development and improve the quality of life of the people. After 25 years of its promulgation, population growth still remained unacceptably high. As a result, the population policy was revised in 1994 to include a systematic integration of population in development planning with renewed emphasis on fertility reduction to accelerate economic modernisation, sustainable development, and poverty eradication (NPC 1994). Since then, Ghana has made substantial progress in reducing fertility. One of the major indicators of fertility provided by the DHS surveys in Ghana is the current fertility rate, which is critical to the development of population policies and programmes.

One of the main objectives of the 2014 GDHS was to examine fertility levels, trends, and differentials in Ghana. This chapter focuses on a number of fertility indicators including levels, patterns, and trends in both current and cumulative fertility; the length of birth intervals; and the age at which women begin childbearing. Birth intervals are important because short intervals are associated with high childhood mortality. The age at which childbearing begins can also have a major impact on the health and well-being of both the mother and the child.

The fertility indicators presented in this chapter are based on reports of reproductive histories provided by women age 15-49. As in the previous GDHS surveys, each woman was asked to provide information on the total number of sons and daughters to whom she had given birth and who were living with her, the number living elsewhere, and the number who had died, in order to obtain the total number of live births. In the birth history, women reported the details of each live birth separately, including such

information as name, and month and year of birth, in addition to sex and survival status. For children who had died, age at death was recorded.

5.1 CURRENT FERTILITY

Measures of current fertility include age-specific fertility rates (ASFRs), the total fertility rate (TFR), the general fertility rate (GFR), and the crude birth rate (CBR). These rates are presented for the three-year period preceding the survey, a period that covers a portion of calendar years 2012 through 2014. A three-year period (rather than a longer or a shorter period) was chosen to calculate rates as a balanced response to providing the most current information, reducing sampling error, and avoiding problems caused by the displacement of births.

Age-specific fertility rates aid in understanding the age pattern of fertility. Numerators of ASFRs are calculated by identifying live births that occurred in the period 1 to 36 months preceding the survey (determined from the date of interview and date of birth of the child); they are then classified by the age of the mother (in five-year groups) at the time of the child's birth. The denominators of these rates are the number of woman-years lived by the survey respondents in each of the five-year age groups during the specified period.

The TFR is a common measure of current fertility and is defined as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the current age-specific fertility rates. The GFR represents the number of live births per 1,000 women of reproductive age. The CBR is the number of live births per 1,000 population. The latter two measures are based on birth history data for the three-year period preceding the survey and on the age-sex distribution of the household population.

Table 5.1 shows the age-specific and aggregate fertility measures calculated from the 2014 GDHS. The total fertility rate for Ghana is 4.2 children per woman, a slight increase from 4.0 children per woman in the 2008 GDHS survey. Childbearing peaks during age group 25-29 and drops sharply after age 39. Rural women have about 1.7 children more than urban women (5.1 children per woman compared with 3.4 children per woman). The pattern of lower fertility in urban areas is evident in every age group, and it is most pronounced for women in the 20-24 age group (121 births per 1,000 women in urban areas compared with 210 births per 1,000 women in rural areas).

Table 5.1 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, Ghana 2014

Age group	Residence		Total
	Urban	Rural	
15-19	53	100	76
20-24	121	210	161
25-29	181	228	201
30-34	178	223	197
35-39	110	164	135
40-44	34	72	52
45-49	12	21	17
TFR (15-49)	3.4	5.1	4.2
GFR	120	171	143
CBR	28.2	33.1	30.6

Notes: 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

One of the main targets of the 1994 revised National Population Policy was to reduce the total fertility rate from 5.5 to 5.0 children per woman by the year 2000, to 4.0 by 2010, and to 3.0 by 2020 (NPC 1994). With a TFR of 4.0 in 2008, Ghana achieved its fertility target two years before the target year of 2010. However, with the slight increase in fertility reported in the 2014 GDHS, more needs to be done to reach the TFR target of 3.0 children per woman by the year 2020. The TFR in Ghana however, is still one of the lowest in sub-Saharan Africa (Figure 5.1).

Figure 5.1 Total fertility rates, selected Sub-Saharan African countries
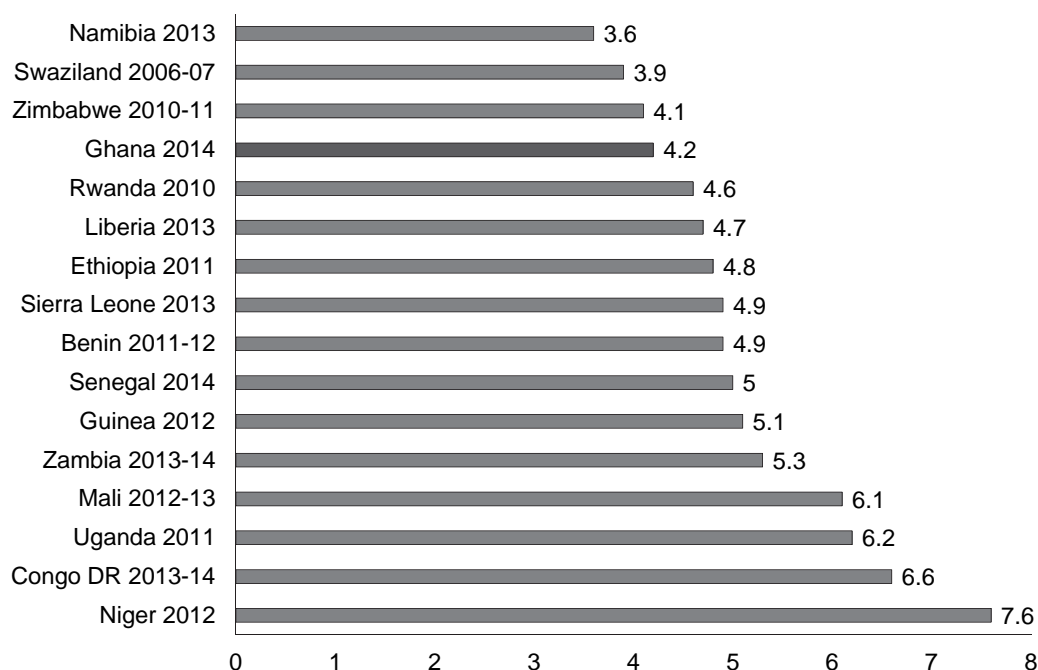
Note: Rates are per 1,000 women and refer to the three-year period preceding the survey.

5.2 FERTILITY DIFFERENTIALS

Table 5.2 shows differentials in fertility by residence, region, education, and wealth quintile. The TFR varies among regions, ranging from 2.8 children per woman in the Greater Accra region to 6.6 children per woman in the Northern region. The level of fertility is inversely related to women's educational attainment, decreasing rapidly from 6.2 children among women with no education to 2.6 children among women with a secondary or higher level of education. Fertility also decreases with wealth; women in the lowest wealth quintile have an average of 6.3 children compared with 2.8 children among women in the highest wealth quintile.

Table 5.2 also presents a crude assessment of trends among the various subgroups by comparing current fertility with a measure of completed fertility: the mean number of children ever born to women age 40-49. The mean number of children ever born to older women who are nearing the end of their reproductive period is an indicator of average completed fertility of women who began childbearing during the three decades preceding the survey. If fertility remained constant over time and the reported data on both children ever born and births during the three years preceding the survey are reasonably accurate, the TFR and the mean number of children ever born to women 40-49 are expected to be similar. When fertility levels are falling, the TFR will be substantially lower than the mean number of children ever born among women age 40-49.

Overall, a comparison of past (completed) and current (TFR) fertility indicators suggests a slight difference (4.8 versus 4.2) between the two. Current fertility is slightly higher than past fertility among women in the Northern region, among women with no education, and among those with middle/JSS/JHS education.

Table 5.2 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, Ghana 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
Residence			
Urban	3.4	6.5	4.1
Rural	5.1	7.7	5.6
Region			
Western	3.6	6.9	4.8
Central	4.7	7.8	5.2
Greater Accra	2.8	6.9	3.4
Volta	4.3	6.1	4.8
Eastern	4.2	7.9	4.9
Ashanti	4.2	5.8	4.8
Brong Ahafo	4.8	7.6	5.1
Northern	6.6	8.9	6.4
Upper East	4.9	7.9	5.7
Upper West	5.2	6.8	6.4
Education			
No education	6.2	8.8	5.9
Primary	4.9	6.6	5.2
Middle/JSS/JHS	4.2	7.0	4.1
Secondary+	2.6	6.1	2.6
Wealth quintile			
Lowest	6.3	7.9	6.6
Second	5.5	7.6	5.8
Middle	3.9	7.0	4.8
Fourth	3.5	5.7	4.0
Highest	2.8	7.4	3.2
Total	4.2	7.1	4.8

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

Table 5.2 also shows the percentage of women 15-49 who reported being pregnant at the time of the survey. This percentage may be underreported because women may be unaware of a pregnancy, especially at the early stages, and some women who are early in their pregnancy may not want to reveal that they are pregnant. Nationally, 7 percent of women were pregnant at the time of the survey, with minor variations by background characteristics. Rural women (8 percent) are slightly more likely to report being currently pregnant than urban women (7 percent). At the regional level, the proportion of pregnant women is highest in the Northern region (9 percent) and lowest in the Volta and Ashanti regions (6 percent each). The proportion of women currently pregnant is highest among women with no education (9 percent) and women in the lowest and second wealth quintiles (8 percent each).

5.3 FERTILITY TRENDS

In addition to the comparison of current and completed fertility, trends in fertility can be assessed in two other ways. First, fertility trends can be investigated using retrospective data on birth histories collected in the 2014 GDHS. Second, the TFR from the 2014 GDHS can be compared with estimates obtained in earlier surveys.

Table 5.3.1 shows trends in age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of birth. The table uses information from the retrospective birth histories obtained from the 2014 GDHS respondents to examine trends in age-specific fertility rates for successive five-year periods before the survey. To calculate these rates, births were classified according to the period of time in which the birth occurred and the mother's age at the time of the birth. Because women age 50 and above were not interviewed in the survey, the rates are successively truncated for periods more distant from the survey date. For example, rates cannot be calculated for women age 35-39 for the period 15 to 19 years before the survey because these women would have been over age 50 at the time of the survey and thus would not have been interviewed.

Fertility has fallen gradually among women in all age groups over the past two decades, with the exception of the 25-29 age group. The decrease in fertility is steepest among women age 15-19, a 20 percent decline between the 15-19 year period before the survey and 0-4 year period before the survey.

Table 5.3.2 and Figure 5.2 compare fertility trends from estimates obtained in the 1988, 1993, 1998, 2003, and 2008 GDHS with information gathered in the 2014 GDHS. Fertility has declined from 6.4 children per woman in the 1988 GDHS to 4.2 children per woman in the 2014 GDHS—a drop of two children per woman over the past 26 years. There has been a slight increase in the TFR over the past six years, from 4.0 to 4.2 children per woman.

Table 5.3.1 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Ghana 2014

Mother's age at birth	Number of years preceding survey			
	0-4	5-9	10-14	15-19
15-19	73	84	88	91
20-24	159	167	184	193
25-29	200	203	230	216
30-34	191	190	195	[224]
35-39	137	141	[144]	
40-44	52	[82]		
45-49	[19]			

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview.

Table 5.3.2 Trends in age-specific and total fertility rates

Age-specific and total fertility rates (TFR) for the three-year period preceding several surveys

Mother's age at birth	GDHS 1988 (1986-1988)	GDHS 1993 (1991-1993)	GDHS 1998 (1996-1998)	GDHS 2003 (2001-2003)	GDHS 2008 (2006-2008)	GDHS 2014 (2012-2014)
15-19	125	116	88	74	66	76
20-24	260	221	197	176	176	161
25-29	280	233	203	210	206	201
30-34	249	209	177	182	173	197
35-39	189	143	136	141	118	135
40-44	117	87	74	70	59	52
45-49	61	22	11	36	8	17
TFR 15-49	6.4	5.2	4.4	4.4	4.0	4.2

Note: Age-specific fertility rates are per 1,000 women.

Figure 5.2 Trends in age-specific fertility rates
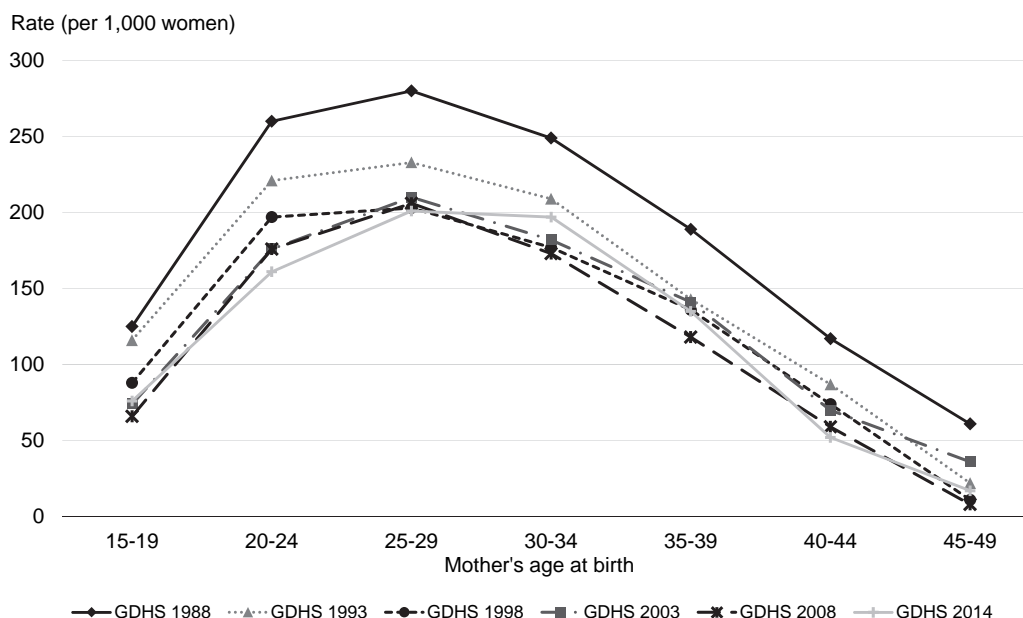
5.4 CHILDREN EVER BORN AND LIVING

Data on the number of children ever born reflect accumulated births over the past 30 years and therefore have limited relevance to current fertility levels, particularly when the country has experienced a decline in fertility. Moreover, the data are subject to recall error, which is typically greater for older than younger women. Nevertheless, information on children ever born (or parity) is useful in looking at a number of issues. Parity data show how average family size varies across age groups. The percentage of currently married women in their 40s who have never had children also provides an indicator of the level of primary infertility or the inability to bear children. Comparisons of differences in the mean number of children ever born and surviving reflect the cumulative effects of mortality levels during the period in which women have been bearing children.

Table 5.4 shows the percent distribution of all women and currently married women by number of children ever born, mean number of children ever born, and mean number of children living. Eighty-nine percent of women age 15-19 have never given birth. This proportion declines to 25 percent among women age 25-29 and to less than 10 percent among women age 30 or older, indicating that childbearing among Ghanaian women is nearly universal. On average, Ghanaian women nearing the end of their reproductive years have attained a parity of 5.0 children, about one child more than the total fertility rate of 4.2. The same pattern is observed among currently married women, except that the mean number of children ever born is higher among currently married women (3.4 children) than among all women (2.4 children). The difference between all women and currently married women in the mean number of children ever born is due to the substantial proportion of young and unmarried women in the former category who exhibit lower fertility.

Table 5.4 Children ever born and living

Percent distribution of all women and currently married women age 15-49 by number of children ever born, mean number of children ever born, and mean number of living children, according to age group, Ghana 2014

| Age | Number of children ever born | | | | | | | | | | | Total | Number of women | Mean number of children ever born | Mean number of living children |
	0	1	2	3	4	5	6	7	8	9	10+				
							ALL WOMEN								
15-19	88.7	10.1	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,625	0.13	0.12
20-24	52.5	25.6	15.1	5.9	0.5	0.4	0.0	0.0	0.0	0.0	0.0	100.0	1,613	0.78	0.73
25-29	25.3	22.5	24.9	16.4	7.6	2.9	0.3	0.2	0.0	0.0	0.0	100.0	1,604	1.69	1.59
30-34	9.3	12.9	22.0	20.6	16.3	10.5	5.5	1.9	0.5	0.5	0.0	100.0	1,372	2.91	2.70
35-39	5.3	9.0	11.3	20.1	19.4	16.9	10.4	4.1	1.7	1.1	0.6	100.0	1,295	3.75	3.44
40-44	2.9	4.7	10.8	13.5	17.4	15.4	12.3	11.4	5.9	3.8	2.0	100.0	1,030	4.69	4.24
45-49	2.1	5.9	11.2	9.9	13.4	15.0	16.1	10.0	6.6	6.2	3.6	100.0	857	5.00	4.32
Total	31.3	14.1	14.0	12.0	9.6	7.5	5.1	3.0	1.5	1.2	0.6	100.0	9,396	2.36	2.14
							CURRENTLY MARRIED WOMEN								
15-19	27.2	57.7	13.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	104	0.90	0.89
20-24	16.3	38.3	30.4	12.5	1.4	0.9	0.1	0.0	0.0	0.0	0.0	100.0	606	1.48	1.39
25-29	9.1	23.0	30.5	21.9	10.7	4.1	0.4	0.2	0.0	0.0	0.0	100.0	1,062	2.17	2.04
30-34	5.2	10.9	20.4	22.5	18.8	12.4	6.1	2.4	0.7	0.6	0.0	100.0	1,078	3.21	2.98
35-39	3.1	7.0	9.7	20.3	20.8	18.6	11.7	5.0	2.0	1.2	0.7	100.0	1,040	4.01	3.69
40-44	2.6	3.3	8.7	12.8	17.8	15.6	14.0	12.0	6.4	4.3	2.4	100.0	821	4.91	4.46
45-49	1.7	4.4	7.5	10.0	13.5	15.0	17.7	11.0	7.1	7.2	4.7	100.0	611	5.34	4.60
Total	6.5	14.7	18.1	17.5	14.5	11.2	7.8	4.6	2.3	1.8	1.0	100.0	5,321	3.42	3.12

As expected, the mean number of children ever born and the mean number of children surviving increase with women's age. A comparison of the mean number of children ever born with the mean number of living children reveals the experience of child loss among Ghanaian women. By the end of their reproductive years (age 45-49), women in Ghana have given birth to an average of 2.4 children, with 2.1 surviving.

Voluntary childlessness is uncommon in Ghana. Currently married women with no children are likely to be those who are sterile or unable to bear children. The level of childlessness among married women at the end of their reproductive period can be used as an indicator of the level of primary sterility. In Ghana, primary sterility among currently married women age 45-49 is 2 percent.

5.5   BIRTH INTERVALS

Birth interval is the length of time between two successive live births. Information on birth intervals provides an insight into birth spacing patterns, which affect fertility as well as maternal, infant, and childhood mortality. Studies have shown that short birth intervals are associated with increased risk of death for both mother and baby, particularly when the birth interval is less than 24 months.

Table 5.5 shows the percent distribution of non-first births in the five years preceding the survey by number of months since the preceding birth, according to background characteristics. The median birth interval in Ghana is 39 months, a slight decrease from the median of 40 months reported in the 2008 GDHS. More than 1 in 10 non-first births (13 percent) occur after too short an interval (less than 24 months) following a preceding birth.

The median number of months since a preceding birth increases significantly with age, from 35.2 months for births to mothers age 20-29 to 47.6 months for births to mothers age 40-49. There is no marked difference in the length of the median birth interval by sex of the preceding birth.

Death of a preceding child usually leads to a shorter birth interval than when the preceding child survived. The median birth interval is almost 11 months shorter among births in which the previous sibling is dead than among births in which the previous sibling is alive (28.9 months versus 40.2 months). This difference in birth intervals may be due to the desire of parents to replace a dead child, as well as the loss of the fertility-delaying effects of breastfeeding.

The median birth interval decreases with increasing birth order, from 40.6 months for births of the second or third order to 34.2 months for births of the seventh or higher order. By residence, the median birth interval is longer in urban than in rural areas (41.6 months versus 38.2 months). The longest median birth interval is in Upper East (44.8 months), and the shortest is in Central (37.1 months). There are no clear patterns in the relationship between median birth interval and mother's education. The median birth interval generally increases by wealth, although the increase is not linear.

Table 5.5 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Ghana 2014

Background characteristic	Months since preceding birth						Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
Mother's age									
15-19	*	*	*	*	*	*	100.0	19	*
20-29	4.8	11.6	36.0	21.2	12.0	14.5	100.0	1,444	35.2
30-39	3.2	8.9	27.9	21.5	13.8	24.8	100.0	2,228	41.6
40-49	1.4	6.6	24.6	18.3	13.8	35.2	100.0	618	47.6
Sex of preceding birth									
Male	3.7	9.4	29.6	20.5	12.7	24.1	100.0	2,166	39.3
Female	3.4	9.5	30.9	21.3	13.5	21.3	100.0	2,142	39.5
Survival of preceding birth									
Living	2.5	8.9	30.2	21.4	13.7	23.2	100.0	3,991	40.2
Dead	16.4	16.4	31.3	13.6	6.4	16.0	100.0	317	28.9
Birth order									
2-3	3.7	9.2	28.5	20.5	13.6	24.4	100.0	2,194	40.6
4-6	3.3	8.8	30.3	22.2	13.7	21.7	100.0	1,670	39.7
7+	3.8	13.3	38.7	17.7	8.7	17.9	100.0	444	34.2
Residence									
Urban	3.8	8.8	28.3	18.3	13.5	27.4	100.0	1,812	41.6
Rural	3.4	10.0	31.7	22.7	12.9	19.3	100.0	2,496	38.2
Region									
Western	4.2	8.7	28.3	16.2	13.1	29.5	100.0	426	42.2
Central	2.1	9.7	36.2	20.4	12.7	18.9	100.0	460	37.1
Greater Accra	2.2	10.5	28.6	19.3	11.6	27.9	100.0	611	41.6
Volta	4.4	11.7	27.3	20.3	13.7	22.6	100.0	330	39.6
Eastern	5.7	10.2	31.5	18.2	13.8	20.5	100.0	403	37.3
Ashanti	5.9	11.9	29.1	18.1	12.7	22.3	100.0	815	38.1
Brong Ahafo	1.6	6.2	29.6	21.2	13.9	27.5	100.0	384	42.5
Northern	2.4	7.7	35.5	28.0	12.3	14.1	100.0	581	37.5
Upper East	1.7	5.4	20.9	26.9	19.7	25.4	100.0	176	44.8
Upper West	2.5	6.4	25.8	32.0	14.1	19.3	100.0	122	41.7
Mother's education									
No education	2.9	8.6	33.0	23.3	12.7	19.6	100.0	1,374	38.3
Primary	4.3	10.5	29.7	20.2	12.4	22.8	100.0	908	38.8
Middle/JSS/JHS	3.5	9.3	27.1	20.2	14.5	25.3	100.0	1,604	41.8
Secondary+	4.3	10.7	34.5	17.1	10.8	22.6	100.0	422	36.3
Wealth quintile									
Lowest	3.2	8.8	33.9	24.6	12.9	16.6	100.0	1,050	37.7
Second	2.7	11.6	31.8	21.7	12.2	20.0	100.0	979	37.6
Middle	4.9	8.4	28.2	20.0	14.4	24.2	100.0	821	40.5
Fourth	2.9	6.5	29.3	18.4	12.9	30.1	100.0	766	43.0
Highest	4.5	12.1	26.1	17.8	13.7	25.9	100.0	692	41.4
Total	3.6	9.5	30.3	20.9	13.1	22.7	100.0	4,308	39.4

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

5.6 POSTPARTUM AMENORRHOEA, ABSTINENCE, AND INSUSCEPTIBILITY

Postpartum amenorrhoea is the interval between the birth of a child and the resumption of menstruation, a period during which the risk of pregnancy is much reduced. Postpartum protection from conception depends upon the intensity and duration of breastfeeding. Postpartum abstinence refers to the period of voluntary sexual inactivity after childbirth. A woman is considered insusceptible if she is not exposed to the risk of pregnancy, either because she is amenorrhoeic or because she is abstaining from sexual intercourse following a birth. In the 2014 GDHS, information was obtained about the duration of amenorrhoea and sexual abstinence following childbirth for births in the three years preceding the survey.

Table 5.6 shows that Ghanaian women are amenorrhoeic for a median of 8.4 months, abstain for a median of 5.9 months, and are insusceptible to pregnancy for a median of 10.4 months. In general, the proportion of women who are amenorrhoeic or abstaining decreases with increasing months after delivery.

The proportion of women who are amenorrhoeic drops from 96 percent in the first two months after birth to 21 percent at 12-15 months and to 2 percent or less at 30 months or later. The majority of Ghanaian women (98 percent) are still abstaining in the first two months following a birth.

Table 5.6 Postpartum amenorrhoea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrhoeic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Ghana 2014

	Percentage of births for which the mother is:			
Months since birth	Amenorrhoeic	Abstaining	Insusceptible[1]	Number of births
< 2	96.2	97.8	98.4	136
2-3	84.6	84.0	94.2	216
4-5	66.4	59.6	79.8	229
6-7	56.4	42.6	70.8	225
8-9	48.0	30.9	60.0	177
10-11	42.9	24.0	53.5	188
12-13	21.0	22.3	34.8	171
14-15	21.2	18.3	31.4	210
16-17	15.0	14.5	25.7	202
18-19	10.0	10.1	17.9	178
20-21	5.4	7.6	11.3	196
22-23	11.0	11.8	21.5	177
24-25	4.3	8.0	9.9	191
26-27	4.5	7.0	11.6	185
28-29	4.6	5.5	9.6	196
30-31	1.6	6.2	7.5	204
32-33	0.8	3.7	4.5	171
34-35	0.4	2.9	3.3	179
Total	27.6	25.3	36.2	3,430
Median	8.4	5.9	10.4	na
Mean	10.2	9.4	13.2	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable
[1] Includes births for which mothers are either still amenorrhoeic or still abstaining (or both) following birth

Table 5.7 shows the median duration of postpartum amenorrhoea, abstinence, and insusceptibility by background characteristics. The median duration of postpartum insusceptibility is 10.0 months among women age 15-29, compared with 11.3 months among women age 30-49. By residence, the median duration of postpartum insusceptibility is higher among rural (11.7 months) than urban women (9.5 months). Women in Upper West have the longest median duration of postpartum insusceptibility (15.9 months), while women in Western have the shortest median duration (7.9 months).

Median duration of postpartum insusceptibility decreases sharply with education and wealth. For example, it decreases from 13.9 months among women with no education to 7.2 months among those with a secondary or higher education. Similarly, women in the lowest wealth quintile are insusceptible almost two times longer than women in the highest wealth quintile (13.0 months compared with 6.6 months).

Table 5.7 Median duration of amenorrhoea, postpartum abstinence, and postpartum insusceptibility

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insusceptibility[1]
Mother's age			
15-29	7.1	5.8	10.0
30-49	9.4	6.2	11.3
Residence			
Urban	7.4	5.5	9.5
Rural	9.2	6.2	11.7
Region			
Western	6.1	4.9	7.9
Central	9.9	6.6	10.7
Greater Accra	(7.2)	(4.4)	(9.5)
Volta	(6.8)	5.4	(8.2)
Eastern	6.1	5.6	10.5
Ashanti	6.4	4.7	8.4
Brong Ahafo	9.6	8.5	10.6
Northern	10.5	11.4	14.3
Upper East	10.1	5.7	13.8
Upper West	(10.9)	(13.0)	(15.9)
Education			
No education	11.3	8.1	13.9
Primary	7.9	6.8	10.4
Middle/JSS/JHS	8.1	5.6	9.8
Secondary+	5.1	4.6	7.2
Wealth quintile			
Lowest	10.5	7.7	13.0
Second	9.2	6.4	12.9
Middle	8.0	6.3	11.0
Fourth	8.6	5.5	9.6
Highest	4.7	3.4	6.6
Total	8.4	5.9	10.4

Note: Medians are based on the status at the time of the survey (current status). Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes births for which mothers are either still amenorrhoeic or still abstaining (or both) following birth

5.7 MENOPAUSE

The risk of becoming pregnant declines with age. The term infecundity refers to a process rather than a well-defined event, and although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a group of women. Table 5.8 presents data on menopause, an indicator of decreasing exposure to the risk of pregnancy (infecundity) for women age 30 and older.

In the 2014 GDHS, women were considered menopausal if they were neither pregnant nor postpartum amenorrhoeic and had not had a menstrual period for at least six months preceding the survey. The proportion of women who were menopausal at the time of the survey increases with age, from 2 percent among women age 30-34 to 39 percent among women age 48-49. Overall, 10 percent of women age 30-49 were menopausal.

Table 5.8 Menopause

Percentage of women age 30-49 who are menopausal, by age, Ghana 2014

Age	Percentage menopausal[1]	Number of women
30-34	2.2	1,372
35-39	3.5	1,295
40-41	7.0	450
42-43	8.7	413
44-45	19.6	398
46-47	32.1	317
48-49	39.2	309
Total	9.7	4,554

[1] Percentage of all women who are not pregnant and not postpartum amenorrhoeic whose last menstrual period occurred six or more months preceding the survey

5.8 AGE AT FIRST BIRTH

The onset of childbearing at an early age has a major effect on the health of both mother and child. It also lengthens the reproductive period, thereby increasing the level of fertility. Table 5.9 shows the median age at first birth and the percentage of women who gave birth by exact ages, according to current age. The median age at first birth among women age 25-49 is 21.4 years.

About one-fifth of Ghanaian women age 25-49 (22 percent) had given birth before reaching age 18, while nearly two-fifths (39 percent) have given birth by age 20. The median age at first birth has increased gradually from 20.3 years for older women 45-49 to 22.6 years for women age 25-29 – the youngest cohort for whom a median age can be computed – indicating an increase in age at first birth over the last 20 years.

Table 5.9 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Ghana 2014

Current age	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
	15	18	20	22	25			
15-19	0.5	na	na	na	na	88.7	1,625	a
20-24	1.8	16.9	31.6	na	na	52.5	1,613	a
25-29	2.9	17.3	33.3	46.5	63.4	25.3	1,604	22.6
30-34	4.1	21.0	36.6	53.4	69.9	9.3	1,372	21.6
35-39	3.0	21.0	36.4	52.8	72.4	5.3	1,295	21.6
40-44	4.5	25.4	45.6	63.1	78.6	2.9	1,030	20.5
45-49	5.8	26.6	47.2	65.1	81.2	2.1	857	20.3
20-49	3.4	20.6	37.2	na	na	19.3	7,771	a
25-49	3.9	21.5	38.7	54.7	71.8	10.6	6,158	21.4

na = Not applicable due to censoring
a = Omitted because less than 50 percent of women had a birth before reaching the beginning of the age group

Table 5.10 shows the median age at first birth for different age cohorts across please of residence, region, education, and wealth status. Median age at first birth is higher in urban areas than in rural areas. Among women age 30-49, median age at first birth is 22.2 months in urban areas compared with 20.1 months in rural areas. Among the same group of women, median age at first birth is highest in the Greater Accra region (23.4 years) and lowest in the Central, Northern, and Upper East regions (20.0 years each). There is a direct relationship between the median age at first birth and education and wealth. Median age at first birth is 19.9 years and 19.6 years among women age 30-49 with no education and with primary education, respectively, as compared with 27.0 years among women with a secondary or higher education. Women age 30-49 in the lowest two wealth quintiles have their first birth almost five years earlier than women in the highest quintile (19.9 years versus 24.7 years).

5.9 TEENAGE PREGNANCY AND MOTHERHOOD

Teenage pregnancy and motherhood is a major social and health issue in Ghana. Early teenage pregnancy can cause severe health problems for both the mother and child. Moreover, an early start to childbearing greatly reduces women's educational and employment opportunities and is associated with higher levels of fertility.

Table 5.11 shows that 14 percent of women age 15-19 have begun childbearing; either they have had a live birth (11 percent) or are pregnant with their first child (3 percent), a slight increase from 13 percent in 2008. The percentage of women who have begun childbearing increases rapidly with age, from 2 percent among women age 15 to 36 percent among women age 19.

Table 5.10 Median age at first birth

Median age at first birth among women age 25-49 and age 30-49, according to background characteristics, Ghana 2014

Background characteristic	Women age 25-49	Women age 30-49
Residence		
Urban	22.9	22.2
Rural	20.1	20.1
Region		
Western	21.3	20.9
Central	20.5	20.0
Greater Accra	24.0	23.4
Volta	21.1	20.9
Eastern	20.7	20.5
Ashanti	21.5	21.2
Brong Ahafo	20.8	20.6
Northern	20.2	20.0
Upper East	20.2	20.0
Upper West	20.5	20.6
Education		
No education	19.9	19.9
Primary	19.5	19.6
Middle/JSS/JHS	21.5	21.5
Secondary+	a	27.0
Wealth quintile		
Lowest	19.9	19.9
Second	19.8	19.9
Middle	20.1	20.0
Fourth	22.3	21.7
Highest	a	24.7
Total	21.4	21.1

a = Omitted because less than 50 percent of the women had a birth before reaching the beginning of the age group

Teenage childbearing is higher in rural areas (17 percent) than in urban areas (12 percent). By region, the percentage of teenage women who have begun childbearing ranges from 8 percent in the Greater Accra region to 22 percent in the Volta region. Not surprisingly, early childbearing is inversely related to women's educational level. Teenagers with no education are almost four times as likely to have begun childbearing as those with a secondary or higher education (23 percent and 6 percent, respectively). The percentage of teenagers who have begun childbearing is highest in the second wealth quintile (21 percent) and lowest in the wealthiest households (6 percent).

Table 5.11 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, Ghana 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		
Age				
15	1.0	0.9	1.9	380
16	6.3	0.7	7.0	359
17	8.0	3.1	11.0	272
18	14.0	5.7	19.7	327
19	31.4	4.7	36.1	287
Residence				
Urban	8.9	2.6	11.5	796
Rural	13.6	3.1	16.7	829
Region				
Western	10.1	2.6	12.7	197
Central	14.4	7.0	21.3	153
Greater Accra	5.6	2.6	8.3	248
Volta	18.0	4.1	22.1	122
Eastern	15.0	1.8	16.8	151
Ashanti	10.2	1.7	11.9	307
Brong Ahafo	17.5	3.8	21.3	167
Northern	7.9	2.2	10.1	146
Upper East	8.0	1.7	9.7	89
Upper West	9.3	0.6	9.9	47
Education				
No education	19.8	3.4	23.2	69
Primary	15.7	3.3	19.0	368
Middle/JSS/JHS	11.0	3.0	14.0	906
Secondary+	4.5	1.6	6.2	282
Wealth quintile				
Lowest	12.3	2.9	15.3	338
Second	17.6	3.7	21.3	356
Middle	11.8	3.4	15.2	316
Fourth	9.5	2.6	12.1	307
Highest	4.2	1.5	5.7	308
Total	11.3	2.9	14.2	1,625

FERTILITY PREFERENCES

6

Key Findings:

- More than 3 in 10 women (35 percent) and men (31 percent) do not want any more children; another 2 percent of women but less than 1 percent of men have been sterilised.
- Women and men in Ghana prefer a big family: 4.3 children for all women and 4.5 children for all men, among those age 15-49. The preference among married women and men is for 4.7 and 5.1 children.
- Overall, Ghanaian women have about 0.6 children more than their ideal number, implying that the total fertility rate of 4.2 children per woman is 17 percent higher than it would be if unwanted births were avoided.

Igh fertility rates and large family size have persisted in most sub-Saharan African countries despite the implementation of policies and programmes aimed at reducing births (Garenne 2008). The primary objective of Ghana's 1994 Population Policy is to promote a small family size through information and education campaigns and to target a two-year minimum interval between all births by 2020. The government has since then actively promoted the voluntary acceptance of family planning methods. All couples are being encouraged to decide freely and responsibly on the timing, number, and spacing of their children for a family size that can be managed (NPC 1994).

This chapter describes fertility preferences, the ideal and actual number of children as well as the wanted and actual fertility rates. Information on fertility preferences is used to assess future fertility patterns and potential demand for contraception. Such data are also useful in constructing measures of unwanted or mistimed births.

6.1   DESIRE FOR MORE CHILDREN

Information about the desire for more children is important for understanding future reproductive behaviour. The provision of adequate and accessible family planning services depends on the availability of such information. In the 2014 GDHS, currently married women (whether pregnant or not) and men were asked about their intentions to have another child and, if they had such intentions, how soon they wanted the child. The same question was phrased differently in the case of pregnant women or men whose wife or wives (or partners) were pregnant at the time of the interview. This was done to ensure an accurate answer about the desire of subsequent children after completion of the current pregnancy. Sterilised women and men were considered to want no more children, and therefore were not asked questions about their desire for more children.

Table 6.1 shows that 19 percent of women and 22 percent of men age 15-49 want to have another child soon (within two years), while 31 percent of women and 38 percent of men want another child two or more years later. More than 3 in 10 women (35 percent) and men (31 percent) do not want any more children, and 2 percent of women and less than 1 percent of men have been sterilised. The proportion of both women and men who want to have a child soon is inversely associated with the number of living children. Seven in 10 currently married women with no living children (71 percent) want to have a child soon, as compared with 4 percent of women with six or more children. Among currently married men with no living children, more than 6 in 10 (63 percent) want to have a child soon, compared with 9 percent of men with six or more children.

The desire to limit childbearing (including by undergoing sterilisation) increases with the number of living children, from 7 percent among childless women and 2 percent among women with one child to 78 percent among those with six or more children. Less than 1 percent of women with one or two children have been sterilised compared with 5 percent of women with six or more children.

A comparison of the findings from the five GDHS surveys shows that the desire to space births among currently married Ghanaian women has declined over time, while the desire to limit births has increased, showing some improvement as a result of efforts to limit the number of births per woman in Ghana. However, these changes have been minimal in the past six years.

Similar to women, the desire to have no more children increases from 3 percent among currently married men age 15-49 with one child to 60 percent among those with six or more children. Men are slightly more likely to want to limit childbearing at lower parities than women, while the opposite is true for the higher parities. For example, 3 percent of men with one child desire to stop childbearing or have been sterilised, compared with 2 percent of women with one child. On the other hand, 73 percent of women with six or more children desire to stop childbearing or have been sterilised, compared with 60 percent of men in the same category.

Table 6.1 Fertility preferences by number of living children

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

Desire for children	Number of living children[1]							Total 15-49	Total 15-59
	0	1	2	3	4	5	6+		
WOMEN[1]									
Have another soon[2]	71.0	34.6	19.6	14.6	10.9	6.8	4.2	18.9	na
Have another later[3]	7.1	53.3	51.3	33.6	21.1	16.1	9.4	31.3	na
Have another, undecided when	4.2	1.1	3.2	0.7	0.1	0.2	0.2	1.3	na
Undecided	6.6	5.6	7.6	13.9	7.4	7.4	4.3	8.0	na
Want no more	6.5	1.7	14.5	33.0	53.1	63.8	72.8	35.2	na
Sterilised[4]	0.0	0.2	0.6	2.2	2.4	2.5	4.8	1.9	na
Declared infecund	4.5	3.4	3.2	2.0	5.0	3.1	4.2	3.5	na
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	na
Number of women	306	755	1,093	1,014	840	612	702	5,321	na
MEN[5]									
Have another soon[2]	63.1	33.7	26.6	16.8	9.5	17.8	9.3	22.3	20.7
Have another later[3]	13.2	59.4	49.5	38.1	32.1	22.0	22.9	37.6	32.0
Have another, undecided when	12.7	2.2	1.7	2.7	1.6	0.3	1.3	2.4	2.1
Undecided	11.0	2.1	6.0	6.9	5.2	6.2	6.7	5.8	5.5
Want no more	0.0	2.6	15.6	34.5	50.9	52.3	59.5	31.2	38.8
Sterilised[4]	0.0	0.0	0.0	0.0	0.5	1.1	0.0	0.2	0.3
Declared infecund	0.0	0.0	0.6	0.6	0.2	0.4	0.3	0.3	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	109	305	360	351	267	205	247	1,846	2,290

na = Not applicable
[1] Number of living children includes the current pregnancy
[2] Wants next birth within two years
[3] Wants to delay next birth for two or more years
[4] Includes both female and male sterilisation
[5] Number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife)

6.2   DESIRE TO LIMIT CHILDBEARING BY BACKGROUND CHARACTERISTICS

Tables 6.2.1 and 6.2.2 provide information on differences in potential demand for fertility control by background characteristics. Even though nationally there are no notable differences by residence, at all parity levels, urban women are more likely to want to limit childbearing than rural women. Generally, women in southern Ghana are more likely than women in the four northern regions (Brong Ahafo, Northern, Upper East, and Upper West) to want no more children. This proportion ranges from 17 percent of women in the Northern region to 48 percent each, of women in the Eastern and Volta regions. Women

with a secondary or higher education (28 percent) are the least likely to want no more children, as compared with 36 to 42 percent of women with no education or with primary education. There are no clear patterns by wealth; however, women in the second wealth quintile are notably more likely to want to limit childbearing (46 percent) when compared with women in the other wealth quintiles (32-39 percent).

Among men, the desire to limit childbearing fluctuates by urban-rural residence at each parity level. The total percentage wanting no more children is similar among men in urban and in rural areas (31 percent and 32 percent, respectively). By region, the percentage of men who want no more children ranges from 9 percent in Northern to 49 percent in Eastern. Men with no education (19 percent) and those in the lowest wealth quintile (20 percent) are the least likely to want no more children compared with men in the other education and wealth categories (Table 6.2.2).

Table 6.2.1 Desire to limit childbearing: Women

Percentage of currently married women age 15-49 who want no more children, by number of living children, according to background characteristics, Ghana 2014

| Background characteristic | Number of living children[1] | | | | | | | |
	0	1	2	3	4	5	6+	Total
Residence								
Urban	8.9	2.5	19.8	42.9	63.5	71.3	80.0	36.6
Rural	0.5	1.3	9.2	26.3	48.0	63.1	76.6	37.6
Region								
Western	(0.0)	4.2	15.7	33.6	62.6	72.8	79.4	37.6
Central	(0.0)	2.5	20.0	38.9	66.9	77.3	82.0	42.0
Greater Accra	(16.6)	1.5	22.5	53.5	64.4	(79.1)	(77.7)	38.4
Volta	*	5.9	18.5	44.1	71.4	78.9	90.4	47.8
Eastern	*	0.0	25.4	45.3	69.0	74.7	93.2	48.3
Ashanti	*	2.5	7.9	29.5	65.5	77.9	80.5	39.9
Brong Ahafo	(0.0)	1.1	8.8	23.2	57.1	61.0	72.7	34.2
Northern	(0.0)	0.0	3.6	4.3	7.4	21.0	58.6	17.2
Upper East	*	0.0	8.4	9.0	30.4	44.0	70.1	23.8
Upper West	*	0.0	5.4	16.1	20.5	54.9	71.6	26.0
Education								
No education	(1.3)	1.3	8.5	18.8	35.8	48.5	71.9	36.4
Primary	(0.0)	5.3	11.7	23.1	57.4	72.3	84.0	42.0
Middle/JSS/JHS	4.1	1.7	16.6	39.4	67.7	79.6	83.2	38.7
Secondary+	11.3	0.7	20.6	62.2	72.1	*	*	28.2
Wealth quintile								
Lowest	(1.8)	0.0	4.3	15.9	25.6	45.3	68.4	31.6
Second	(0.0)	5.5	10.8	22.9	53.1	69.7	82.7	45.7
Middle	(0.0)	4.5	11.6	29.4	61.3	74.0	82.1	38.7
Fourth	0.0	1.1	16.6	38.0	73.3	74.9	84.0	35.3
Highest	12.6	0.6	23.2	54.2	65.7	(82.1)	(84.9)	35.1
Total	6.5	2.0	15.1	35.2	55.5	66.3	77.6	37.1

Note: Women who have been sterilised are considered to want no more children. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] The number of living children includes the current pregnancy.

Table 6.2.2 Desire to limit childbearing: Men

Percentage of currently married men age 15-49 who want no more children, by number of living children, according to background characteristics, Ghana 2014

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	0.0	1.3	17.0	43.4	65.6	49.7	74.1	31.2
Rural	(0.0)	4.6	14.0	21.8	40.7	55.7	54.0	31.6
Region								
Western	*	(6.2)	(14.2)	(27.8)	*	*	(80.3)	32.6
Central	*	(0.0)	(11.1)	(30.0)	(71.0)	(54.4)	*	37.6
Greater Accra	*	(4.0)	(26.3)	(53.4)	(81.1)	*	*	35.7
Volta	*	(0.0)	(23.9)	(46.4)	*	*	(78.8)	42.8
Eastern	*	*	(32.0)	(50.2)	(65.0)	*	*	48.8
Ashanti	*	(0.0)	(2.6)	(26.1)	(41.9)	*	*	28.5
Brong Ahafo	*	(0.0)	(17.0)	(15.9)	(49.5)	(32.1)	(47.5)	25.1
Northern	*	(0.0)	(3.3)	(14.0)	(2.0)	(16.8)	15.3	8.7
Upper East	*	(0.0)	*	(8.0)	(31.3)	*	(28.4)	13.9
Upper West	*	(0.0)	*	(16.3)	*	*	*	14.2
Education								
No education	*	(0.0)	5.5	18.5	8.6	36.4	28.5	18.6
Primary	*	(0.0)	(7.6)	16.3	(31.6)	(52.0)	(65.8)	26.9
Middle/JSS/JHS	(0.0)	3.1	13.5	36.4	63.9	58.4	79.4	37.1
Secondary+	(0.0)	3.3	23.6	49.3	67.9	(59.5)	(78.3)	32.1
Wealth quintile								
Lowest	*	0.0	2.5	10.4	22.8	27.2	35.5	20.0
Second	*	(10.9)	15.7	19.6	46.9	59.4	69.5	39.0
Middle	*	2.4	14.9	30.1	47.3	(61.6)	(77.4)	33.6
Fourth	*	1.7	17.2	33.1	(49.9)	(67.8)	(84.4)	30.6
Highest	(0.0)	2.3	20.1	55.9	(80.5)	*	*	32.9
Total 15-49	0.0	2.6	15.6	34.5	51.4	53.3	59.5	31.4
50-59	*	*	(49.4)	(64.7)	75.5	78.5	74.7	70.9
Total 15-59	0.0	3.7	18.1	38.0	55.6	60.3	66.6	39.1

Note: Men who have been sterilised or who state in response to the question about desire for children that their wife has been sterilised are considered to want no more children. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

6.3 IDEAL FAMILY SIZE

The discussion of fertility preferences earlier in this chapter focused on respondents' current childbearing preferences. These preferences are influenced by the number of children a respondent already has. The 2014 GDHS asked women and men age 15-49 about the total number of children they would like to have in their lifetime if they could choose the exact number when young and without children. Even though this question is based on a hypothetical situation, it provides two measures. First, for women and men who have not yet started a family, the data provide an idea of future fertility. Second, for older and high-parity women, the excess of past fertility over the ideal family size provides a measure of unwanted fertility.

Table 6.3 shows that only 2 percent of women and 1 percent of men were not able to provide a numeric response to the question asked to assess ideal family size.

Both women and men in Ghana prefer a big family, with only marginal differences between them: 4.3 children and 4.5 children are ideal for *all* women and men age 15-49, respectively, and 4.7 children and 5.1 children for *currently married women and men* age 15-49, respectively. The proportion of all women and men who want only one child is small (less than 1 percent for both women and men). Furthermore, only 8 percent of women and 11 percent of men want to have two children. By contrast, more than one-third of women (35 percent) and more than a quarter of men (27 percent) want to have four children.

There has been a slight increase in the mean ideal number of children among currently married women over the past six years, from 4.6 children in 2008 to 4.7 in 2014. Data in Table 6.3 also show that the mean ideal number of children increases with the number of living children, from 3.8 children among women with no children and 3.7 children for those with one child to 6.2 children among women with six or more children. The same pattern is observed among men. This positive association between actual and ideal number of children is due to two factors. First, to the extent that respondents are able to implement their fertility desires, those who want smaller families will tend to achieve smaller families. Second, some respondents may have difficulty admitting their desire for fewer children if they could begin childbearing again and may in fact report their actual number as their preferred number. Despite this tendency to rationalise, the data provide evidence of unwanted fertility.

Table 6.3 Ideal number of children by number of living children

Percent distribution of women and men 15-49 by ideal number of children, and mean ideal number of children for all respondents and for currently married respondents, according to the number of living children, Ghana 2014

Ideal number of children	Number of living children							Total
	0	1	2	3	4	5	6+	
WOMEN[1]								
0	0.5	0.1	0.4	1.1	0.6	0.7	0.7	0.5
1	0.9	0.8	0.8	0.4	0.0	0.3	0.0	0.6
2	12.0	11.3	8.2	4.3	5.3	1.3	0.8	7.9
3	31.9	36.2	20.8	15.4	10.9	8.0	6.1	22.5
4	34.9	34.3	45.3	40.6	32.2	23.1	18.9	34.6
5	10.2	8.9	10.5	17.3	17.5	23.4	13.7	13.0
6+	8.8	7.4	12.0	19.4	31.9	39.7	54.0	19.0
Non-numeric responses	0.7	0.9	2.0	1.5	1.6	3.5	5.8	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,845	1,393	1,469	1,206	978	704	800	9,396
Mean ideal number of children for:[2]								
All women	3.8	3.7	4.1	4.5	4.9	5.4	6.2	4.3
Number of women	2,827	1,381	1,440	1,188	962	679	754	9,231
Currently married women	3.7	3.9	4.1	4.4	4.9	5.4	6.3	4.7
Number of currently married women	305	746	1,073	997	825	590	660	5,197
MEN[3]								
0	1.5	0.3	0.2	0.0	0.6	0.7	0.0	0.9
1	0.7	0.1	1.3	0.9	0.3	1.5	0.0	0.7
2	13.5	11.9	10.3	6.3	9.9	2.1	0.0	10.5
3	29.1	35.8	28.8	17.8	10.2	7.4	6.8	24.6
4	28.9	27.1	31.0	30.0	25.9	19.2	13.4	27.3
5	12.7	11.5	12.3	19.4	15.0	20.9	12.0	13.7
6+	13.0	12.3	15.9	25.3	35.2	48.1	67.3	21.6
Non-numeric responses	0.7	0.9	0.1	0.3	2.9	0.1	0.5	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	1,898	416	421	385	281	213	255	3,869
Mean ideal number of children for men 15-49:[2]								
All men	4.0	3.9	4.2	4.6	5.3	5.8	8.1	4.5
Number of men	1,885	412	420	384	273	213	254	3,841
Currently married men	3.8	4.0	4.2	4.6	5.3	5.8	8.1	5.1
Number of currently married men	109	301	360	350	259	205	246	1,831
Mean ideal number of children for men 15-59:[2]								
All men	4.0	3.9	4.2	4.6	5.3	5.7	8.3	4.8
Number of men	1,904	436	460	434	336	296	490	4,356
Currently married men	3.7	4.0	4.2	4.6	5.3	5.7	8.5	5.4
Number of currently married men	112	315	389	395	314	283	464	2,272

[1] The number of living children includes current pregnancy for women.
[2] Means are calculated by excluding respondents who gave non-numeric responses.
[3] The number of living children includes one additional child if respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife).

Table 6.4 presents the mean ideal number of children for women age 15-49 by background characteristics. Data show that that the mean ideal number of children increases with age from 3.9 children among women age 15-24 to 5.3 children for women age 45-49. This pattern suggests a trend towards smaller family size. The ideal number of children is lower for women in urban than in rural areas (4.0 children and 4.7 children, respectively). Differences in the mean ideal number of children by region exist: the mean ideal number of children is highest among women in the Northern region (6.4 children) and lowest for women residing in the Greater Accra region (3.7 children).

The mean ideal number of children varies inversely with women's level of education and wealth. It decreases from 5.7 children for women with no education to 3.5 children for those with a secondary or higher education, and from 5.5 children for women in the lowest wealth quintile to 3.7 children for those in the highest quintile.

6.4 FERTILITY PLANNING

Information collected in the 2014 GDHS can also be used to estimate levels of unwanted fertility. This information provides some insight into the degree to which couples are able to control fertility. Women age 15-49 were asked a series of questions about each child born to them in the preceding five years, as well as about any current pregnancy, to determine whether the birth or pregnancy was wanted then (planned), wanted later (mistimed), or not wanted at all (unplanned) at the time of conception. In assessing these results, it is important to recognise that women may declare a previously unwanted birth or current pregnancy as wanted, and this rationalisation for a change in opinion results in an underestimate of the true extent of unwanted births.

Table 6.5 shows that 69 percent of all births in the five years preceding the survey were planned, 24 percent were mistimed, and 7 percent were unwanted.

The percentage of planned births has increased from 62 percent in the 2008 GDHS to 69 percent in the 2014 GDHS.

Table 6.5 shows that the proportion of wanted births is lowest for first order births (63 percent), it increases for births of the second and third order (75 percent each), and then it decreases again for births of the fourth or higher order (67 percent). The proportion of planned births is lowest for the youngest mothers under age 20 (42 percent) and highest among women age 25-39 (73-76 percent).

By contrast, mistimed births are more common among young mothers (under age 30) than among old mothers (above age 30). The percentage of unwanted births increases with mother's age at birth, from 1 percent among mothers under age 20 to 42 percent among those age 45-49.

Table 6.4 Mean ideal number of children		
Mean ideal number of children for all women age 15-49 by background characteristics, Ghana 2014		
Background characteristic	Mean	Number of women[1]
Age		
15-19	3.9	1,610
20-24	3.9	1,608
25-29	4.1	1,593
30-34	4.3	1,354
35-39	4.6	1,261
40-44	5.0	982
45-49	5.3	823
Residence		
Urban	4.0	4,985
Rural	4.7	4,246
Region		
Western	4.1	1,014
Central	4.0	922
Greater Accra	3.7	1,865
Volta	3.9	709
Eastern	4.0	871
Ashanti	4.4	1,747
Brong Ahafo	4.4	765
Northern	6.4	786
Upper East	5.2	358
Upper West	5.0	194
Education		
No education	5.7	1,732
Primary	4.6	1,624
Middle/JSS/JHS	4.1	3,811
Secondary+	3.5	2,063
Wealth quintile		
Lowest	5.5	1,492
Second	4.7	1,579
Middle	4.2	1,907
Fourth	4.0	2,084
Highest	3.7	2,169
Total	4.3	9,231

[1] Number of women who gave a numeric response

Table 6.5 Fertility planning status

Percent distribution of births to women age 15-49 in the five years preceding the survey (including current pregnancies), by planning status of the birth, according to birth order and mother's age at birth, Ghana 2014

| Birth order and mother's age at birth | Planning status of birth | | | | Number of births |
	Wanted then	Wanted later	Wanted no more	Total	
Birth order					
1	62.7	36.9	0.4	100.0	1,527
2	75.2	23.4	1.3	100.0	1,382
3	75.4	21.2	3.3	100.0	1,094
4+	66.9	16.1	17.1	100.0	2,355
Mother's age at birth					
<20	41.7	57.3	1.0	100.0	631
20-24	66.6	31.9	1.5	100.0	1,403
25-29	75.7	20.9	3.4	100.0	1,699
30-34	74.6	16.0	9.4	100.0	1,404
35-39	73.4	10.1	16.5	100.0	907
40-44	64.6	6.5	28.8	100.0	271
45-49	57.1	0.5	42.4	100.0	42
Total	69.2	23.6	7.3	100.0	6,358

6.5 WANTED FERTILITY RATES

The wanted fertility rate measures the potential demographic impact of avoiding unwanted births. It is calculated in the same manner as the total fertility rate but excludes unwanted births from the numerator. A birth is considered wanted if the number of living children at the time of conception is less than the ideal number of children reported by the respondent. The gap between wanted and actual fertility shows how successful women are in achieving their reproductive intentions. This measure also may be an underestimate to the extent that women may not report an ideal family size lower than their actual family size.

The total wanted fertility rates shows in Table 6.6 represent the levels of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been avoided. Overall, Ghanaian women have 0.6 children more than their ideal number of 3.6 children. This implies that the total fertility rate (TFR) is 17 percent higher than it would be if unwanted births were avoided.

The gap between wanted and observed fertility rates is larger among women in rural areas (0.8 children) than among women in urban areas (0.3 children). By region, the gap is largest among women residing in the Central and Brong Ahafo region (0.9 children) and smallest among women in Western and Greater Accra regions (0.3 children each).

The gap between wanted and observed total fertility rates decreases with education. Women with no education have 0.7 children more than they want, compared with 0.3 children among women with a secondary or higher education. There is an inverse relationship between wanted fertility rates and wealth. The gap between wanted and actual fertility rates ranges from 0.2 children among women in the highest wealth quintile to 1.0 child among women in the second wealth quintile.

There has been a slight increase in the wanted fertility rate from 3.5 children in 2008 to 3.6 children in 2014.

Table 6.6 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Total wanted fertility rates	Total fertility rate
Residence		
Urban	3.1	3.4
Rural	4.3	5.1
Region		
Western	3.3	3.6
Central	3.8	4.7
Greater Accra	2.5	2.8
Volta	3.6	4.3
Eastern	3.4	4.2
Ashanti	3.5	4.2
Brong Ahafo	3.9	4.8
Northern	6.2	6.6
Upper East	4.5	4.9
Upper West	4.5	5.2
Education		
No education	5.5	6.2
Primary	4.1	4.9
Middle/JSS/JHS	3.6	4.2
Secondary+	2.3	2.6
Wealth quintile		
Lowest	5.5	6.3
Second	4.5	5.5
Middle	3.2	3.9
Fourth	3.1	3.5
Highest	2.6	2.8
Total	3.6	4.2

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 5.2.

FAMILY PLANNING 7

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Key Findings:

- Knowledge of contraception is universal in Ghana.
- Twenty-seven percent of currently married women use contraception; 22 percent use a modern method.
- The three most popular modern methods used by married women are injectables (8 percent), implants (5 percent), and the pill (5 percent).
- Use of modern methods has more than quadrupled in the past 25 years, rising from 5 percent in 1988 to 22 percent in 2014.
- The government sector remains the major source of contraceptives in Ghana, providing them for 64 percent of current users, an increase from 39 percent in 2008.
- Overall, one in four contraceptive users discontinued using a method within 12 months of starting its use. Six percent of episodes of discontinuation occurred because of side effects or health concerns.
- Thirty percent of currently married women have an unmet need for family planning services, with 17 percent having an unmet need for spacing and 13 percent having an unmet need for limiting.

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Family planning has been a priority for the government of Ghana for many years. It is highlighted as a key factor in population management and national development outlined in the current Ghana Shared Growth and Development Agenda II: 2014-2017 (NDPC 2014). Important policy documents have been written to guide the implementation of the country's national family planning programme. These documents include the National Population Policy, the Reproductive Health Service Policy and Standard, the 2000 Adolescent Reproductive Health Policy, the Reproductive Health Commodity Security Strategy (2011-2016), the Draft National Condom and Lubricant Strategy and Market Segmentation Analysis for family planning, among others (MoH 2011).

The goal of family planning is to assist couples and individuals of reproductive age to achieve their reproductive goals and improve their general reproductive health. The objectives of Ghana's family planning programme are (1) to provide information, education, and counselling to individuals and couples, enabling them to decide freely and responsibly when to start childbearing and how to space the children they choose to have; (2) to provide affordable contraceptive services and make available a full range of safe and effective methods; and (3) to provide information on how to manage reproductive tract infections (RTIs) and sexually transmitted infections (STIs), including HIV and AIDS (GHS 2014).

Despite the high importance placed on family planning activities by national policies, strategies, and plans, adequate funding for the family planning programme remains a challenge, thereby affecting progress towards the set targets. In response, the government of Ghana has passed a law to include family planning in the National/District Health Insurance Scheme (N/DHIS). This will enhance the advocacy efforts of stakeholders in the area of reproductive health and family planning from the public and private sectors, civil society, nongovernmental organisations (NGOs), and development partners. However, the implementation of the law is yet to be realised.

This chapter presents information on knowledge of various contraceptive methods and discusses past and current prevalence. For users of rhythm or calendar method (periodic abstinence), knowledge of the ovulatory cycle is examined; for those relying on sterilisation, the age at the time of the procedure is assessed. Also discussed are the source of modern contraceptive methods, informed choice,

discontinuation rates and reasons, unmet need for family planning, nonuse of contraception, and intent to use contraceptive methods in the future. In addition, information is provided on exposure to family planning messages through the media and contact with family planning providers. These topics are of practical use to policymakers in formulating efficient and effective family planning strategies and policies. Although the main focus of this chapter is on women, results from the male survey are also presented because men play an important role in the realisation of reproductive goals. Comparisons are also made, where feasible, with findings from previous surveys to evaluate trends over the past years in Ghana.

7.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

Acquiring knowledge about contraceptive methods is an important step towards gaining access to family planning services and adopting a suitable contraceptive method. The ability to recognise a family planning method when it is described is a simple test of a respondent's knowledge of the method but not necessarily an indication of the extent of his or her knowledge. The 2014 GDHS collected information on knowledge of contraception by asking respondents whether or not they had heard about eight modern methods (female and male sterilisation, intrauterine devices (IUDs), injectables, implants, the pill, male and female condoms, lactational amenorrhoea method (LAM), emergency contraception, and two traditional methods (rhythm and withdrawal). Respondents were also asked whether they knew of other methods in addition to those listed.

Table 7.1 shows the percentage of all women and men, currently married women and men, and sexually active unmarried women and men, age 15-49, who have heard of specific contraceptive methods. Knowledge of at least one method is nearly universal in Ghana, with 99 percent of women and men having this knowledge, regardless of their marital status. The high level of knowledge could be attributed to the successful dissemination of family planning messages, mainly through the mass media.

Table 7.1 Knowledge of contraceptive methods

Percentage of all respondents, currently married respondents, and sexually active unmarried respondents age 15-49 who know any contraceptive method, by specific method, Ghana 2014

	Women			Men		
Method	All women	Currently married women	Sexually active unmarried women[1]	All men	Currently married men	Sexually active unmarried men[1]
Any method	99.0	99.5	99.5	99.2	99.5	99.9
Any modern method	98.7	99.2	99.3	99.1	99.5	99.9
Female sterilisation	71.9	74.4	76.9	71.7	79.4	70.7
Male sterilisation	37.6	39.6	39.6	50.6	56.2	45.5
Pill	90.9	95.0	93.9	86.7	92.2	89.3
IUD	59.7	66.7	59.5	46.1	54.6	46.6
Injectables	91.8	96.5	94.7	82.5	90.4	86.7
Implants	84.3	91.9	87.3	63.4	74.3	61.0
Male condom	96.4	96.3	98.3	99.0	99.5	99.9
Female condom	86.5	86.5	92.9	88.4	91.4	94.0
Lactational amenorrhoea (LAM)	15.8	18.9	13.6	15.5	19.3	12.1
Emergency contraception	64.1	65.4	75.7	63.7	70.2	75.9
Any traditional method	84.8	87.3	91.8	81.1	88.3	90.0
Rhythm	76.6	78.7	83.9	73.7	81.8	81.6
Withdrawal	74.2	78.0	87.0	76.6	85.3	87.5
Other methods	3.6	3.7	8.8	1.9	2.1	3.7
Mean number of methods known by respondents 15-49	8.5	8.9	9.1	8.2	9.0	8.5
Number of respondents	9,396	5,321	729	3,869	1,846	415
Mean number of methods known by respondents 15-59	na	na	na	8.3	8.9	8.5
Number of respondents	na	na	na	4,388	2,290	432

na = Not applicable
[1] Had last sexual intercourse within 30 days preceding the survey

Modern methods are more widely known than traditional methods; almost all women (99 percent) know of a modern method, compared with 85 percent who know of a traditional method. Among modern methods, the male condom (96 percent), injectables (92 percent), the pill (91 percent), and female condoms

(87 percent) are the most commonly known modern methods among women. When compared with other modern methods, lactational amenorrhoea is known by a relatively small percentage of women (16 percent). Although about 7 in 10 women are aware about female sterilisation, just about one-third are aware about male sterilisation. Among traditional methods, rhythm and withdrawal are known by about three-quarters of all women (77 percent and 74 percent, respectively). The extent of and patterns in knowledge of modern and traditional methods of family planning among currently married and sexually active unmarried women are similar. However, sexually active unmarried women are substantially more aware about emergency contraception and traditional methods, particularly withdrawal compared with all women or currently married women.

Among all men age 15-49, 99 percent know of a modern method and 81 percent know of a traditional method. With respect to traditional methods, knowledge levels reflect the gender that has most control in the use of the method. While rhythm is more known among women than among men (77 percent versus 74 percent), withdrawal is known more among men than among women (77 percent versus 74 percent). Male condoms (99 percent), female condoms (88 percent), the pill (87 percent), and injectables (83 percent) are the most commonly known modern methods among men. Overall, knowledge of family planning methods is slightly higher among women than men; women know on average 8.5 contraceptive methods compared with an average of 8.2 methods for men.

Table 7.2 shows the percentage of currently married women and currently married men age 15-49 who have heard of at least one contraceptive method and who have heard of at least one modern method.

Table 7.2 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women and currently married men age 15-49 who have heard of at least one contraceptive method and who have heard of at least one modern method by background characteristics, Ghana 2014

	Women			Men		
Background characteristic	Heard of any method	Heard of any modern method[1]	Number of women	Heard of any method	Heard of any modern method[1]	Number of men
Age						
15-19	96.5	96.5	104	*	*	4
20-24	99.1	98.6	606	100.0	100.0	61
25-29	99.4	99.1	1,062	99.4	99.4	262
30-34	99.7	99.5	1,078	99.7	99.7	410
35-39	99.5	99.2	1,040	100.0	100.0	406
40-44	99.6	99.6	821	99.4	98.9	398
45-49	99.7	99.3	611	99.1	99.1	306
Residence						
Urban	99.9	99.8	2,664	99.7	99.7	935
Rural	99.0	98.6	2,657	99.4	99.2	911
Region						
Western	99.6	99.6	547	100.0	100.0	207
Central	100.0	100.0	532	100.0	100.0	196
Greater Accra	99.8	99.8	1,005	100.0	100.0	395
Volta	100.0	100.0	405	100.0	98.9	150
Eastern	99.8	99.8	500	100.0	100.0	159
Ashanti	100.0	100.0	969	100.0	100.0	298
Brong Ahafo	99.3	98.8	439	98.4	98.4	159
Northern	97.2	95.1	561	97.7	97.7	168
Upper East	99.1	99.0	218	97.6	97.6	69
Upper West	98.1	98.1	146	99.2	99.2	44
Education						
No education	98.1	97.2	1,478	98.0	97.7	287
Primary	99.9	99.9	979	99.7	99.7	243
Middle/JSS/JHS	100.0	100.0	2,063	99.8	99.7	768
Secondary+	100.0	100.0	801	100.0	100.0	547
Wealth quintile						
Lowest	97.9	96.5	1,016	98.3	98.1	312
Second	99.6	99.5	964	99.5	99.2	308
Middle	99.7	99.7	1,001	99.6	99.6	373
Fourth	100.0	100.0	1,090	100.0	100.0	374
Highest	100.0	100.0	1,250	100.0	100.0	479
Total 15-49	99.5	99.2	5,321	99.5	99.5	1,846
50-59	na	na	na	98.7	98.5	444
Total 15-59	na	na	na	99.4	99.3	2,290

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom, female condom, lactational amenorrhoea method (LAM), emergency contraception, and other modern methods

Knowledge of any method and of any modern method is almost universal among currently married women (100 percent and 99 percent, respectively) and men (100 percent each). There are only minor variations by background characteristics.

7.2 CURRENT USE OF CONTRACEPTION

This section presents information on the prevalence of current contraceptive use among women age 15-49 at the time of the survey. Level of current use 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 7.3 shows the percent distribution of all women by age of currently married women, and sexually active unmarried women age 15-49 by contraceptive method currently used. Current use of any method is 23 percent among all women, 27 percent among currently married women, and 45 percent among sexually active unmarried women.

Among currently married women, 22 percent are using a modern method and 5 percent are using a traditional method. Contraceptive use varies with the woman's age. It is lowest among the youngest women age 15-19 (19 percent), mostly because they are in the early stages of family building, and oldest women age 45-49 (18 percent), some of whom are no longer fecund. Injectables are the most widely used modern method among currently married women (8 percent), followed by the implants and the pill (5 percent each).

Among sexually active unmarried women—most of whom are young—the most common methods are the male condom and the pill (8 percent each), followed by injectables and rhythm (7 percent each), and implants (5 percent). Use of a traditional method is notably higher among sexually active unmarried women (13 percent) than women who are currently married (5 percent).

Table 7.3 Current use of contraception by age

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

Age	Any method	Any modern method	Modern method											Traditional method				Not currently using	Total	Number of women
			Female sterilisation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	Diaphragm	Foam/jelly	LAM	Other	Any tradi-tional method	Rhythm	With-drawal	Other			
						ALL WOMEN														
15-19	8.7	6.3	0.0	0.8	0.2	1.6	1.1	2.4	0.0	0.0	0.0	0.0	0.2	2.3	1.2	1.0	0.1	91.3	100.0	1,625
20-24	28.6	21.1	0.0	4.4	0.2	7.6	3.6	4.1	0.1	0.1	0.0	0.0	0.9	7.5	4.7	2.7	0.1	71.4	100.0	1,613
25-29	29.9	24.2	0.1	5.5	0.4	8.9	5.7	2.4	0.0	0.0	0.0	0.6	0.6	5.7	3.8	1.7	0.1	70.1	100.0	1,604
30-34	26.5	22.0	0.6	5.5	0.4	6.7	6.2	1.9	0.1	0.0	0.1	0.0	0.4	4.5	2.9	1.2	0.5	73.5	100.0	1,372
35-39	25.4	20.9	2.8	4.4	1.4	7.5	3.6	1.1	0.0	0.0	0.0	0.0	0.2	4.5	3.5	0.8	0.2	74.6	100.0	1,295
40-44	23.4	18.5	4.2	3.8	1.0	5.9	2.9	0.5	0.0	0.0	0.0	0.1	0.0	4.9	3.3	1.1	0.4	76.6	100.0	1,030
45-49	14.9	13.1	3.9	2.8	0.4	2.9	2.6	0.3	0.0	0.0	0.0	0.0	0.2	1.9	1.5	0.3	0.1	85.1	100.0	857
Total	22.8	18.2	1.3	3.9	0.5	6.0	3.7	2.0	0.0	0.0	0.0	0.1	0.4	4.6	3.1	1.4	0.2	77.2	100.0	9,396
						CURRENTLY MARRIED WOMEN														
15-19	18.6	16.7	0.0	1.3	0.0	6.7	6.1	2.5	0.0	0.0	0.0	0.0	0.0	1.9	0.0	1.9	0.0	81.4	100.0	104
20-24	29.6	24.8	0.0	4.9	0.2	12.4	5.0	1.4	0.0	0.2	0.0	0.0	0.7	4.8	3.9	0.8	0.1	70.4	100.0	606
25-29	31.3	27.5	0.1	5.8	0.5	11.2	7.2	1.4	0.0	0.0	0.0	0.8	0.5	3.8	2.6	1.2	0.1	68.7	100.0	1,062
30-34	27.6	23.0	0.6	5.4	0.4	7.1	6.9	1.9	0.2	0.0	0.1	0.1	0.3	4.6	2.9	1.4	0.4	72.4	100.0	1,078
35-39	26.1	21.0	2.7	4.2	1.5	7.5	4.1	0.9	0.0	0.0	0.0	0.0	0.1	5.1	3.9	1.0	0.2	73.9	100.0	1,040
40-44	25.2	19.4	4.2	4.4	1.3	6.0	3.1	0.5	0.0	0.0	0.0	0.0	0.0	5.8	4.1	1.3	0.4	74.8	100.0	821
45-49	18.3	15.7	5.0	3.0	0.4	3.0	3.7	0.3	0.0	0.0	0.0	0.0	0.3	2.6	2.1	0.5	0.1	81.7	100.0	611
Total	26.7	22.2	1.9	4.7	0.8	8.0	5.2	1.2	0.0	0.0	0.0	0.2	0.3	4.5	3.2	1.1	0.2	73.3	100.0	5,321
						SEXUALLY ACTIVE UNMARRIED WOMEN[1]														
15-19	43.7	31.5	0.0	5.7	1.5	7.5	4.4	11.0	0.0	0.0	0.0	0.0	1.4	12.2	5.5	6.1	0.7	56.3	100.0	175
20-24	53.4	35.1	0.0	7.8	0.0	7.3	5.8	10.9	0.8	0.0	0.1	0.0	2.4	18.3	10.3	7.8	0.2	46.6	100.0	241
25+	38.0	29.2	2.1	10.0	0.0	6.2	5.0	4.0	0.0	0.0	0.0	0.0	2.0	8.8	6.9	1.2	0.7	62.0	100.0	312
Total	44.5	31.7	0.9	8.2	0.4	6.9	5.1	7.9	0.3	0.0	0.0	0.0	2.0	12.8	7.7	4.5	0.5	55.5	100.0	729

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhoea method
[1] Women who have had sexual intercourse within 30 days preceding the survey

7.3 CURRENT USE OF CONTRACEPTION BY BACKGROUND CHARACTERISTICS

Analysing current use of contraception by background characteristics is important because it helps identify subgroups of the population to target for family planning services. Table 7.4.1 shows the percent distribution of currently married women by their use of family planning methods, according to background characteristics. This table allows one to compare current contraceptive use across major population groups.

As mentioned earlier, more than one in four currently married women (27 percent) use some method of contraception, one in four (22 percent) use a modern method, and 5 percent a traditional method. Use of family planning methods increases with increasing number of children, from 21 percent for women with no living children to 30 percent for those with three or four children, and to 27 percent for women with five or more children. The same pattern is observed for use of most modern methods, with the exception of male condom use, which decreases with increasing parity. Use of a traditional method is highest among women with no children (7 percent) and lowest among those with five or more children (3 percent).

The prevalence of use of any method is similar among currently married women in urban and in rural areas (26 percent and 28 percent, respectively). By region, current use of any method is highest among women in Volta (32 percent) and lowest among women in Northern (11 percent).

Use of contraceptive methods increases with education from 19 percent for currently married women with no education to 34 percent of women with a secondary or higher education. Somewhat different patterns are observed for use of modern methods; their use is highest among women with primary education (27 percent) and lowest among women with no education (17 percent). There is no clear relationship between current contraceptive use and wealth.

To assess women's decision-making autonomy about family planning, the 2014 GDHS asked married women whether using contraception is mainly her decision, mainly her husband or partner's decision, or whether they both decided together. Data show that the majority of married women (63 percent) who are using contraception say that decisions about using family planning are made jointly by the husband and wife, over one-quarter (27 percent) of women say they alone make decisions about the use of family planning, and only 11 percent said that their husband/partner mainly decides about their use of contraception (data not shown).

Table 7.4.1 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Ghana 2014

Background characteristic	Any method	Modern method												Any traditional method	Traditional method			Not currently using	Total	Number of women
		Any modern method	Female sterilisation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	Dia-phragm	Foam/jelly	LAM	Other		Rhythm	With-drawal	Other			
Number of living children																				
0	20.5	13.6	0.0	1.7	0.0	2.5	4.4	3.6	0.0	0.3	0.3	0.0	0.9	6.9	4.4	2.1	0.3	79.5	100.0	375
1-2	24.6	20.1	0.4	4.5	0.2	8.3	4.0	1.6	0.1	0.0	0.0	0.4	0.5	4.5	3.2	1.2	0.1	75.4	100.0	1,900
3-4	30.1	24.8	2.4	5.7	1.4	8.6	5.6	0.9	0.0	0.0	0.0	0.1	0.2	5.3	4.0	1.0	0.3	69.9	100.0	1,792
5+	26.7	24.2	3.9	4.4	0.9	8.2	6.6	0.2	0.0	0.0	0.0	0.0	0.0	2.5	1.5	0.7	0.3	73.3	100.0	1,255
Residence																				
Urban	25.8	19.8	1.9	4.1	0.9	5.9	4.6	1.7	0.1	0.0	0.0	0.1	0.6	6.0	4.3	1.5	0.2	74.2	100.0	2,664
Rural	27.5	24.6	1.9	5.2	0.6	10.1	5.8	0.6	0.0	0.0	0.0	0.2	0.1	2.9	2.0	0.7	0.2	72.5	100.0	2,657
Region																				
Western	27.1	23.3	2.7	5.2	0.4	7.1	6.1	1.8	0.0	0.0	0.0	0.0	0.0	3.8	2.6	1.1	0.0	72.9	100.0	547
Central	31.1	27.5	4.0	6.5	1.7	5.6	7.3	1.1	0.0	0.0	0.0	1.2	0.0	3.6	2.4	0.6	0.6	68.9	100.0	532
Greater Accra	28.7	19.4	1.3	3.5	1.0	4.8	5.9	2.0	0.0	0.0	0.0	0.1	0.7	9.3	6.2	2.7	0.3	71.3	100.0	1,005
Volta	32.2	29.5	0.8	6.7	0.0	14.5	4.8	2.2	0.0	0.3	0.0	0.0	0.2	2.8	1.3	1.1	0.4	67.8	100.0	405
Eastern	29.4	25.6	2.8	5.0	1.4	9.2	5.8	0.9	0.0	0.0	0.0	0.0	0.4	3.8	2.9	0.6	0.3	70.6	100.0	500
Ashanti	26.4	20.8	2.1	5.4	0.8	6.0	5.1	0.5	0.2	0.0	0.0	0.2	0.7	5.6	4.4	1.2	0.0	73.6	100.0	969
Brong Ahafo	30.1	26.2	2.2	5.4	0.8	11.3	5.5	1.1	0.0	0.0	0.0	0.0	0.0	3.9	3.2	0.2	0.4	69.9	100.0	439
Northern	11.2	10.8	0.3	2.2	0.0	6.9	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.2	0.1	88.8	100.0	561
Upper East	23.7	23.3	0.0	1.9	0.2	15.2	5.0	1.1	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	76.3	100.0	218
Upper West	25.2	24.8	1.0	3.7	0.0	15.4	4.5	0.2	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.0	74.8	100.0	146
Education																				
No education	18.6	17.4	1.9	3.1	0.2	7.8	3.8	0.2	0.0	0.0	0.0	0.1	0.2	1.1	0.5	0.5	0.1	81.4	100.0	1,478
Primary	28.9	26.8	1.7	6.3	0.8	9.6	7.8	0.6	0.0	0.0	0.0	0.0	0.1	2.0	1.6	0.2	0.2	71.1	100.0	979
Middle/JSS/JHS	28.5	22.8	1.9	5.4	0.5	7.8	5.3	1.1	0.1	0.0	0.0	0.3	0.4	5.7	4.3	1.0	0.3	71.5	100.0	2,063
Secondary+	34.3	23.7	1.9	3.7	2.4	6.6	4.3	3.7	0.0	0.1	0.1	0.3	0.6	10.6	7.0	3.4	0.2	65.7	100.0	801
Wealth quintile																				
Lowest	22.1	21.2	1.0	4.3	0.3	10.9	4.3	0.4	0.0	0.0	0.0	0.0	0.0	0.9	0.3	0.3	0.2	77.9	100.0	1,016
Second	27.2	24.9	2.4	5.1	0.6	9.6	6.3	0.6	0.0	0.0	0.0	0.0	0.3	2.3	1.4	0.7	0.2	72.8	100.0	964
Middle	26.8	24.0	1.8	6.0	0.3	8.7	6.6	0.7	0.0	0.0	0.0	0.0	0.0	2.7	1.7	0.6	0.5	73.2	100.0	1,001
Fourth	28.9	22.1	1.7	4.6	0.7	7.4	5.4	1.2	0.0	0.1	0.1	0.7	0.3	6.8	5.2	1.5	0.1	71.1	100.0	1,090
Highest	28.0	19.5	2.5	3.7	1.7	4.2	3.8	2.6	0.1	0.0	0.0	0.2	0.8	8.5	6.2	2.0	0.2	72.0	100.0	1,250
Total	26.7	22.2	1.9	4.7	0.8	8.0	5.2	1.2	0.0	0.0	0.0	0.2	0.3	4.5	3.2	1.1	0.2	73.3	100.0	5,321

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

7.4 TRENDS IN CURRENT USE OF FAMILY PLANNING

Trends in current use of family planning can be used to monitor and evaluate the success of family planning programmes over time. Table 7.4.2 and Figure 7.1 show trends in modern contraceptive use among currently married women from 1988 to 2014. Data from six DHS surveys conducted in Ghana since 1988 show that contraceptive use among married women in Ghana has more than doubled, increasing from 13 percent in 1988 to 27 percent in 2014. The largest increase occurred in the decade between the 1988 and 1998 GDHS surveys (from 13 percent to 22 percent); current use has plateaued between 25 percent and 27 percent since the 2003 GDHS. Similarly, use of modern methods has more than quadrupled, from 5 percent in 1988 to 22 percent in 2014, with a notable increase from 17 percent to 22 percent in the past six years. Use of traditional methods has fluctuated since 1988, and has decreased somewhat over the past six years. The recent increase in modern contraceptive use is mostly due to more implants and fewer injectables.

Table 7.4.2 Trends in the current use of contraception

Percentage distribution of currently married women age 15-49 by contraceptive method currently used, according to several surveys

Method	GDHS 1988	GDHS 1993	GDHS 1998	GDHS 2003	GDHS 2008	GDHS 2014
Any method	12.9	20.3	22.0	25.2	23.5	26.7
Any modern method	5.2	10.1	13.3	18.7	16.6	22.2
Female sterilisation	1.0	0.9	1.3	1.9	1.6	1.9
Pill	1.8	3.2	3.9	5.5	4.7	4.7
IUD	0.5	0.9	0.7	0.9	0.2	0.8
Injectables	0.3	1.6	3.1	5.4	6.2	8.0
Implants	u	0.0	0.1	1.0	0.9	5.2
Male condom	0.3	2.2	2.7	3.1	2.4	1.2
Female condom	u	u	u	0.1	0.1	0.0
Diaphragm/foam/jelly	1.3	1.2	0.9	0.5	0.3	0.0
Other modern methods	0.0	0.0	0.5	0.3	0.0	0.2
Any traditional method	7.7	10.1	8.7	6.5	6.9	4.5
Rhythm/ calendar method/ periodic abstinence[1]	6.2	7.5	6.6	5.1	4.7	3.2
Withdrawal	0.9	2.1	1.5	0.8	1.4	1.1
Other	0.6	0.5	0.6	0.6	0.8	0.2
Not currently using	87.0	79.7	78.0	74.8	76.5	73.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	3,156	3,204	3,131	3,549	2,876	5,321

u = Unknown (not available)
[1] Combined to reflect different method names used over time in the various GDHS surveys.

Figure 7.1 Trends in current use of contraceptive methods, Ghana 1988-2014

Percentage of currently married women

□1988 ■1993 ■1998 ■2003 ■2008 ■2014
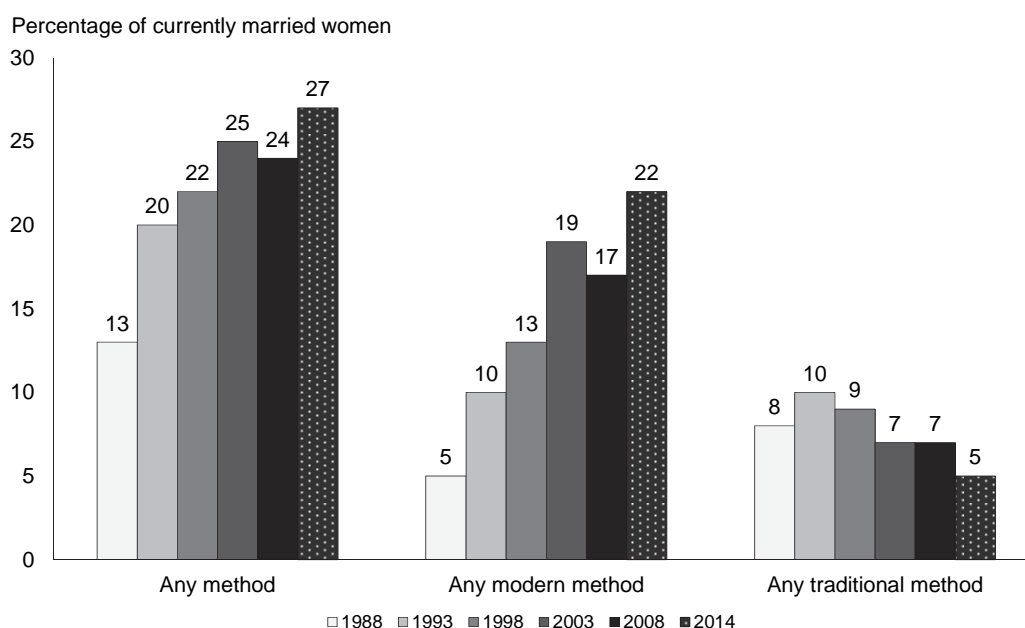
7.5 TIMING OF STERILISATION

The use of female sterilisation as a method of contraception is very low in Ghana, 1 percent among all women and 2 percent among currently married women age 15-49. Data show that the median age of sterilisation among women is 35.7 years. The majority of women perform the operation when they are age 35-39 (46 percent), followed by those in the 30-34 age group (28 percent; data not shown due to small numbers of sterilised women).

7.6 SOURCE OF MODERN CONTRACEPTION

Table 7.5 documents the main sources of contraception for users of selected modern methods. Such information is important for programme managers and implementers who design family planning policies and programmes. All current users of modern contraceptive methods were asked about the most recent source of their methods. The government sector remains the major source of contraceptive methods in Ghana, providing methods to 64 percent of current users, an increase from 39 percent in 2008. Within the government sector, the main sources are government hospitals or polyclinics (29 percent) and government health centres or clinics (25 percent).

One-third of users (33 percent) obtain their methods from the private medical sector, mostly from chemical or drug stores (22 percent) and pharmacies (7 percent). The percentage of users obtaining their methods from the private medical sector has decreased by from 51 percent in 2008 to 33 percent in 2014, due to the sharp decrease in the percentage who reported chemical or drug stores as their source (from 38 percent in 2008 to 22 percent in 2014).

Looking at specific methods, implants (94 percent), female sterilisation (92 percent), injectables (90 percent), and IUDs (84 percent) are obtained or performed mostly in public sector facilities. The National Reproductive Health Service Policy and Standards require that specialised providers administer different modern methods of family planning. These cadres of specialised providers are mostly available at a public sector health facility, which explains the large proportion of public sector users for these specific methods. On the other hand, more than 8 in 10 pill users (82 percent) and about 9 in 10 male condom users (89 percent) obtain their supply from the private medical sector, the majority from chemical or drug stores (64 percent and 61 percent, respectively) and from pharmacies (17 percent and 29 percent).

Although these findings point to the continued reliance on government facilities as a major source of contraceptives, the role of the private sector and the non-governmental sector cannot be ignored. To make family planning more accessible in hard to reach areas, the private sector should be encouraged to put in place the necessary systems to provide the full range of family planning methods.

Table 7.5 Source of modern contraception methods

Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to method, Ghana 2014

Source	Female sterili-sation	Pill	IUD	Injectables	Implants	Male condom	Total
Public sector	92.0	15.3	(84.1)	90.0	93.7	3.1	63.7
Government hospital/polyclinic	83.7	6.1	(62.3)	28.3	44.2	1.6	28.7
Government health centre/clinic	8.4	5.9	(14.5)	45.6	30.6	0.8	24.5
Government health post/CHPS	0.0	0.7	(2.4)	10.6	8.1	0.2	5.6
Family planning clinic	0.0	1.8	(4.8)	3.6	8.6	0.5	3.6
Mobile clinic	0.0	0.2	(0.0)	0.3	1.3	0.0	0.4
Fieldworker/outreach/peer educator	0.0	0.7	(0.0)	1.7	1.0	0.0	1.0
Private medical sector	8.0	81.9	(6.4)	9.2	2.9	89.1	33.4
Private hospital/clinic	8.0	1.0	(0.0)	5.8	1.8	0.0	3.2
Private doctor	0.0	0.0	(0.0)	0.0	0.0	0.0	0.0
Pharmacy	0.0	16.6	(0.0)	0.4	0.0	28.5	7.3
Chemical/drug store	0.0	64.3	(0.0)	0.5	0.2	60.6	21.7
FP/PPAG clinic	0.0	0.0	(0.0)	1.1	0.4	0.0	0.5
Maternity home	0.0	0.0	(6.4)	1.4	0.4	0.0	0.8
Other source	0.0	2.9	(0.0)	0.8	0.0	6.0	1.6
Shop/market	0.0	1.8	(0.0)	0.2	0.0	4.3	1.0
Community volunteer	0.0	0.4	(0.0)	0.4	0.0	0.3	0.3
Friend/relative	0.0	0.7	(0.0)	0.2	0.0	1.4	0.4
Other	0.0	0.0	(0.0)	0.0	0.0	1.8	0.2
Missing	0.0	0.0	(9.5)	0.0	3.3	0.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	122	368	50	567	352	192	1,659

Note: Total includes other modern methods that are not shown separately but excludes lactational amenorrhoea method. (LAM). Figures in parentheses are based on 25-49 unweighted cases.
CHPS = Community-based Health and Planning Services
PPAG = Planned Parenthood Association of Ghana

7.7 BRANDS OF PILLS AND CONDOMS USED

To obtain information about use of social marketing brands of pills and condoms in Ghana, women who were using the pill and the male condom at the time of the survey were asked about the brands that they used the last time. This information is useful for monitoring the success of social marketing programmes. Among pill users, the most common brands used are secure (67 percent) and N/M tablets (15 percent). Use of the brands varies according to residence, educational level, and wealth quintile. Among the male condom users, the most commonly used brands are Champion (24 percent), Gold cycle (12 percent), Be Safe, no logo (7 percent), and Panther (5 percent; data not shown).

7.8 INFORMED CHOICE

Informed choice is an important tool for assessing, monitoring and evaluating the quality of family planning services. Family planning clients have a right to information about their choice of contraceptive method. Providers are required to inform all users of contraceptive methods about 1) the potential side effects of their method, 2) what they should do if they experience side effects or signs of a problem, and 3) alternate methods of family planning they can use. Current users of modern methods of contraception were asked whether they were informed about the possible side effects or problems they might have with using a method, what to do if they experienced side effects, and other methods they could use. This information assists users in coping with side effects and decreases unnecessary discontinuations. Moreover, such data serve as a measure of the quality of family planning service provision. Table 7.6 presents the results by type of method and source.

About 7 in 10 modern contraceptive users (67 percent) were informed by a health or family planning worker about potential side effects of the method they use, about 6 in 10 (57 percent) were informed about what to do if they experienced side effects, and 7 in 10 (72 percent) were informed of other available methods of contraception. Looking at the type of method, women using the pill and female sterilisation are the least likely to be provided with informed choices compared with users of the other methods (53 percent and 51 percent, respectively).

Users are less likely to receive information about side effects or problems of the method used from a private than a public medical facility (37 percent versus 77 percent), or information about what to do if they experienced side effects (28 percent versus 67 percent), or about other methods that could be used (48 percent versus 81 percent).

Table 7.6 Informed choice

Among current users of modern methods age 15-49 who started the last episode of use within the five years preceding the survey, the percentage who were informed about possible side effects or problems of that method, the percentage who were informed about what to do if they experienced side effects, and the percentage who were informed about other methods they could use, by method and initial source, Ghana 2014

| Method/source | Among women who started last episode of modern contraceptive method within five years preceding the survey: | | | |
	Percentage who were informed about side effects or problems of method used	Percentage who were informed about what to do if experienced side effects	Percentage who were informed by a health or family planning worker of other methods that could be used	Number of women
Method				
Female sterilisation	57.9	47.1	52.8	79
Pill	36.9	28.8	51.4	326
IUD	(88.8)	(78.6)	(91.1)	45
Injectables	74.4	64.6	81.3	528
Implants	83.2	70.7	80.0	338
Initial source of method[1]				
Public sector	77.1	66.6	80.5	976
Government hospital/polyclinic	77.4	65.3	78.8	428
Government health centre/clinic	77.8	71.0	84.6	375
Government health post/CHPS	73.0	53.2	80.6	86
Family planning clinic	74.2	63.3	74.4	60
Mobile clinic	*	*	*	6
Fieldworker/outreach/peer educator	*	*	*	20
Private medical sector	36.8	27.9	47.8	321
Private hospital/clinic	(63.6)	(51.3)	(73.5)	50
Pharmacy	(30.5)	(18.9)	(44.7)	43
Chemical/drug store	29.1	21.6	41.4	209
FP/PPAG clinic	*	*	*	7
Maternity home	*	*	*	13
Other private sector	*	*	*	17
Total	66.8	56.7	72.2	1,316

Note: Table includes users of only the methods listed individually. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
CHPS = Community-based Health and Planning Services
PPAG = Planned Parenthood Association of Ghana
[1] Source at start of current episode of use

7.9   CONTRACEPTIVE DISCONTINUATION RATES

Couples can realise their reproductive goals only when they consistently and correctly use contraceptive methods. A prominent concern for family planning programmes is the rate at which contraceptive users discontinue using their methods. In the "Calendar" section of the Woman's Questionnaire, all segments of contraceptive use from 3-59 months prior to the survey are recorded. The month of interview and the two months prior to the survey are ignored in order to avoid the bias that may be introduced by unrecognised pregnancies. One-year contraceptive discontinuation rates based on the calendar data are presented in Table 7.7.

Overall, 25 percent of the episodes of contraceptive use were discontinued within 12 months of starting its use for any reason. Six percent of episodes of discontinuation occurred because of fear of side effects or health concerns, 5 percent each occurred because of desire to become pregnant or other fertility-related reasons, and 4 percent were attributed to method failure (became pregnant while using).

Discontinuation rates also vary by method. Rates are highest for the male condom (35 percent), the pill (30 percent), and injectables (29 percent).

Table 7.7 Twelve-month contraceptive discontinuation rates

Among women age 15-49 who started an episode of contraceptive use within the five years preceding the survey, the percentage of episodes discontinued within 12 months, by reason for discontinuation and specific method, Ghana, 2014

Method	Method failure	Desire to become pregnant	Other fertility-related reasons[2]	Side effects/ health concerns	Wanted more effective method	Other method-related reasons[3]	Other reasons	Any reason[4]	Number of episodes of use[5]
Pill	6.0	4.7	5.8	7.6	0.7	3.3	1.5	29.6	585
Injectables	1.5	6.0	2.4	13.1	1.4	1.6	3.0	29.1	862
Implants	0.5	0.7	0.0	4.9	0.0	0.7	0.0	6.9	369
Male condom	1.7	5.6	17.9	0.7	0.8	3.5	4.8	35.1	279
Rhythm	10.5	4.4	2.9	0.0	0.2	0.3	0.4	18.8	398
Withdrawal	(6.9)	(2.7)	(5.5)	(0.0)	(5.0)	(0.0)	(0.7)	(20.8)	182
All methods[1]	4.2	4.5	5.1	6.3	1.0	1.9	1.7	24.7	2,960

Note: Figures are based on life table calculations using information on episodes of use that began 3-62 months preceding the survey. Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes female sterilisation, male sterilisation, IUD, female condom, diaphragm, foam/jelly, and LAM.
[2] Includes infrequent sex/husband away, difficult to get pregnant/menopausal, and marital dissolution/separation
[3] Includes lack of access/too far, costs too much, and inconvenient to use
[4] Reasons for discontinuation are mutually exclusive and add to the total given in this column.
[5] Number of episodes of use includes both episodes of use that were discontinued during the period of observation and episodes of use that were not discontinued during the period of observation.

7.10 REASONS FOR DISCONTINUATION OF CONTRACEPTIVE USE

Another perspective on discontinuation of modern contraceptive use is provided in Table 7.8, which shows the percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by reasons for discontinuation, according to specific method.

Table 7.8 Reasons for discontinuation

Percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by main reason stated for discontinuation, according to specific method, Ghana 2014

Reason	Pill	Injection	Implants	Rhythm	With-drawal	Other[1]	All methods
Became pregnant while using	22.0	7.0	8.1	45.8	40.1	28.5	20.4
Wanted to become pregnant	28.0	30.1	21.7	32.1	17.6	18.5	27.2
Husband disapproved	3.1	2.1	1.7	1.5	4.5	0.0	2.7
Wanted a more effective method	2.0	2.7	1.7	5.2	11.8	5.3	3.7
Side effects/health concerns	20.7	39.2	55.4	0.5	0.0	9.3	21.6
Lack of access/too far	4.4	1.1	0.0	0.0	0.0	0.0	1.5
Cost too much	1.7	1.8	1.1	0.0	0.0	0.0	1.2
Inconvenient to use	1.5	1.6	4.8	0.4	0.0	6.3	2.1
Up to God/fatalistic	0.1	0.0	0.0	0.7	0.0	0.0	0.2
Difficult to get pregnant/menopausal	0.4	0.1	0.0	0.0	0.0	0.0	0.1
Infrequent sex/husband away	13.9	9.5	4.9	12.3	20.9	32.0	16.3
Marital dissolution/separation	0.2	0.5	0.0	0.4	3.4	0.0	0.6
Other	1.9	4.3	0.7	1.0	1.6	0.0	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of discontinuations	405	541	89	292	96	84	1,702

[1] Includes female sterilisation, IUD, diaphragm, foam/jelly, and lactational amenorrhoea method (LAM)

The most common reasons for discontinuing a method are that the woman wanted to become pregnant (27 percent), experiencing side effects or having health concerns (22 percent), becoming pregnant while using (20 percent), and infrequent sex or husband away (16 percent). The main reasons for discontinuing use of injectables and implants is experiencing side effects or having health concerns (39 percent and 55 percent, respectively), followed by desire to become pregnant (30 percent and 22 percent,

respectively). Among pill users who discontinued method use, the main reason for discontinuation is desire to become pregnant (28 percent), followed by method failure (22 percent) and experiencing side effects or having health concerns (21 percent). Becoming pregnant while using a method (method failure) was the predominate reason for discontinuing rhythm and withdrawal methods (46 percent and 40 percent, respectively).

7.11 KNOWLEDGE OF FERTILE PERIOD

A basic knowledge of reproductive physiology provides a useful background for the successful practice of the rhythm method. Seventy seven percent of married women have heard of the rhythm method, but only 3 percent are currently using the method as shown in Table 7.1 and Table 7.3. Women's knowledge about the time during the menstrual cycle when a woman is most likely to get pregnant is shown in Table 7.9.

Overall, only 36 percent of women age 15-49 correctly reported the most fertile time as being halfway between two menstrual periods. Among users of the rhythm method who rely on accurate knowledge of the fertile method, only about half (54 percent) were able to correctly identify a woman's monthly cycle; 36 percent incorrectly reported that a woman's most fertile period is directly after menstruation has ended. A lower proportion of nonusers of the rhythm method (36 percent) have correct knowledge of a woman's most fertile period. These results indicate a sustained need for education about women's physiology of reproduction and effective use of contraceptive methods.

Table 7.9 Knowledge of fertile period

Percent distribution of women age 15-49 by knowledge of the fertile period during the ovulatory cycle, according to current use of the rhythm method, Ghana 2014

Perceived fertile period	Users of rhythm method	Nonusers of rhythm method	All women
Just before her menstrual period begins	2.8	8.1	7.9
During her menstrual period	1.7	2.5	2.5
Right after her menstrual period has ended	36.4	35.4	35.4
Halfway between two menstrual periods	54.2	35.7	36.3
No specific time	2.9	8.6	8.5
Don't know	2.0	9.7	9.4
Total	100.0	100.0	100.0
Number of women	289	9,107	9,396

7.12 NEED AND DEMAND FOR FAMILY PLANNING SERVICES

Data in this section provide information on the extent of need and potential demand for family planning services in Ghana. Currently married or sexually active fecund 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 spacing or limiting if their pregnancy was mistimed or unwanted. Similarly, amenorrhoeic women who are not using family planning and whose last birth was mistimed are considered to have an unmet need for spacing, and those whose last child was unwanted have an unmet need for limiting. 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 7.10 shows the need and demand for family planning among currently married women by background characteristics. Thirty percent of currently married women have an unmet need for family planning, 17 percent have an unmet need for spacing, and 13 percent have an unmet need for limiting. Twenty-seven percent of women have a met need for family planning, i.e., they are using a method, 15 percent for spacing, and 12 percent for limiting their births. If all currently married women who say they

want to space or limit their children were to use a family planning method, the contraceptive prevalence rate would increase from 27 percent to 57 percent.

Table 7.10 Need and demand for family planning among currently married women

Percentage of currently married women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Ghana 2014

Background characteristic	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning[1]			Percentage of demand satisfied[2]	Percentage of demand satisfied by modern methods[3]	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total			
Age												
15-19	49.6	1.1	50.7	17.5	1.0	18.6	67.2	2.1	69.3	26.8	24.1	104
20-24	32.0	2.0	34.0	27.0	2.6	29.6	59.0	4.6	63.6	46.5	38.9	606
25-29	25.9	5.0	30.8	26.2	5.1	31.3	52.1	10.1	62.2	50.4	44.2	1,062
30-34	17.5	12.0	29.5	17.5	10.1	27.6	35.0	22.1	57.1	48.3	40.3	1,078
35-39	15.1	20.2	35.3	10.0	16.1	26.1	25.1	36.3	61.4	42.6	34.2	1,040
40-44	6.2	22.3	28.5	4.6	20.6	25.2	10.7	42.9	53.7	47.0	36.2	821
45-49	1.2	13.0	14.2	1.0	17.3	18.3	2.2	30.3	32.5	56.4	48.3	611
Residence												
Urban	16.2	12.5	28.7	14.1	11.7	25.8	30.3	24.2	54.5	47.4	36.3	2,664
Rural	18.5	12.6	31.1	15.9	11.7	27.5	34.4	24.3	58.7	46.9	41.9	2,657
Region												
Western	16.6	10.8	27.4	15.9	11.2	27.1	32.4	22.1	54.5	49.7	42.8	547
Central	19.4	10.0	29.4	14.4	16.7	31.1	33.7	26.7	60.4	51.4	45.4	532
Greater Accra	14.3	14.0	28.3	16.3	12.5	28.7	30.6	26.5	57.1	50.4	34.1	1,005
Volta	18.0	18.3	36.3	17.4	14.9	32.2	35.4	33.2	68.5	47.0	43.0	405
Eastern	17.7	17.5	35.1	14.2	15.2	29.4	31.8	32.7	64.5	45.5	39.7	500
Ashanti	16.6	15.2	31.8	14.1	12.4	26.4	30.6	27.5	58.2	45.4	35.8	969
Brong Ahafo	16.8	9.8	26.5	18.8	11.3	30.1	35.6	21.1	56.7	53.2	46.3	439
Northern	21.7	6.1	27.8	8.4	2.8	11.2	30.1	8.9	39.0	28.8	27.8	561
Upper East	18.6	7.8	26.5	18.3	5.4	23.7	37.0	13.2	50.2	47.3	46.5	218
Upper West	19.7	7.8	27.5	15.4	9.8	25.2	35.1	17.6	52.7	47.9	47.0	146
Education												
No education	17.6	11.7	29.3	9.3	9.3	18.6	26.9	20.9	47.8	38.8	36.4	1,478
Primary	17.1	14.8	31.9	14.4	14.5	28.9	31.4	29.3	60.7	47.5	44.2	979
Middle/JSS/JHS	17.7	14.0	31.7	16.7	11.8	28.5	34.4	25.8	60.2	47.4	37.9	2,063
Secondary+	16.4	7.6	24.1	21.7	12.6	34.3	38.1	20.3	58.4	58.8	40.5	801
Wealth quintile												
Lowest	19.5	11.6	31.2	13.2	8.8	22.1	32.7	20.5	53.2	41.4	39.8	1,016
Second	18.4	13.9	32.3	12.9	14.3	27.2	31.3	28.3	59.6	45.7	41.8	964
Middle	17.5	14.5	32.0	15.3	11.5	26.8	32.8	25.9	58.8	45.5	40.9	1,001
Fourth	17.8	12.1	29.9	18.0	11.0	28.9	35.7	23.1	58.8	49.2	37.5	1,090
Highest	14.3	11.0	25.3	15.1	12.9	28.0	29.4	23.9	53.3	52.5	36.6	1,250
Total	17.4	12.5	29.9	15.0	11.7	26.7	32.3	24.2	56.6	47.2	39.2	5,321

Note: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al., 2012.
[1] Total demand is the sum of unmet need and met need.
[2] Percentage of demand satisfied is met need divided by total demand.
[3] Modern methods include female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom, female condom, diaphragm, foam/jelly, and lactational amenorrhoea method (LAM)

Table 7.10 further shows that only 47 percent of the family planning needs of married women are currently being met; 39 percent of the demand for family planning is satisfied by modern methods.

Total unmet need for family planning is highest among the youngest women age 15-19 (51 percent) and lowest among the oldest women age 45-59 (14 percent). Unmet need is only slightly higher in rural than in urban areas (31 percent versus 29 percent). By region, unmet need ranges from 36 percent in Volta to 27 percent in Western, Brong Ahafo, and Upper East regions. Unmet need is lowest among women with a secondary or higher education (24 percent) and women in the highest wealth quintile (25 percent) when compared with women with other levels of education and wealth.

Total demand for family planning is highest among women age 15-19 (69 percent) and lowest among those age 45-49 (33 percent). Demand for family planning is highest among rural women (59 percent), women in Volta (69 percent), those with primary or middle/JSS/JHS education (60-61 percent), and women in the middle three quintiles (59-60 percent). The percentage of women whose demand for family planning is satisfied by modern methods is highest among those age 45-49 (48 percent), those living

in rural areas (42 percent), women in Upper West and Upper East (47 percent each), those with primary education (44 percent), and women in the middle or second wealth quintile (41-42 percent).

To better understand the underlying factors behind observed variations in unmet need and to strengthen assessments of the demand for family planning, a follow up study on family planning was conducted by a different team on a subsample of households selected for the GDHS survey. The research team re-interviewed a subsample of the selected GDHS original female respondents in 13 clusters who consented to be re-interviewed. Women age 15-44 who were not currently using family planning or who reported not wanting their current pregnancy or their most recent live birth were eligible for the follow-up survey. Additionally, a randomly selected 10 percent of current female users of family planning age 15-44 in those clusters also were eligible for the study. Results of the follow up study on unmet need for family planning are not discussed in this report and will be published in a separate report.

Figure 7.2 shows the trend of unmet need and percentage of demand satisfied with modern methods from 1993 to 2014. Unmet need declined from 37 percent in 1993 to 35 percent in 2003, increased to 36 percent in 2008, before decreasing thereafter, to 30 percent in 2014. This trend was reversed for the demand satisfied by modern methods, an indication that, modern methods contribute substantially to the use of contraception by married women.

Figure 7.2 Trends in unmet need and percentage of demand satisfied with modern methods, Ghana 1993-2014

Percentage of currently married women
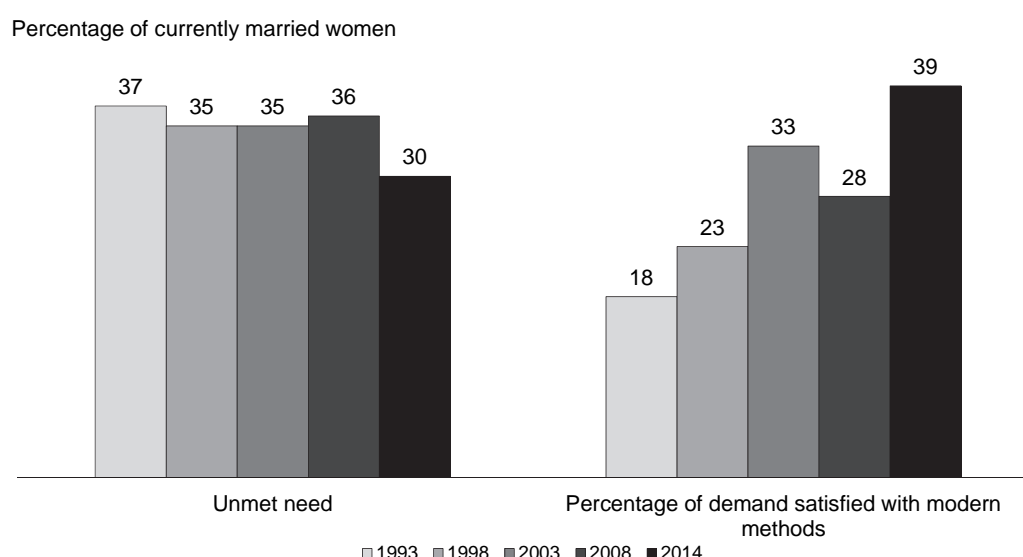
Note: Data on unmet need not available for the 1988 GDHS survey. The unmet need estimates for the 1993, 1998, 2003, and 2008 GDHS surveys have been recalculated using the revised definition of unmet need (Bradley et al., 2012).

7.13 FUTURE USE OF CONTRACEPTION

An important indicator of the changing demand for family planning is the extent to which nonusers plan to use contraceptive methods in the future. In the 2014 GDHS, women age 15-49 who were not using any contraceptive method at the time of the survey were asked about their intention to use family planning in the future. Table 7.11 shows that, among currently married women not using contraception, 36 percent intend to use a family planning method in the future, 6 percent are unsure of their intentions, and 58 percent have no intention of using any method in the future.

The proportion of women who are not using a method but intend to do so in the future is lowest among women with no children (26 percent) when compared with women with one or more children (36-38 percent).

Table 7.11 Future use of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method by intention to use in the future, according to number of living children, Ghana 2014

Intention	Number of living children[1]					Total
	0	1	2	3	4+	
Intends to use	26.3	35.7	37.7	37.6	35.7	35.9
Unsure	12.7	5.2	5.5	6.5	5.1	5.9
Does not intend to use	61.1	59.0	56.8	55.9	59.1	58.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	229	565	815	722	1,571	3,902

Note: Totals may not add up to 100 percent because women with missing information are not shown separately.
[1] Includes current pregnancy

7.14 EXPOSURE TO FAMILY PLANNING MESSAGES

The media play an important role in communicating messages about family planning. Data on level of exposure to such media as radio, television, and printed materials are important for programme managers and planners to effectively target population subgroups for information, education, and communication campaigns. To assess the extent to which the media serve as a source of family planning messages, respondents were asked whether they had heard or seen a message about family planning on the radio or television, or in the print media (newspapers and magazines), in the past few months preceding the survey. The results are shown in Table 7.12.

Radio is the most common source of family planning messages for both women (57 percent) and men (67 percent). Approximately half of respondents (51 percent of women and 57 percent of men) saw a family planning message on the television. Newspapers and magazines are the least common source of family planning messages for both women and men (7 percent and 14 percent, respectively).

Exposure to family planning messages is more common among men than women; roughly one in three women (34 percent) and one in four men (26 percent) were not exposed to any family planning messages in the three media. Youngest respondents age 15-19 have the lowest exposure to family planning messages though the media; 50 percent of women and 41 percent of men in this age group have not heard or seen any family planning messages in any of the three media in the past few months. Exposure to family planning messages through the media is more common in urban areas than in rural areas. Among women, exposure to family messages through television is higher in Greater Accra (76 percent) and lowest in Upper East (16 percent). Among men, it is highest in Ashanti (78 percent) and lowest in Northern (30 percent). Exposure to family planning through the various media increases with the level of education and wealth quintile for both women and men.

Table 7.12 Exposure to family planning messages

Percentage of women and men age 15-49 who heard or saw a family planning message on radio, on television or in a newspaper or magazine in the past few months, according to background characteristics, Ghana 2014

Background characteristic	Women					Men				
	Radio	Television	Newspaper/ magazine	None of these three media sources	Number of women	Radio	Television	Newspaper/ magazine	None of these three media sources	Number of men
Age										
15-19	38.3	35.9	5.1	50.4	1,625	48.4	44.3	9.8	40.8	855
20-24	57.9	54.4	8.9	31.9	1,613	62.4	52.7	15.2	30.3	588
25-29	61.6	58.5	8.4	26.6	1,604	68.6	60.4	11.6	24.4	589
30-34	62.2	56.6	6.0	29.7	1,372	75.9	65.7	14.1	17.9	552
35-39	63.4	53.2	6.2	28.4	1,295	77.7	64.6	19.3	18.4	473
40-44	61.1	48.4	4.3	32.5	1,030	76.7	60.7	12.8	20.2	456
45-49	60.4	44.4	4.8	34.5	857	78.5	61.1	25.2	17.0	355
Residence										
Urban	60.0	63.9	9.3	26.8	5,051	68.5	68.7	19.1	22.4	2,050
Rural	53.7	35.0	3.2	41.7	4,345	65.7	43.9	9.1	30.3	1,819
Region										
Western	71.5	58.6	4.8	21.8	1,038	69.9	60.2	10.9	23.3	447
Central	67.9	60.5	5.8	19.9	937	66.0	56.3	12.3	26.9	380
Greater Accra	63.0	75.5	13.8	20.3	1,898	65.6	67.4	19.6	23.7	831
Volta	62.7	46.5	6.7	29.6	720	49.5	37.0	7.7	41.4	295
Eastern	52.7	42.6	7.8	41.3	878	68.6	56.9	17.7	23.6	362
Ashanti	56.7	51.0	4.2	33.7	1,798	84.2	77.7	19.9	12.9	680
Brong Ahafo	38.1	26.1	2.1	57.1	769	66.7	43.8	13.6	31.5	320
Northern	46.1	25.3	2.3	50.9	786	55.1	29.9	5.9	39.7	316
Upper East	33.2	16.0	2.4	64.3	358	58.8	34.6	6.0	34.9	146
Upper West	39.2	26.3	2.8	54.3	215	54.6	37.6	7.1	37.5	91
Education										
No education	47.6	26.3	0.4	47.8	1,792	60.3	29.1	1.3	36.2	362
Primary	49.9	38.0	0.6	43.3	1,672	58.6	41.0	3.3	35.7	543
Middle/JSS/JHS	59.6	54.9	4.1	30.6	3,862	68.3	58.7	9.5	25.0	1,626
Secondary+	66.4	73.4	20.9	19.5	2,070	71.3	69.1	28.5	20.8	1,336
Wealth quintile										
Lowest	40.5	13.2	0.8	58.3	1,511	56.6	19.7	3.3	40.6	639
Second	52.4	27.8	1.6	44.6	1,636	64.0	42.6	9.4	30.9	648
Middle	56.6	48.6	4.1	34.9	1,938	65.7	58.1	10.9	27.7	770
Fourth	63.6	70.3	8.9	21.9	2,117	70.5	72.6	15.8	19.8	848
Highest	66.2	75.8	13.8	19.0	2,194	74.7	77.0	26.8	17.5	963
Total 15-49	57.1	50.5	6.5	33.7	9,396	67.2	57.0	14.4	26.1	3,869
50-59	na	na	na	na	na	76.4	52.4	18.2	20.4	519
Total 15-59	na	na	na	na	na	68.3	56.5	14.9	25.4	4,388

na = Not applicable

7.15 CONTACT OF NONUSERS WITH FAMILY PLANNING PROVIDERS

When family planning providers visit women in the field or when women visit health facilities, service providers are expected to discuss reproductive health needs and contraceptive options available, and to counsel women to adopt a method of family planning. To get insight into the level of contact between nonusers and health workers, women who were not using contraception were asked whether a fieldworker had visited them during the 12 months preceding the survey and discussed family planning. In addition, women were asked whether they had visited a health facility in the 12 months preceding the survey for any reason and whether anyone at the facility had discussed family planning with them during the visit.

Table 7.13 shows that fieldworkers discussed family planning with 10 percent of nonusers during the 12 months preceding the survey. At the same time, 16 percent of nonusers visited a health facility and discussed family planning at the facility. About one in three women (32 percent) visited a health facility but did not discuss family planning. The level of contact of nonusers with family planning providers varies by background characteristics. Overall, 77 percent of women who could have been exposed to family

planning information did not discuss family planning during a field visit or at a health facility, indicating numerous missed opportunities to inform and educate women about family planning.

Women in the youngest and oldest age groups are the least likely to discuss family planning with a service provider (5 percent each) than other women. The proportion of women not using family planning and who did not discuss family planning with a fieldworker or service provider at a health facility in the past few months is higher among women in urban areas (80 percent), women in Western region (85 percent), and among women with a secondary or higher education (80 percent). These results may indicate that some groups of women are already using contraceptive methods, or that they already have information about family planning and, therefore, do not feel the need to discuss family planning issues with providers, or they may be less likely to have visited a facility.

Table 7.13 Contact of nonusers with family planning providers

Among women age 15-49 who are not using contraception, the percentage who during the past 12 months were visited by a fieldworker who discussed family planning, the percentage who visited a health facility and discussed family planning, the percentage who visited a health facility but did not discuss family planning, and the percentage who did not discuss family planning either with a fieldworker or at a health facility, by background characteristics, Ghana 2014

Background characteristic	Percentage of women who were visited by fieldworker who discussed family planning	Percentage of women who visited a health facility in the past 12 months and who:		Percentage of women who did not discuss family planning either with fieldworker or at a health facility	Number of women
		Discussed family planning	Did not discuss family planning		
Age					
15-19	6.4	5.0	21.1	89.4	1,485
20-24	9.8	17.0	34.4	77.3	1,151
25-29	10.7	24.7	33.6	68.5	1,125
30-34	13.5	29.4	32.9	63.6	1,008
35-39	11.9	19.9	36.7	72.9	966
40-44	10.1	12.3	35.6	81.2	790
45-49	8.3	5.4	38.2	87.7	729
Residence					
Urban	8.4	14.1	36.5	79.9	3,950
Rural	11.7	18.7	26.9	74.4	3,303
Region					
Western	7.0	11.2	26.1	84.6	762
Central	10.9	17.1	25.1	75.9	681
Greater Accra	8.8	14.7	39.0	79.1	1,468
Volta	19.5	21.5	23.7	68.9	529
Eastern	8.7	14.5	35.6	79.6	681
Ashanti	9.0	13.7	34.0	78.5	1,407
Brong Ahafo	9.5	17.1	41.8	76.4	552
Northern	8.1	19.6	23.8	75.4	710
Upper East	12.2	26.1	32.6	68.0	292
Upper West	16.1	22.1	28.6	71.2	171
Education					
No education	10.0	20.2	28.2	74.3	1,465
Primary	10.8	15.0	28.5	78.7	1,282
Middle/JSS/JHS	10.3	15.8	30.9	76.8	2,992
Secondary+	8.3	13.9	41.6	80.3	1,515
Wealth quintile					
Lowest	11.0	19.9	24.1	73.4	1,229
Second	11.4	18.0	28.4	75.6	1,262
Middle	10.2	15.0	30.0	78.5	1,466
Fourth	9.8	14.5	35.4	79.1	1,623
Highest	7.9	14.7	39.7	79.0	1,674
Total	9.9	16.2	32.2	77.4	7,253

7.16 ATTITUDES TOWARDS FAMILY PLANNING AMONG MEN

The 2014 GDHS assessed male respondent's attitudes towards contraception by asking men age 15-59 whether they agreed or disagreed with two statements about family planning use: 1) contraception is women's business and a man should not have to worry about it; and 2) women who use contraception may become promiscuous. The results on attitudes towards family planning show that the majority of Ghanaian men age 15-59 think that men should take some responsibility towards family planning, with 73 percent of men rejecting the statement that contraception is a woman's business and that men should not have to

worry about it. However, 24 percent of men agree with the statement, and 4 percent say they don't know (data not shown).

Regarding the statement that women who use contraception may become promiscuous, 46 percent of men agree with the statement and 49 percent disagree, and 5 percent of men said that they don't know (data not shown).

In the 2003 GDHS, data on men's attitudes towards contraception were based on all men age 15-59 who know a method of family planning, while in the 2008 GDHS data were based on currently married men age 15-49 regardless of knowledge of a family planning method, and in 2014 GDHS data are based on all men age 15-59. To compare the three surveys, the 2014 and 2008 GDHS data on men's attitudes towards contraception were re-calculated to be similar to those in the 2003 GDHS report. The results indicate that between 2003 and 2014, there has been a decline in the proportion of men age 15-59 who know a method of family planning and agree with the statement that contraception is women's business (35 percent in 2003, compared with 20 percent in 2008 and 24 percent in 2014). There has been a smaller decrease in the proportion of men who agree with the statement that women who use contraception may become promiscuous (53 percent in 2003, compared with 47 percent in 2008 and 46 percent in 2014; data not shown).

INFANT AND CHILD MORTALITY

8

> **Key Findings:**
>
> - Infant mortality rate is 41 deaths per 1,000 live births and under-5 mortality is slightly higher at 60 deaths per 1,000 live births. At these levels, one in every 24 Ghanaian children dies before reaching age 1, and one in every 17 does not survive to his or her fifth birthday.
> - Infant mortality has declined by 28 percent since 1998, while under-5 mortality has declined by 44 percent over the same period.
> - Under-5 mortality is highest in the Northern, Upper West, and Ashanti regions of Ghana.
> - The neonatal mortality rate for the preceding five years is 29 deaths per 1,000 live births, 2.2 times the postneonatal rate.
> - The perinatal mortality rate for the same reference period is 38 deaths per 1,000 pregnancies.

This chapter describes levels, trends, and differentials in early childhood mortality and high-risk fertility behaviour of women in Ghana. Infant and child mortality rates are important indicators of a country's socioeconomic development and quality of life as well as its health status. Measures of childhood mortality also contribute to a better understanding of the progress of population and health programmes and policies. Analyses of mortality measures are useful in identifying promising directions for health and nutrition programmes and improving child survival efforts in Ghana. Disaggregation of mortality measures by socioeconomic and demographic characteristics helps to identify differentials in population subgroups and target high-risk groups for effective programmes. Measures of childhood mortality are also useful for population projections.

Childhood mortality in general and infant mortality in particular are often used as broad indicators of social development or as specific indicators of health status. Childhood mortality rates are used to monitor a country's progress towards Millennium Development Goal 4, which aims for a two-thirds reduction in the under-five mortality rate by the year 2015 (United Nations 2000). Results from the 2014 GDHS can be used in monitoring the impact of major national neonatal and child health interventions, strategies, and policies such as the Under-5 Child Health Policy 2007 – 2015, which is intended to reduce under-5 mortality from 111 deaths per 1,000 live births (GDHS 2003) to 40 deaths per 1,000 live births by 2015.

Neonatal, postneonatal, infant, child, and under-5 mortality rates are calculated from birth and death data derived from vital registration forms or from household surveys. The reliability of mortality estimates depends on the accuracy and completeness of reporting and recording of births and deaths. Underreporting and misclassification are common, especially for deaths occurring early in life.

The 2014 GDHS provides various measures of mortality. The mortality rates presented in this chapter are computed from information gathered in the birth history section of the Woman's Questionnaire. Women age 15-49 were asked whether they had ever given birth. Those who had ever given birth were asked to report the number of sons and daughters living with them, the number living elsewhere, and the number who had died. Women were also asked for the number of births they had that did not end in a live birth. A detailed history of all births was gathered in chronological order starting with the first birth. Women were asked whether a birth was single or multiple, the sex of the child, the date of birth (month and year), survival status, the age of the child on the date of the interview if alive, and, if not alive,

the age at death of each child born alive. Because the primary causes of childhood mortality change as children age—from biological factors to environmental factors—childhood mortality rates are expressed by age categories and are customarily defined as follows:

- **Neonatal mortality (NN):** the probability of dying within the first month of life

- **Postneonatal mortality (PNN):** the difference between infant and neonatal mortality

- **Infant mortality ($_1q_0$):** the probability of dying between birth and the first birthday

- **Child mortality ($_4q_1$):** the probability of dying between exact ages 1 and 5

- **Under-5 mortality ($_5q_0$):** the probability of dying between birth and the fifth birthday

Rates of childhood mortality are expressed as deaths per 1,000 live births, except in the case of child mortality, which is expressed as deaths per 1,000 children surviving to age 1.

Information on stillbirths and deaths that occur within seven days of birth is used to estimate perinatal mortality, which is the number of stillbirths and early neonatal deaths per 1,000 stillbirths and live births.

8.1 ASSESSMENT OF DATA QUALITY

As with all indicators in the GDHS, the accuracy of early childhood mortality estimates is influenced by two factors: sampling error and nonsampling error. Sampling error is inherent in the survey because the sample for the GDHS was only one of many samples that could have been selected for the survey. As described further in Appendix B, the sampling error associated with the GDHS mortality data can be evaluated statistically to provide an estimate of the range within which the actual mortality rates in Ghana lie.

Nonsampling error arises from problems occurring during the collection or processing of mortality data. Specifically, the reliability of the mortality estimates depends upon full reporting of children who die, the absence of differential displacement of birth dates of surviving and dead children, and accurate information on ages at death. Although the nonsampling error associated with the GDHS mortality data cannot be evaluated statistically, Appendix C includes several tables that can be used to assess the extent to which the GDHS mortality data may be subject to common reporting errors.

A common data quality problem may arise from errors in the reporting of birth dates. Displacement of births can affect the accuracy of mortality trends if they result in deaths being transferred from one time period to another, e.g., from the period 0 to 4 years to the period 5 to 9 years before the survey. Displacement may result from recall problems among mothers. However, it also may reflect deliberate transference of births from one period to another by interviewers interested in reducing their workload; they avoid the detailed set of maternal and child health questions included in DHS surveys for births occurring in the last five years. An examination of the distribution of the 2014 GDHS birth history data by calendar year shows no evidence of major transference of births from 2009 to previous years (Table C.4).

Omission, or failure to report births that did not survive, can lead to serious underestimation of mortality, if severe. Omission, which can be difficult to detect, is assumed to occur most often for deaths in early infancy and to increase for time periods more remote from the survey. One approach in looking for evidence of omission is to compare the ratio of neonatal deaths to all infant deaths before the survey and the ratio of early neonatal deaths (deaths in the first week of life) to all neonatal deaths to see if these measures fall within expected ranges.

Examination of the 2014 GDHS infant death data shows that the proportion of neonatal to infant deaths ranges from 71 percent in the period 0 to 4 years prior to the survey to 60 percent during the period 15 to 19 years before the survey (Table C.6). This pattern conforms to the expectation that, as mortality levels decline, a larger proportion of infant deaths will take place during the early neonatal period. Table C.5 shows data on age at death for early infant deaths. Selective underreporting of early neonatal deaths would result in an abnormally low ratio of deaths within the first seven days of life to all neonatal deaths. Early neonatal deaths do not appear to be underreported; the ratio of early neonatal deaths to all neonatal deaths is 88 percent in the period 0 to 4 years prior to the survey. Over time, the figures vary within a narrow range for the 20 years preceding the survey, suggesting no selective omission of early infant deaths.

Another potential data quality problem is heaping of the age at death. Errors in the reporting of the age at death may result in the transference of deaths from one age bracket for which mortality rates are being calculated to another. For example, heaping on age 1 year or 12 months can result in an underestimate of the infant mortality rate and an overestimate of the child mortality level. Several steps were taken in the training of the GDHS interviewers and in the structuring of the GDHS birth history to reduce errors in reporting the age at death. Interviewers were instructed to record age at death in days if the child died during the first month of life. They were to record age at death in months if the child died in the first two years of life. Because heaping on "1 year" or "12 months" is very common, interviewers were asked specifically to probe when the mothers gave these responses. The distribution of deaths under two years during the 20 years prior to the survey by age at death in months shows that there is heaping at age 12 months during any of the periods before the survey, with corresponding deficits in adjacent months. Table C.6 shows that there are 123 reported deaths at 12 months compared with 13 deaths at 11 months, 0 deaths at 13 months and 3 deaths at 14 months. This is likely to slightly underestimate infant mortality and overestimate child mortality, however this will not have any effect on the mortality estimates for the period 0 to 4 years before the survey since heaping of deaths at age 12 months is much less pronounced in the most recent period of 0 to 4 years prior to the survey (10 deaths) than in the periods of 5-9 years and 10-14 years prior the survey (40-43 deaths).

In addition to recall errors for the more distant retrospective periods, there are structural reasons for limiting mortality estimation to recent periods, preferably to the periods 0-4, 5-9, and 10-14 years before the survey. In fact, except for the first period (0-4 years), the other periods have slightly biased estimates because they are based on the child mortality experiences of women age 15-44 and 15-39, respectively, instead of women age 15-49 as in the period 0-4 years preceding the survey. Therefore, estimating mortality for periods more than 10-14 years before the survey is not advisable.

In summary, while there is evidence of some omission or displacement of infant deaths from one period to another, infant deaths in the 2014 GDHS do not appear to be severely underreported.

8.2 LEVELS AND TRENDS IN INFANT AND CHILD MORTALITY

Table 8.1 presents neonatal, postneonatal, infant, child, and under-5 mortality rates for three five-year periods preceding the survey. Neonatal mortality in the most recent period (2009-2014) is 29 deaths per 1,000 live births. This rate is 2.2 times the postneonatal rate (13 deaths per 1,000 live births) during the same period. Therefore, the risk of dying for any Ghanaian child who survives the first month of life is reduced by more than half (i.e., 55 percent) in the remaining 11 months of the first year of life. During the same period, the infant mortality rate was 41 deaths per 1,000 live births, the child mortality rate was 19 deaths per 1,000 children surviving to age 12 months, and the overall under-5 mortality rate was 60 deaths per 1,000 live births. Sixty-eight percent of all deaths among children under age 5 in Ghana take place before a child's first birthday, with 48 percent occurring during the first month of life. This means that one in every 24 children in Ghana dies before reaching age 1, while one in every 17 does not survive to her or his fifth birthday.

Table 8.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-5 mortality rates for five-year periods preceding the survey, Ghana 2014

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
0-4	29	13	41	19	60
5-9	33	21	54	28	81
10-14	30	22	52	37	87

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

Mortality trends can be examined in two ways: by comparing mortality rates for three five-year periods preceding a single survey and by comparing mortality estimates obtained from various surveys. However, comparisons between surveys should be interpreted with caution because of variations in quality of data, time references, and sample coverage. In particular, sampling errors associated with mortality estimates are large and should be taken into account when examining trends between surveys.

Data from the 2014 GDHS show that neonatal mortality has declined marginally by 3 percent over the 15-year period preceding the survey, from 30 to 29 deaths per 1,000 live births. The corresponding declines in postneonatal, infant, and under-5 mortality over the 15-year period are 41 percent, 21 percent, and 31 percent respectively.

8.2.1 Childhood Mortality Trends 1988-2014

The 2014 GDHS documents a pattern of decreasing under-5 mortality during the 15 years prior to the survey. Results from the six GDHS surveys conducted between 1988 and 2014 show a similar decline in childhood mortality over the past two and a half decades (Figure 8.1). This decline is especially pronounced over the past decade. For example, the infant mortality rate declined from 64 per 1,000 live births for the five-year period preceding the 2003 GDHS to 41 per 1,000 live births during the same period prior to the 2014 GDHS. Similarly, the under-5 mortality rate decreased from 111 per 1,000 live births for the five-year period preceding the 2003 GDHS to 60 per 1,000 live births during the same period prior to the 2014 GDHS.

Overall, infant mortality has declined by 47 percent since 1988, from 77 deaths per 1,000 live births in 1983-1987 to 41 per 1,000 live births in 2010-2014. An even more impressive decline was observed in under-5 mortality, which decreased by 61 percent from 155 deaths per 1,000 live births to 60 deaths per 1,000 live births over the same period. The data also show declines of 29 percent and 50 percent in neonatal and postneonatal mortality, respectively, since 1993. An examination of neonatal, infant, and under-5 mortality rates in Ghana since 1998 reveals that neonatal mortality has decreased at a slower pace than infant and child mortality. This has resulted in an increase in the contribution of neonatal deaths to infant deaths from 53 percent in 1998 to 71 percent in 2014. Similarly the contribution of neonatal deaths to under-5 mortality also increased from 28 percent of under-5 deaths to 48 percent over the same period.

Figure 8.1 Mortality trends, Ghana 1988-2014

Deaths per 1,000 live births

| | □ 1983-1987 | □ 1989-1993 | ■ 1994-1998 | ■ 1999-2003 | ■ 2004-2008 | ■ 2010-2014 |
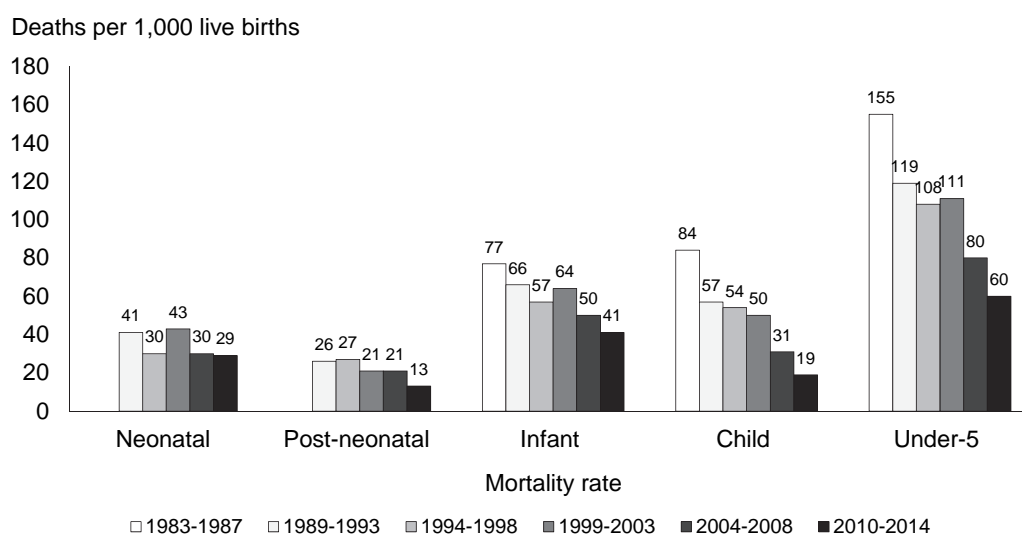
8.2.2 Recent Trends 2008-2014

It must be noted that since 2008 there has been only a marginal decline (3 percent) in neonatal mortality compared with 38 percent, 18 percent, and 25 percent declines in postneonatal, infant, and under-5 mortality over the same period. This is happening against the background of the implementation of the Health Sector Medium-Term Development Plan 2010-2013, which is part of the Ghana Shared Growth and Development Agenda 2010-2013. Also ongoing is the nationwide Child Health Policy 2007-2015 with the target of reducing neonatal mortality from 43 deaths per 1,000 live births (2003 GDHS) to 25 deaths per 1000 live births by 2015 in an effort to address Millennium Development Goal 4. Since the 2003 GDHS, the neonatal mortality rate has fallen by 33 percent, infant mortality rate by 36 percent, and under-5 mortality rate by 46 percent. During the same time period Ghana has implemented various health policy measures, including the Community-based Health Planning and Services (CHPS) policy, National Health Insurance Policy, which provides for free treatment of children under age 18; free maternal delivery services; and malaria control interventions. The malaria activities include changes in drug policy and national promotion of insecticide treated bednets.

Data from the 2014 GDHS also shows increased antenatal care and postnatal care, improved delivery practices, and improved maternal health (see Chapter 9) attributable to the free maternal delivery policy. Despite these improvements, neonatal mortality has changed only marginally from the 2008 GDHS.

8.3 SOCIOECONOMIC DIFFERENTIALS IN CHILDHOOD MORTALITY

Table 8.2 shows differentials in childhood mortality by socioeconomic variables. To minimise sampling errors associated with mortality estimates and to ensure a sufficient number of cases for statistical reliability, the mortality rates shown in the table are calculated for a 10-year period.

Table 8.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 10-year period preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Residence					
Urban	33	16	49	16	64
Rural	29	17	46	30	75
Region					
Western	28	12	40	16	56
Central	36	12	48	22	69
Greater Accra	25	12	37	11	47
Volta	30	12	42	20	61
Eastern	30	13	43	26	68
Ashanti	42	22	63	17	80
Brong Ahafo	27	10	38	20	57
Northern	24	29	53	61	111
Upper East	(24)	(22)	(46)	(27)	(72)
Upper West	(37)	(27)	(64)	(29)	(92)
Mother's education					
No education	30	23	53	41	92
Primary	35	16	51	23	72
Middle/JSS/JHS	28	14	42	13	54
Secondary+	36	9	45	11	55
Wealth quintile					
Lowest	32	22	55	39	92
Second	26	19	44	30	73
Middle	26	13	39	22	61
Fourth	31	16	47	8	55
Highest	40	11	51	13	64

Note: Figures in parentheses are based on 250-499 unweighted exposed persons.
[1] Computed as the difference between the infant and neonatal mortality rates

Table 8.2 shows that under-5 mortality and child mortality are higher in rural areas than in urban areas: 75 deaths per 1,000 live births in rural areas, which compares with 64 deaths per 1,000 live births in urban areas. Rural-urban differences are marginal in the case of infant and postneonatal mortality rates. Moreover, there are wide differentials in infant and under-5 mortality by region, with under-5 mortality ranging from 47 deaths per 1,000 live births in the Greater Accra region to 111 deaths per 1,000 live births in the Northern region. Under-5 mortality is highest among three regions, Northern (111 deaths per 1,000 live births), Upper West (92 deaths per 1,000 live births), and Ashanti (80 deaths per 1,000 live births). Similarly, infant mortality is highest in Upper West (64 deaths per 1,000 live births), Ashanti (63 deaths per 1,000 live births), and Northern regions (53 deaths per 1,000 live births) and lowest in the Greater Accra region (37 deaths per 1,000 live births) and Brong Ahafo region (38 deaths per 1,000 live births)

As expected, mother's education is inversely related to a child's risk of dying. Under-5 mortality among children born to mothers with no education (92 deaths per 1,000 live births) is substantially higher than that of children born to mothers with middle/JSS/JHS or with a secondary or higher level of education (54-55 deaths per 1,000 live births). Table 8.2 also shows that the risk of dying among children below age 5 tends to decrease with increasing household wealth, from 92 deaths per 1,000 live births in the poorest households to 55 deaths and 64 deaths per 1,000 live births in households in the fourth and highest wealth quintiles , respectively.

8.4 DEMOGRAPHIC DIFFERENTIALS IN MORTALITY

Demographic characteristics of both mother and child play an important role in the survival probability of children. Table 8.3 shows that all childhood mortality is higher among male than female children.

As expected, the relationship between maternal age at birth and childhood mortality is generally U-shaped, being relatively higher among children born to mothers under age 20 and over age 30 than among children born to mothers in the 20-29 age group. This pattern is observed for neonatal, infant, and

under-5 mortality. Neonatal mortality is 42 deaths per 1,000 live births among mothers who are less than 20 years old. This declines to 24 deaths per 1,000 live births among mothers who are age 20–29 and thereafter increases to 38 deaths per 1,000 live births among mothers who are age 30-39. A similar pattern is observed in the infant and under-5 mortality rates. However, postneonatal and child mortality show an inverse relationship. For instance, the postneonatal mortality declined from 20 deaths per 1,000 live births among mothers who are under age 20 to 16 deaths per 1,000 live births among mothers who are age 20-29, and further to 14 deaths per 1,000 live births among mothers who are age 30-39. The U-shape pattern of mortality is again observed for birth order. In general, childhood mortality rates are higher among first-order births and births of seventh or higher order than among births of orders two or three. This is true except for child mortality which is 18 deaths per 1,000 live births among first-order births and it increases to 40 deaths per 1,000 live births among births of seventh or higher order.

Table 8.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, Ghana 2014

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Child's sex					
Male	35	17	52	27	78
Female	27	16	43	20	62
Mother's age at birth					
<20	42	20	62	23	84
20-29	24	16	40	24	63
30-39	38	14	52	24	74
40-49	20	(31)	(51)	*	*
Birth order					
1	33	20	53	18	70
2-3	29	14	42	21	62
4-6	27	13	40	29	68
7+	47	34	81	40	118
Previous birth interval[2]					
<2 years	50	21	71	41	109
2 years	33	16	49	24	72
3 years	24	17	41	27	67
4+ years	22	11	33	18	50
Birth size[3]					
Small/very small	49	15	64	na	na
Average or larger	23	12	34	na	na

Note: Figures in parentheses are based on 250-499 unweighted exposed persons. An asterisk indicates that a figure is based on fewer than 250 unweighted exposed persons and has been suppressed.
na = Not available
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births
[3] Rates for the five-year period before the survey

The spacing of births is another factor that has a significant impact on a child's chances of survival. Generally, shorter birth intervals are associated with higher mortality, both during and after infancy. The 2014 GDHS data confirm this pattern. All childhood mortality rates show a strong relationship with the length of the previous birth interval. For example, infant mortality is more than two times higher among children born less than two years after a preceding sibling than among children born four or more years after a previous child (71 deaths and 33 deaths per 1,000 live births, respectively).

8.5 PERINATAL MORTALITY

The 2014 GDHS asked women to report on any pregnancy loss that occurred in the five years preceding the survey. For each pregnancy that did not end in a live birth, the duration of pregnancy was recorded. In this report, perinatal deaths include pregnancy losses of at least seven months' gestation (stillbirths) and deaths to live births within the first seven days of life (early neonatal deaths). The perinatal mortality rate is the sum of stillbirths and early neonatal deaths divided by the sum of all stillbirths and live births. Information on stillbirths and infant deaths within the first week of life is highly susceptible to

omission and misreporting. Nevertheless, retrospective surveys in developing countries provide more representative and accurate perinatal death rates than do vital registration systems and hospital-based studies.

Table 8.4 shows that out of the 5,776 reported pregnancies of at least seven months' gestation in the five years preceding the survey, 81 were stillbirths and 140 were early neonatal deaths, yielding an overall perinatal mortality rate of 38 per 1,000 pregnancies. Because the rate is subject to a high degree of sampling variation, differences by background characteristics should be interpreted with caution.

Table 8.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	7	11	31	580
20-29	39	61	35	2,851
30-39	31	65	47	2,067
40-49	4	4	(26)	278
Previous pregnancy interval in months[4]				
First pregnancy	17	26	36	1,196
<15	11	28	47	827
15-26	11	36	43	1,106
27-38	11	18	34	854
39+	30	31	34	1,793
Residence				
Urban	41	62	40	2,604
Rural	40	78	37	3,172
Region				
Western	9	11	35	583
Central	16	14	46	638
Greater Accra	21	15	(39)	901
Volta	2	14	(38)	438
Eastern	6	18	43	538
Ashanti	4	38	40	1,069
Brong Ahafo	7	12	38	504
Northern	10	11	29	719
Upper East	6	3	37	233
Upper West	1	4	34	153
Mother's education				
No education	23	33	35	1,584
Primary	19	30	43	1,160
Middle/JSS/JHS	33	52	38	2,240
Secondary+	6	26	40	792
Wealth quintile				
Lowest	17	32	38	1,280
Second	19	27	38	1,215
Middle	17	22	35	1,131
Fourth	19	33	47	1,093
Highest	9	26	33	1,057
Total	81	140	38	5,776

Note: Figures in parentheses are based on 250-499 unweighted exposed persons.
[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths, divided by the number of pregnancies of seven or more months' duration, expressed per 1,000.
[4] Categories correspond to birth intervals of <24 months, 24-35 months, 36-47 months, and 48+ months.

The perinatal mortality rate is highest among mothers age 30-39 and among births that occur less than 15 months after the previous birth (47 deaths per 1,000 pregnancies each). It is lowest among births that occur 27 or more months after the previous birth (34 deaths per 1,000 live births). The perinatal mortality rate is marginally higher in urban than in rural areas. It is highest in the Central region and lowest in the Northern region by a difference of as much as 17 deaths per 1,000 pregnancies. By maternal educational and wealth status, perinatal mortality is highest among women with primary education (43 deaths per 1,000 live births) and among births in the fourth quintile households (47 deaths per 1,000 live

births). Perinatal mortality practically has not changed during the past six years (39 deaths per 1,000 pregnancies in the 2008 GDHS and 38 deaths per 1,000 pregnancies in the 2014 GDHS).

8.6   HIGH-RISK FERTILITY BEHAVIOUR

The survival of infants and children depends in part on the demographic and biological characteristics of their mothers. Typically, the probability of dying in infancy is much greater among children born to mothers who are too young (under age 18) or too old (over age 34), children born after a short birth interval (less than 24 months after the preceding birth), and children born to mothers of high parity (more than three children). The risk is elevated when a child is born to a mother who has a combination of these risk characteristics.

Table 8.5 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Ghana 2014

	Births in the 5 years preceding the survey		Percentage of currently married women[1]
Risk category	Percentage of births	Risk ratio	
Not in any high risk category	30.8	1.00	18.2[a]
Unavoidable risk category First order births between ages 18 and 34 years	20.0	1.00	5.1
Single high-risk category			
Mother's age <18	4.1	1.16	0.1
Mother's age >34	3.1	1.42	7.8
Birth interval <24 months	4.6	1.23	8.9
Birth order >3	18.0	1.31	12.0
Subtotal	29.7	1.29	28.8
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.2	*	0.1
Age >34 and birth interval <24 months	0.2	*	0.7
Age >34 and birth order >3	14.3	0.94	33.4
Age >34 and birth interval <24 months and birth order >3	1.4	3.33	5.4
Birth interval <24 months and birth order >3	3.5	1.82	8.3
Subtotal	19.5	1.25	47.9
In any avoidable high-risk category	49.2	1.27	76.7
Total	100.0	na	100.0
Number of births/women	5,695	na	5,321

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category age <18 and birth order >3
[a] Includes sterilised women

The first column in Table 8.5 shows the percentages of births occurring in the five years before the survey that fall into the various risk categories. Overall, around 5 in 10 babies are in some avoidable risk category at the time they were born (49 percent). First births to mothers between ages 18 and 34 years, which make up 20 percent of births, are considered an unavoidable risk. Thirty percent of births are in a single high-risk category, and 20 percent are in a multiple high-risk category. The most common avoidable risk factor in a single high-risk category is birth order higher than three (18 percent), while the most common avoidable risk factor in a multiple high-risk category is births to mothers above age 34 and of birth order more than three (14 percent).

The risk ratios in the second column of Table 8.5 denote the relationship between risk factors and mortality. In general, risk ratios are higher for children in a multiple high-risk category than in a single

high-risk category. The most vulnerable births are those to women older than 34, with a birth interval less than 24 months, and a birth order higher than three. This group of children is three times more likely to die as children not in any high-risk category.

The final column of Table 8.5 shows that 77 percent of currently married women have the potential to give birth to a child at an elevated risk of dying. Three in ten women have the potential for a birth in a single high-risk category (mainly too high a birth order, too short a birth interval, and too old a mother). Another five in ten women have the potential to give birth to a child in a multiple high-risk category (mainly, the mother is too old, and the infant is in a birth order too high).

MATERNAL HEALTH

9

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Key Findings:

- Ninety-seven percent of women in Ghana receive antenatal care from a skilled provider. This percentage has increased steadily from 82 percent in 1988 to 97 percent in 2014.
- A large proportion of pregnant women in Ghana (87 percent) had four or more antenatal care visits for the most recent live birth, an increase from 78 percent in 2008. The median duration of pregnancy for the first antenatal visit is 3.6 months.
- Seventy-eight percent of mothers with a birth in the five years preceding the survey were protected against neonatal tetanus.
- The percentage of deliveries occurring in a health facility has increased from 42 percent in 1988 to 73 percent in 2014; the percentage of births attended by a skilled provider has increased from 40 percent to 74 percent over the same period.
- About 8 in 10 mothers (81 percent) receive a postnatal checkup within the critical first two days after delivery.

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T he health care that a mother receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and her child. This chapter presents findings on several topics related to maternal health—antenatal, delivery, and postnatal care—as well as problems in accessing care. These findings are important for designing appropriate strategies and interventions to improve maternal and newborn health care services.

9.1   ANTENATAL CARE

9.1.1   Antenatal Care Coverage

The major objective of antenatal care (ANC) is to identify and treat problems such as anaemia and infections during pregnancy. It is during an antenatal care visit that screening for complications and advice on a range of issues, including birth preparedness, place of delivery, and referral of mothers with complications, occurs. Information on antenatal care is of great value in identifying subgroups of women who do not use such services and is useful in planning improvements in these services. The 2014 Ghana Demographic and Health Survey (GDHS) findings on ANC provide information on the type of service provider, the number of antenatal care visits, the stage of pregnancy at the time of the first visit, and the services and information provided during antenatal care, including whether tetanus toxoid injections were received.

Table 9.1 presents the percent distribution of women age 15-49 who had a live birth in the five years preceding the survey. They are shown by the type of antenatal care provider consulted during the pregnancy for the most recent birth, according to background characteristics. If a woman received antenatal care from more than one provider, the provider with the highest qualifications was recorded.

Survey results show that more than 9 in 10 mothers (97 percent) receive antenatal care from a skilled provider: 22 percent from a doctor, 69 percent from a nurse/midwife, and 7 percent from a community health officer/nurse. Almost no mothers receive antenatal care from a traditional birth attendant. Overall, only 3 percent of mothers receive no antenatal care for their most recent birth in the five years before the survey.

Differences in antenatal care coverage by various background characteristics are not pronounced, except for some slight variations by birth order and region. Mothers are somewhat more likely to receive ANC from a skilled professional for first-order births (99 percent) than for births of sixth or higher order (94 percent). It is notable that less than 10 percent of mothers in the three Northern regions (Northern, Upper East, and Upper West) receive ANC from a doctor (3 percent, 6 percent, and 7 percent, respectively).

Table 9.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth and the percentage receiving antenatal care from a skilled provider for the most recent birth, according to background characteristics, Ghana 2014

| Background characteristic | Antenatal care provider | | | | No ANC | Total | Percentage receiving antenatal care from a skilled provider[1] | Number of women |
	Doctor	Nurse/ midwife	Community health officer/nurse	Traditional birth attendant				
Mother's age at birth								
<20	17.3	74.6	5.9	0.0	2.2	100.0	97.8	389
20-34	21.5	69.3	6.8	0.1	2.3	100.0	97.6	2,856
35-49	24.3	64.9	7.1	0.2	3.4	100.0	96.3	897
Birth order								
1	25.4	68.8	4.8	0.0	1.0	100.0	99.0	955
2-3	23.9	68.2	5.7	0.1	2.2	100.0	97.8	1,592
4-5	19.9	69.1	8.0	0.2	2.9	100.0	97.0	992
6+	13.1	70.1	10.8	0.3	5.7	100.0	94.0	604
Residence								
Urban	29.0	66.9	2.8	0.0	1.3	100.0	98.6	1,914
Rural	15.5	70.5	10.2	0.2	3.6	100.0	96.2	2,228
Region								
Western	14.0	77.1	8.2	0.0	0.7	100.0	99.3	427
Central	24.7	66.9	6.4	0.0	2.0	100.0	98.0	455
Greater Accra	34.3	61.9	2.3	0.1	1.4	100.0	98.5	674
Volta	19.9	63.2	10.8	0.3	5.8	100.0	93.9	315
Eastern	27.4	64.6	4.7	0.2	3.2	100.0	96.6	389
Ashanti	34.6	63.0	1.1	0.0	1.2	100.0	98.8	738
Brong Ahafo	10.1	85.2	3.6	0.0	1.1	100.0	98.9	374
Northern	3.2	72.0	16.8	0.5	7.5	100.0	92.0	480
Upper East	5.7	86.3	6.5	0.0	1.6	100.0	98.4	178
Upper West	6.7	60.0	31.6	0.0	1.7	100.0	98.3	111
Education								
No education	8.8	72.6	12.7	0.3	5.7	100.0	94.1	1,079
Primary	19.9	69.8	6.2	0.0	4.1	100.0	95.9	812
Middle/JSS/JHS	25.7	68.5	5.0	0.1	0.7	100.0	99.2	1,640
Secondary+	36.2	61.8	1.9	0.0	0.1	100.0	99.9	611
Wealth quintile								
Lowest	6.1	72.1	15.8	0.4	5.7	100.0	94.0	869
Second	14.4	73.5	7.7	0.1	4.3	100.0	95.7	840
Middle	21.4	71.5	5.3	0.1	1.6	100.0	98.3	827
Fourth	25.7	70.4	3.2	0.0	0.7	100.0	99.3	814
Highest	42.8	55.8	1.1	0.0	0.3	100.0	99.7	791
Total	21.7	68.8	6.8	0.1	2.6	100.0	97.3	4,142

Note: If more than one source of ANC is mentioned, only the provider with the highest qualifications is considered in this tabulation.
[1] Skilled provider includes doctor, nurse/midwife, and community health officer/nurse.

9.1.2 Number and Timing of Antenatal Care Visits

Antenatal care is more beneficial in preventing adverse outcomes when it is sought early in the pregnancy and is continued until delivery. Under normal circumstances, the World Health Organization (WHO) recommends that a woman without complications make at least four antenatal care visits, the first of which should take place during the first trimester. Table 9.2 presents information on antenatal care visits, including the number of visits and the timing of the first visit.

A large proportion of pregnant women in Ghana (87 percent) had four or more antenatal care visits for the most recent live birth, 92 percent in urban areas and 83 percent in rural areas. This is an increase from 78 percent of pregnant women as reported in the 2008 GDHS.

Table 9.2 Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth, and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Ghana 2014

| | Residence | | |
Number and timing of ANC visits	Urban	Rural	Total
Number of ANC visits			
None	1.3	3.6	2.6
1	0.6	1.5	1.1
2-3	5.4	11.3	8.6
4+	92.3	82.9	87.3
Don't know/missing	0.4	0.7	0.5
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	1.3	3.6	2.6
<4	67.8	60.7	64.0
4-5	25.3	28.9	27.2
6-7	5.2	6.1	5.7
8+	0.3	0.6	0.5
Total	100.0	100.0	100.0
Number of women	1,914	2,228	4,142
Median months pregnant at first visit (for those with ANC)	3.5	3.6	3.6
Number of women with ANC	1,888	2,148	4,036

Data further show that more than 6 in 10 pregnant women (64 percent) made their first antenatal care visit before the fourth month of pregnancy, as recommended, compared with 55 percent in 2008. This percentage is higher in urban than in rural areas (68 percent versus 61 percent). An additional 27 percent of women had their first ANC visit between the fourth and fifth month of pregnancy.

The median duration of pregnancy at the first antenatal care visit is 3.6 months (3.5 months in urban areas and 3.6 months in rural areas).

9.1.3 Components of Antenatal Care

The quality of antenatal care is measured to a large extent by the essential service package provided to pregnant women. The components of this package include prevention and management of anaemia and malaria, which are achieved through screening and appropriate management. Micronutrient supplementation, tetanus immunisation, and monitoring of certain vital signs to help in the early detection and management of complications that may arise are also included in this important care package. Pregnancy complications are a primary source of maternal and newborn morbidity and mortality. Therefore, ensuring that pregnant women receive information on the signs of complications is an important component of good antenatal care.

To help assess antenatal care services, respondents were asked whether they had been advised of possible pregnancy complications and whether they had received certain screening tests during at least one of their antenatal care visits. Caution should be taken in the interpretation of this information on the components of antenatal care because it is dependent on pregnant women's recall of events during antenatal care that may have taken place a number of years before the interview. Nevertheless, the results are useful in providing insights into the content of antenatal care.

Table 9.3 presents information on the percentage of pregnant women who took iron tablets or syrup, those who were informed of the signs of pregnancy complications, and who received selected

services during antenatal care visits for their most recent birth in the five years preceding the survey. Information on pregnant women who took malaria preventive treatment is covered in Chapter 12 of this report.

Table 9.3 Components of antenatal care

Among women age 15-49 with a live birth in the five years preceding the survey, the percentage who took iron tablets or syrup and medicines for intestinal parasites during the pregnancy of the most recent birth, and among women receiving antenatal care (ANC) for the most recent live birth in the five years preceding the survey, the percentage receiving specific antenatal services, according to background characteristics, Ghana 2014

Background characteristic	Among women with a live birth in the past five years, the percentage who during the pregnancy of their last birth:		Number of women with a live birth in the past five years	Among women who received antenatal care for their most recent birth in the past five years, the percentage with selected services:				Number of women with ANC for their most recent birth
	Took iron tablets or syrup	Took intestinal parasite medicines		Informed of signs of pregnancy complications	Blood pressure measured	Urine sample taken	Blood sample taken	
Mother's age at birth								
<20	89.4	38.8	389	77.4	97.4	97.7	97.2	381
20-34	92.2	39.7	2,856	84.8	99.0	97.5	98.1	2,789
35-49	92.1	38.8	897	84.1	99.0	96.4	98.6	866
Birth order								
1	91.2	39.1	955	84.2	98.2	98.2	98.2	945
2-3	93.4	37.5	1,592	84.9	99.3	97.9	98.2	1,558
4-5	92.4	41.0	992	84.0	99.0	96.9	98.5	963
6+	88.3	42.6	604	80.5	98.3	94.8	97.2	570
Residence								
Urban	93.0	36.2	1,914	87.0	99.4	99.4	99.5	1,888
Rural	91.0	42.2	2,228	81.2	98.3	95.5	97.0	2,148
Region								
Western	93.7	60.9	427	83.6	98.6	98.1	99.0	424
Central	91.8	44.0	455	89.7	99.7	99.8	97.1	446
Greater Accra	92.9	30.7	674	94.5	99.7	99.6	99.6	665
Volta	88.5	32.2	315	89.4	98.5	98.2	98.3	297
Eastern	88.7	42.7	389	75.8	98.3	98.8	98.1	377
Ashanti	94.0	25.4	738	73.9	99.6	100.0	99.7	729
Brong Ahafo	94.6	34.2	374	76.2	98.9	99.3	99.2	370
Northern	88.5	47.9	480	92.6	95.9	82.7	92.5	444
Upper East	89.5	69.6	178	92.6	99.8	99.0	99.0	175
Upper West	95.9	26.5	111	53.5	99.2	94.0	97.2	109
Education								
No education	89.0	42.3	1,079	83.3	97.7	92.2	96.6	1,018
Primary	90.7	43.4	812	79.3	99.1	98.4	98.2	779
Middle/JSS/JHS	93.2	37.5	1,640	85.4	99.3	99.4	98.5	1,629
Secondary+	95.0	34.3	611	87.1	99.3	99.1	99.7	610
Wealth quintile								
Lowest	89.4	42.7	869	79.8	97.0	90.6	95.2	820
Second	91.0	42.0	840	78.8	99.0	97.1	97.9	804
Middle	90.3	42.7	827	83.0	99.2	99.7	98.3	814
Fourth	93.3	39.8	814	86.7	99.5	99.4	99.7	809
Highest	95.9	29.3	791	91.5	99.6	100.0	99.8	789
Total	91.9	39.4	4,142	83.9	98.8	97.3	98.1	4,036

The vast majority of women (92 percent) took iron supplements during their most recent pregnancy in the last five years. Variations by various background characteristics are minimal. Women are somewhat less likely to take iron supplements for births of sixth or higher order (88 percent), if they reside in the Volta, Eastern, and Northern regions (89 percent each), if they have no education, and if they belong to the lowest wealth quintile (89 percent each).

Only about 4 in 10 pregnant women (39 percent) took intestinal parasite medicines; the low proportion could be attributed to fear of side effects from intestinal parasite medicines among pregnant women, particularly in early pregnancy. In Ghana, intestinal parasite medicines are prescribed by health professionals either based on laboratory test results or the extent of parasite presence in a given locality. The percentage of women who receive intestinal parasite medicines tends to increase with increasing birth order; this percentage is higher among women in rural than in urban areas (42 percent versus 36 percent). Women in Upper East are the most likely to receive intestinal parasite medicines (70 percent) and women

in Ashanti are the least likely to do so (25 percent). This proportion is lowest among women with a secondary or higher education (34 percent), and among those in the highest wealth quintile (29 percent).

Table 9.3 shows that the proportion of women who undergo basic tests during pregnancy is nearly universal in Ghana. More than 9 in 10 women with a live birth in the five years preceding the survey had their blood pressure measured (99 percent), had a blood sample taken (98 percent), and had their urine sampled (97 percent) during ANC for their most recent pregnancy. There are no major variations in these components of antenatal care by background characteristics.

More than 8 in 10 (84 percent) of women with a live birth in the last five years were informed of the signs of pregnancy complications. The likelihood of receiving the information about the signs of pregnancy complications is lowest among youngest mothers under age 20 (77 percent). This percentage is lower among women in rural than in urban areas (87 percent versus 81 percent). Regional differences are substantial; 95 percent of women in Greater Accra are informed of signs of pregnancy complications compared with slightly more than half (54 percent) of women in Upper West. This percentage is highest among women with a secondary or higher education (87 percent) and those in the wealthiest households (92 percent).

9.1.4 Tetanus Immunisation

Neonatal tetanus is one of the leading causes of neonatal deaths in developing countries where a high proportion of deliveries are conducted at home or in places where hygienic conditions may be poor. Tetanus toxoid (TT) immunisation is given to pregnant women to prevent neonatal tetanus. If a woman has received no previous TT injections, for full protection a pregnant woman needs two doses of TT during pregnancy. However, if a woman was immunised before she became pregnant, she may require one or no TT injections during pregnancy, depending on the number of injections she has ever received and the timing of the last injection. For a woman to have lifetime protection, a total of five doses is required.

Table 9.4 shows the percentage of women 15-49 who had a live birth in the five years preceding the survey and whose last birth was protected against neonatal tetanus. Births of about 8 in 10 mothers (78 percent) were protected against neonatal tetanus; about 6 in 10 pregnant women (57 percent) received two or more tetanus injections during their last pregnancy.

The percentage of mothers who received two or more doses of tetanus injections for their last pregnancy decreases with women's age at birth and tends to

Table 9.4 Tetanus toxoid injections

Among mothers age 15-49 with a live birth in the five years preceding the survey, the percentage receiving two or more tetanus toxoid injections during the pregnancy for the last live birth and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Ghana 2014

Background characteristic	Percentage receiving two or more injections during last pregnancy	Percentage whose last birth was protected against neonatal tetanus[1]	Number of mothers
Mother's age at birth			
<20	60.7	66.0	389
20-34	57.1	78.7	2,856
35-49	55.5	80.9	897
Birth order			
1	64.2	70.5	955
2-3	58.5	80.9	1,592
4-5	51.3	80.8	992
6+	51.6	77.5	604
Residence			
Urban	59.6	80.1	1,914
Rural	54.9	76.2	2,228
Region			
Western	68.3	82.0	427
Central	68.9	84.0	455
Greater Accra	55.0	78.2	674
Volta	52.0	80.8	315
Eastern	50.7	68.8	389
Ashanti	59.3	81.8	738
Brong Ahafo	57.0	83.7	374
Northern	47.2	69.0	480
Upper East	56.8	68.0	178
Upper West	43.2	70.9	111
Education			
No education	51.1	72.4	1,079
Primary	50.8	73.3	812
Middle/JSS/JHS	60.5	80.7	1,640
Secondary+	66.9	86.6	611
Wealth quintile			
Lowest	47.1	68.2	869
Second	53.7	76.7	840
Middle	60.1	78.9	827
Fourth	58.2	79.7	814
Highest	67.4	87.3	791
Total	57.1	78.0	4,142

[1] Includes mothers with two injections during the pregnancy of her last 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 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 birth.

decrease with increasing birth order. There are variations by urban-rural residence and by region. Sixty percent of mothers in urban areas received two or more TT injections during their last pregnancy compared with 55 percent in rural areas. TT coverage with two or more doses ranges from 43 percent of births in the Upper West region to 69 percent in the Central region. Education and wealth have a positive impact on receipt of tetanus toxoid injections, with coverage of two or more doses ranging from a low of 51 percent among mothers with no education or with primary education to a high of 67 percent among mothers with a secondary or higher education. Similarly, TT coverage with two or more doses ranges from 47 percent among mothers in the poorest households to 67 percent among those in the wealthiest households.

Between 2008 and 2014, the percentage of mothers who received at least two TT injections for their last birth increased slightly from 56 percent to 57 percent, and the percentage whose last birth was protected against neonatal tetanus increased moderately from 72 percent to 78 percent.

9.2   DELIVERY CARE

Labour and delivery is the shortest and most critical period of the pregnancy-childbirth continuum because most maternal deaths arise from complications during delivery. Even with the best possible antenatal care, any delivery can become a complicated one and, therefore, skilled assistance is essential to safe delivery care. For numerous reasons many women do not seek skilled care even when they understand the safety reasons for doing so. Some reasons include cost of the service, distance to the health facility, and concerns about the quality of care. The availability of free maternity services and community-based health planning services (CHPS) has helped remove barriers to accessing skilled maternity care. The CHPS compounds are manned by community health officers or nurses, some of whom are midwives or have midwifery skills. They attend deliveries and make referrals if complications arise.

9.2.1   Place of Delivery

In the 2014 GDHS eligible women were asked to report the place of birth for each child born in the five years preceding the survey. Table 9.5 shows the percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics. Overall, 73 percent of births were delivered in health facilities, with the public sector accounting for the largest proportion (65 percent).

Delivery in a health facility decreases with increasing birth order, from 84 percent among first-order births to 54 percent among births of sixth or higher order. As expected, the proportion of births delivered in a health facility increases substantially with increasing number of ANC visits. Births in urban areas are much more likely to be delivered in an institutional setting than births in rural areas (90 percent versus 59 percent). Delivery in a health facility varies widely by region from 63 percent of births in Upper West to 93 percent of those in Greater Accra. There is a strong association between health facility deliveries and mother's education and wealth quintile. The proportion of deliveries occurring in a health facility increases from 52 percent for births to women with no education to 95 percent for births to women with a secondary or higher education. Similarly, health facility deliveries are substantially fewer among births in the poorest households (46 percent) than those in the wealthiest households (96 percent).

Table 9.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, and percentage delivered in a health facility, according to background characteristics, Ghana 2014

Background characteristic	Health facility		Home	Other	Total	Percentage delivered in a health facility	Number of births
	Public sector	Private sector					
Mother's age at birth							
<20	63.7	7.6	27.9	0.7	100.0	71.3	573
20-34	66.1	7.9	25.7	0.2	100.0	74.0	4,042
35-49	61.3	9.1	29.1	0.5	100.0	70.4	1,080
Birth order							
1	74.0	10.0	15.8	0.2	100.0	83.9	1,387
2-3	65.9	9.3	24.5	0.3	100.0	75.2	2,194
4-5	62.5	7.2	30.0	0.3	100.0	69.7	1,336
6+	50.5	3.0	45.7	0.7	100.0	53.5	778
Antenatal care visits[1]							
None	13.4	3.2	81.6	1.8	100.0	16.6	106
1-3	40.0	4.3	55.4	0.1	100.0	44.3	400
4+	71.0	9.4	19.3	0.3	100.0	80.4	3,614
Residence							
Urban	76.5	13.8	9.4	0.3	100.0	90.2	2,563
Rural	55.6	3.5	40.6	0.4	100.0	59.0	3,132
Region							
Western	67.3	6.7	26.0	0.0	100.0	74.0	574
Central	63.5	6.8	29.0	0.7	100.0	70.3	622
Greater Accra	77.2	15.3	7.0	0.5	100.0	92.5	880
Volta	62.1	3.3	34.4	0.3	100.0	65.3	436
Eastern	61.9	5.9	32.1	0.0	100.0	67.7	532
Ashanti	73.0	12.6	14.2	0.3	100.0	85.6	1,065
Brong Ahafo	67.1	11.2	21.6	0.1	100.0	78.3	497
Northern	35.1	0.4	63.9	0.7	100.0	35.4	709
Upper East	80.7	3.5	15.9	0.0	100.0	84.1	227
Upper West	63.3	0.1	36.2	0.4	100.0	63.4	152
Mother's education							
No education	48.6	3.1	48.0	0.3	100.0	51.7	1,561
Primary	64.0	4.3	31.6	0.2	100.0	68.2	1,141
Middle/JSS/JHS	72.1	10.7	16.7	0.5	100.0	82.8	2,208
Secondary+	78.7	16.3	4.6	0.2	100.0	95.0	785
Wealth quintile							
Lowest	44.4	1.6	53.6	0.4	100.0	46.0	1,263
Second	55.8	4.5	39.3	0.5	100.0	60.3	1,196
Middle	69.5	6.4	23.8	0.3	100.0	75.9	1,114
Fourth	83.5	9.8	6.6	0.0	100.0	93.4	1,074
Highest	76.4	20.0	2.9	0.5	100.0	96.4	1,048
Total	65.0	8.1	26.6	0.3	100.0	73.1	5,695

Note: Total includes 22 women for whom information on ANC visits is missing.
[1] Includes only the most recent birth in the five years preceding the survey

9.2.2 Assistance at Delivery

Obstetric care from a health professional during delivery is recognised as critical for the reduction of maternal and neonatal mortality. Children delivered at home are usually more likely to be delivered without assistance from a trained provider, whereas children delivered at a health facility are more likely to be delivered by a trained health professional.

Table 9.6 shows delivery assistance for all live births in the preceding five years, by type of provider, according to background characteristics. Three-quarters of births in Ghana (74 percent) are delivered with the assistance of a skilled health professional: 14 percent are assisted by a doctor, 57 percent by a nurse/midwife, and 3 percent by a community health officer/nurse. Data further show that 16 percent of births are delivered by a traditional birth attendant, 7 percent are assisted by a relative or other person, and 3 percent of deliveries are not assisted by anyone. It is notable that, even though nationally, only 3 percent of births are assisted by a community officer/nurse, this is true for almost one in five births (18 percent) in Upper West, indicating the crucial role of these providers in this region. Furthermore, data show that traditional birth attendants play an important role in the Northern region, assisting in the delivery of 4 in 10 births (41 percent).

Delivery assistance by a skilled health professional shows little association with women's age. However, it decreases steadily with increasing birth order from 85 percent of first-order births to 55 percent of births of sixth or higher order. This proportion increases substantially with the number of ANC visits, and it is higher among births in urban than in rural areas (90 percent versus 60 percent). Skilled provider assistance at delivery increases notably with mother's level of education and wealth quintile. For example, 52 percent of births to women with no education are assisted by a skilled health professional, as compared with 96 percent of births to women with a secondary or higher education. This percentage ranges from 47 percent of births in the poorest households to 97 percent of those in the richest households.

Table 9.6 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of birth assisted by a skilled provider, and the percentage delivered by caesarean-section, according to background characteristics, Ghana 2014

| Background characteristic | Person providing assistance during delivery | | | | | | Total | Percentage delivered by a skilled provider[1] | Percentage delivered by C-section | Number of births |
	Doctor	Nurse/ midwife	Community health officer/ nurse	Traditional birth attendant	Relative/ other	No one				
Mother's age at birth										
<20	6.4	63.0	2.7	18.3	7.9	1.7	100.0	72.1	4.9	573
20-34	14.2	57.3	3.1	15.9	6.7	2.8	100.0	74.6	12.7	4,042
35-49	18.6	50.4	2.2	16.3	8.7	3.8	100.0	71.2	17.3	1,080
Birth order										
1	19.0	62.8	2.7	10.5	4.3	0.7	100.0	84.5	18.2	1,387
2-3	14.4	58.7	2.7	15.5	6.7	2.0	100.0	75.8	12.6	2,194
4-5	12.6	54.0	3.5	18.7	7.1	4.1	100.0	70.1	10.9	1,336
6+	8.1	43.9	2.7	23.9	14.0	7.3	100.0	54.7	7.1	778
Antenatal care visits[2]										
None	3.1	11.5	3.4	44.2	23.5	14.3	100.0	18.0	3.3	106
1-3	4.5	38.0	2.4	34.3	15.0	5.8	100.0	44.9	3.9	400
4+	16.1	62.0	3.1	11.4	5.2	2.2	100.0	81.2	15.0	3,614
Place of delivery										
Health facility	19.4	76.4	3.8	0.3	0.0	0.1	100.0	99.6	17.5	4,161
Elsewhere	0.1	2.6	0.6	59.4	26.8	10.5	100.0	3.3	0.0	1,533
Residence										
Urban	21.9	65.5	2.7	6.3	2.6	0.9	100.0	90.1	18.8	2,563
Rural	8.0	49.2	3.0	24.3	11.0	4.5	100.0	60.2	7.9	3,132
Region										
Western	11.4	63.4	0.5	12.4	7.7	4.6	100.0	75.3	14.6	574
Central	16.2	53.5	2.2	20.4	5.2	2.4	100.0	72.0	15.7	622
Greater Accra	31.2	57.1	3.9	5.4	1.4	1.1	100.0	92.1	22.9	880
Volta	9.4	52.7	4.1	13.8	18.2	1.7	100.0	66.3	8.8	436
Eastern	7.5	58.0	1.8	20.0	7.9	4.7	100.0	67.2	9.5	532
Ashanti	18.3	66.6	1.4	8.5	2.6	2.7	100.0	86.3	15.6	1,065
Brong Ahafo	11.0	65.4	2.6	13.4	5.1	2.5	100.0	79.0	9.6	497
Northern	1.6	31.1	3.7	41.3	17.3	5.1	100.0	36.4	2.7	709
Upper East	9.1	73.0	2.5	7.0	7.9	0.6	100.0	84.6	7.6	227
Upper West	4.9	40.8	18.0	29.2	5.7	1.4	100.0	63.7	4.7	152
Mother's education										
No education	6.0	42.0	4.3	30.0	12.8	4.9	100.0	52.3	5.7	1,561
Primary	12.0	54.0	2.8	18.5	9.2	3.4	100.0	68.8	10.9	1,141
Middle/JSS/JHS	15.9	65.0	2.5	10.2	4.6	1.8	100.0	83.3	13.8	2,208
Secondary+	29.1	65.6	1.5	2.2	0.5	1.0	100.0	96.2	26.8	785
Wealth quintile										
Lowest	3.8	38.4	4.8	30.9	16.8	5.4	100.0	46.9	4.0	1,263
Second	6.1	51.7	2.8	25.5	9.8	4.1	100.0	60.7	6.8	1,196
Middle	12.4	63.6	1.2	14.5	5.4	3.0	100.0	77.2	10.7	1,114
Fourth	19.5	71.1	3.0	4.4	1.4	0.6	100.0	93.6	17.3	1,074
Highest	32.6	61.6	2.5	1.8	0.7	0.7	100.0	96.7	27.9	1,048
Total	14.2	56.6	2.9	16.2	7.2	2.9	100.0	73.7	12.8	5,695

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation. Totals may not add up to 100 percent because women with missing information have been deleted. Total includes 22 women for whom information on ANC visits is missing and 2 women for whom information on place of delivery is missing.
[1] Skilled provider includes doctor, nurse/midwife, and community health officer/nurse.
[2] ANC visits includes only the most recent birth in the five years preceding the survey.

Table 9.6 also presents data on the prevalence of deliveries by caesarean section (C-section). Nationally, 13 percent of births are delivered by cesarean section, an increase from 7 percent in 2008. Delivery by C-section is highest among births to women age 35-49 (17 percent), first-order births (18

percent), births for whom mothers had four or more ANC visits (15 percent), births in urban areas (19 percent) and in the Greater Accra region (23 percent), births to mothers with a secondary or higher education (27 percent), and those in the richest households (28 percent).

Figure 9.1 shows the percent distribution of mothers with a birth in the five years preceding the survey who delivered their last birth in a health facility, by duration of stay in the health facility and type of delivery. As expected, the large majority of women with a vaginal birth stayed at a health facility for two days or fewer (88 percent). In contrast, the large majority of women who delivered by C-section (89 percent) stayed at a health facility for three or more days.

Figure 9.1 Mother's duration of stay in the health facility after giving birth
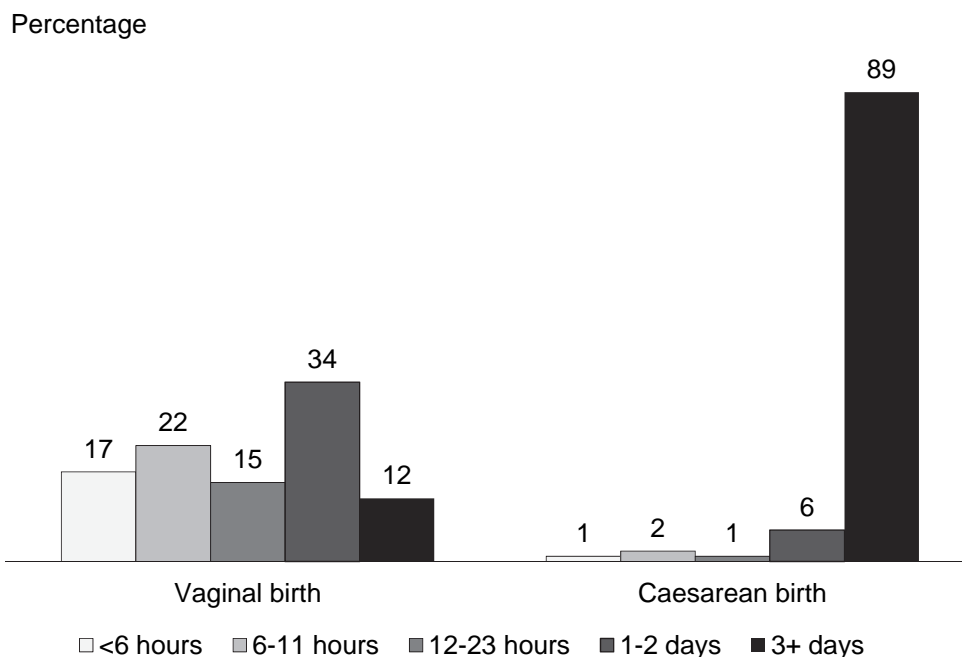
GDHS 2014

9.3 TRENDS IN MATERNAL CARE

Figure 9.2 shows trends in maternal care across the six GDHS surveys conducted in Ghana. All the maternal care indicators improved over the past two and a half decades. The percentage of women receiving antenatal care from a skilled provider has increased steadily from 82 percent in 1988 to 97 percent in 2014; the percentage of deliveries occurring in a health facility has increased from 42 percent in 1988 to 73 percent in 2014, and the percentage of births attended by a skilled provider has increased from 40 percent in 1988 to 74 percent in 2014.

Figure 9.2 Trends in maternal health care, 1988-2014

Percent
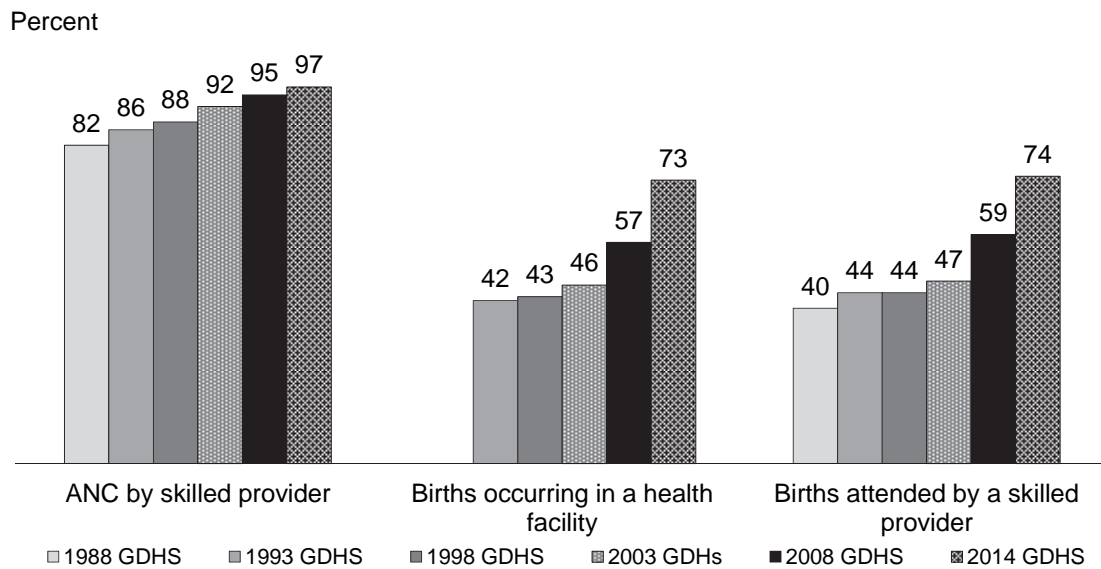
Note: Data for the 1988, 1993, and 1998 surveys refer to births, whereas data for antenatal care for the 2003, 2008, and 2014 surveys refer to women who had a live birth. The reference period is five years preceding the survey except for 1993, which refers to the three years preceding the survey. In the 2008 and 2014 surveys, a skilled provider includes a community health officer, while in all previous surveys a community health officer was not included. For the 1988 survey, data for births that occurred in a health facility are missing.

9.4 POSTNATAL CARE FOR THE MOTHER

A large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, prompt postnatal care for both the mother and the child is important to cater for any complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. Safe motherhood programmes recommend that all women receive a check of their health within two days after delivery. Women who deliver at home should go to a health facility for postnatal care services within 24 hours, and subsequent visits (including those by women who deliver in a health facility) should be made at three days, seven days, and six weeks after delivery. It is also recommended that women who deliver in a health facility should be kept there for at least 48 hours (up to 72 hours depending on the capacity of the institution), so that the mothers and infants may be monitored by skilled personnel.

To assess the extent of postnatal care utilization, respondents were asked, for the last birth in the two years preceding the survey, whether they had received a checkup after delivery, the timing of the first checkup, and the type of health provider performing the postnatal checkup. This information is presented according to background characteristics in Tables 9.7 and 9.8

9.4.1 Timing of First Postnatal Checkup for the Mother

Table 9.7 shows that about 7 in 10 women (72 percent) receive a postnatal checkup within 24 hours of delivery, and about 8 in 10 (81 percent) are checked within the critical first two days. Four percent of women receive postnatal care 3-41 days after delivery.

Having a postnatal checkup within the most crucial period (first two days) is inversely associated with the number of children a woman has; women with births of sixth or higher order are least likely to receive an early postnatal checkup (67 percent). Women delivering in a health facility are more than twice as likely to have a postnatal checkup within the first two days as women delivering elsewhere (93 percent and 45 percent, respectively). Women living in rural areas (74 percent), those living in the Northern region (59 percent), women with no education (68 percent), and those in the poorest households (65 percent) are the least likely to have an early postnatal checkup compared with other subgroups.

Table 9.7 Timing of first postnatal checkup for the mother

Among women age 15-49 giving birth in the two years preceding the survey, the percent distribution of the mother's first postnatal checkup for the last live birth by time after delivery, and the percentage of women with a live birth in the two years preceding the survey who received a postnatal checkup in the first two days after giving birth, according to background characteristics, Ghana 2014

| Background characteristic | Time after delivery of mother's first postnatal checkup | | | | | | No postnatal checkup[1] | Total | Percentage of women with a postnatal checkup in the first two days after birth | Number of women |
	Less than 4 hours	4-23 hours	1-2 days	3-6 days	7-41 days	Don't know/ missing				
Mother's age at birth										
<20	51.7	15.2	12.5	0.0	2.3	0.3	18.0	100.0	79.4	213
20-34	55.9	17.7	8.8	1.4	2.4	0.4	13.5	100.0	82.3	1,608
35-49	47.5	21.5	8.9	1.9	1.0	0.3	18.9	100.0	77.8	443
Birth order										
1	52.8	21.3	10.7	0.3	1.8	0.7	12.2	100.0	84.9	509
2-3	58.5	16.3	9.7	1.0	2.5	0.3	11.7	100.0	84.6	915
4-5	53.5	19.9	6.6	2.2	2.0	0.4	15.4	100.0	79.9	524
6+	42.4	15.7	9.1	2.7	1.8	0.0	28.2	100.0	67.2	316
Place of delivery										
Health facility	61.6	22.4	9.4	0.6	1.3	0.4	4.2	100.0	93.4	1,691
Elsewhere	30.9	5.7	8.3	3.6	4.5	0.1	46.9	100.0	45.0	572
Residence										
Urban	59.5	20.9	9.8	1.1	1.2	0.5	7.0	100.0	90.2	1,009
Rural	49.2	16.0	8.6	1.5	2.9	0.3	21.4	100.0	73.9	1,255
Region										
Western	55.1	19.7	9.0	0.3	2.4	1.5	11.9	100.0	83.9	217
Central	56.7	19.3	5.2	1.6	2.3	0.5	14.5	100.0	81.2	258
Greater Accra	69.7	17.3	8.6	0.0	0.9	0.0	3.4	100.0	95.6	332
Volta	33.7	23.8	11.5	1.2	6.0	0.4	23.4	100.0	69.0	177
Eastern	46.7	11.5	15.2	1.2	4.3	0.6	20.5	100.0	73.4	206
Ashanti	66.9	17.9	6.1	1.2	0.6	0.4	6.8	100.0	91.0	397
Brong Ahafo	40.6	26.0	16.2	1.3	2.0	0.0	14.0	100.0	82.7	214
Northern	46.3	8.5	4.6	3.1	1.8	0.0	35.8	100.0	59.3	304
Upper East	46.8	27.2	17.5	3.8	2.6	0.5	1.7	100.0	91.4	95
Upper West	43.2	27.1	6.3	1.4	0.5	0.5	20.9	100.0	76.6	64
Education										
No education	47.0	14.0	7.3	2.8	2.0	0.1	26.7	100.0	68.4	606
Primary	50.2	17.1	8.9	1.6	2.4	0.0	19.7	100.0	76.2	431
Middle/JSS/JHS	58.9	18.3	10.4	0.5	2.7	0.7	8.5	100.0	87.6	903
Secondary+	57.3	26.9	9.3	0.6	0.4	0.6	4.9	100.0	93.6	324
Wealth quintile										
Lowest	41.8	14.6	8.2	2.4	3.0	0.1	29.9	100.0	64.6	519
Second	49.5	13.7	11.5	1.3	2.8	0.2	21.0	100.0	74.7	474
Middle	53.6	20.4	9.3	1.7	3.2	0.5	11.4	100.0	83.2	433
Fourth	61.1	23.1	8.9	0.9	0.4	0.6	5.1	100.0	93.0	444
Highest	67.1	20.3	7.6	0.2	1.0	0.6	3.1	100.0	95.0	393
Total	53.8	18.2	9.1	1.4	2.1	0.4	15.0	100.0	81.1	2,264

Note: Total includes 1 woman for whom information on place of delivery is missing.
[1] Includes women who received a checkup after 41 days

9.4.2 Type of Provider of First Postnatal Checkup for the Mother

The skill level of the provider who performs the first postnatal checkup also has important implications for maternal and neonatal health. Table 9.8 shows that 45 percent of women received postnatal care from a nurse/midwife, 24 percent from a doctor, 4 percent from a community health officer/nurse, and 8 percent from a traditional birth attendant. Mothers of first-order births, those who delivered in a health facility, mothers living in urban areas and in the Greater Accra region, those with a secondary or higher education, and mothers from the wealthiest households are more likely to have received postnatal care from a skilled health provider than other mothers.

Table 9.8 Type of provider of first postnatal checkup for the mother

Among women age 15-49 giving birth in the two years preceding the survey, the percent distribution by type of provider of the mother's first postnatal health check in the two days after the last live birth, according to background characteristics, Ghana 2014

Background characteristic	Type of health provider of mother's first postnatal checkup				No postnatal checkup in the first two days after birth	Total	Number of women
	Doctor	Nurse/midwife	Community health officer/ nurse	Traditional birth attendant			
Mother's age at birth							
<20	15.7	46.6	6.0	10.2	21.6	100.0	213
20-34	23.2	45.4	4.5	8.1	18.8	100.0	1,608
35-49	29.2	40.1	1.9	6.4	22.5	100.0	443
Birth order							
1	26.2	48.6	5.4	4.2	15.6	100.0	509
2-3	25.4	45.5	3.8	8.7	16.6	100.0	915
4-5	22.7	41.9	4.6	9.7	21.0	100.0	524
6+	15.9	39.2	2.4	8.8	33.6	100.0	316
Place of delivery							
Health facility	31.1	57.1	5.1	0.0	6.6	100.0	1,691
Elsewhere	1.6	7.2	1.2	31.5	58.5	100.0	572
Residence							
Urban	33.5	50.7	3.5	2.3	10.0	100.0	1,009
Rural	15.7	39.5	4.6	12.5	27.6	100.0	1,255
Region							
Western	24.9	44.2	4.2	8.7	18.0	100.0	217
Central	18.5	43.6	3.0	14.6	20.2	100.0	258
Greater Accra	42.3	44.8	5.7	2.8	4.4	100.0	332
Volta	26.4	35.2	3.4	3.6	31.5	100.0	177
Eastern	22.6	36.4	1.7	11.7	27.6	100.0	206
Ashanti	30.6	56.1	0.4	3.9	9.0	100.0	397
Brong Ahafo	17.3	52.3	5.9	6.9	17.6	100.0	214
Northern	4.4	29.1	7.3	15.9	43.3	100.0	304
Upper East	17.1	71.3	1.0	1.5	9.0	100.0	95
Upper West	17.5	33.8	17.7	6.5	24.6	100.0	64
Education							
No education	11.9	38.0	5.8	11.2	33.0	100.0	606
Primary	20.5	42.7	3.7	7.9	25.1	100.0	431
Middle/JSS/JHS	26.0	48.7	3.9	8.4	13.0	100.0	903
Secondary+	43.0	47.2	2.2	0.9	6.8	100.0	324
Wealth quintile							
Lowest	6.3	37.4	7.0	11.8	37.5	100.0	519
Second	12.1	42.4	4.3	14.6	26.6	100.0	474
Middle	26.2	44.4	2.6	9.4	17.4	100.0	433
Fourth	36.6	52.1	2.9	1.5	7.0	100.0	444
Highest	43.0	47.8	3.3	0.6	5.2	100.0	393
Total	23.6	44.5	4.1	8.0	19.8	100.0	2,264

Note: Total includes 1 woman for whom information on place of delivery is missing.

9.5 POSTNATAL CARE FOR THE NEWBORN

As mentioned, a significant proportion of neonatal deaths occur during the first few hours of life (48 hours) after delivery. The provision of postnatal care services for newborns should therefore start as soon as possible after the child is born. The timing of the postnatal checkup for the newborn is similar to that of the mother in that it should occur within two days after birth.

Table 9.9 shows that 30 percent of last births in the two years preceding the survey received a postnatal checkup; 1 percent of the newborns received a postnatal checkup less than 1 hour after birth, 12 percent within 1 to 3 hours, 5 percent within 4 to 23 hours, 5 percent within 1-2 days, and 7 percent within 3-6 days. Overall, 23 percent of births received a checkup in the first two days after birth.

A large majority of newborns (70 percent) did not receive any postnatal checkup.

Birth order, place of delivery, residence, mother's education level, and wealth quintile are closely linked to the timing of the first postnatal checkup for the newborn. First-order newborns and those whose mothers deliver in a health facility (25 percent each), newborns in Upper East (60 percent), newborns of

mothers with primary or a secondary or higher education (27 percent each), and those from the richest households (29 percent) have a greater chance of receiving a postnatal checkup within two days after birth compared with other newborns.

Table 9.9 Timing of first postnatal checkup for the newborn

Percent distribution of last births in the two years preceding the survey by time after birth of first postnatal checkup, and the percentage of births with a postnatal checkup in the first two days after birth, according to background characteristics, Ghana 2014

Background characteristic	Time after birth of newborn's first postnatal checkup					No postnatal checkup[1]	Total	Percentage of births with a postnatal checkup in the first two days after birth	Number of births
	Less than 1 hour	1-3 hours	4-23 hours	1-2 days	3-6 days				
Mother's age at birth									
<20	1.7	7.3	7.2	3.5	5.6	74.7	100.0	19.7	213
20-34	1.2	12.9	4.6	5.1	6.8	69.3	100.0	23.7	1,608
35-49	1.5	9.9	5.2	4.2	8.5	70.6	100.0	20.8	443
Birth order									
1	1.6	12.4	5.2	5.3	6.1	69.4	100.0	24.5	509
2-3	1.4	11.8	4.6	4.6	7.5	70.0	100.0	22.4	915
4-5	1.0	13.9	5.5	4.7	5.9	69.0	100.0	25.0	524
6+	0.9	7.3	4.6	4.6	9.3	73.2	100.0	17.5	316
Place of delivery									
Health facility	1.7	13.6	5.6	4.1	6.3	68.6	100.0	24.9	1,691
Elsewhere	0.2	6.3	3.1	6.9	9.1	74.4	100.0	16.4	572
Residence									
Urban	1.0	12.4	4.7	5.2	8.6	67.9	100.0	23.4	1,009
Rural	1.5	11.2	5.1	4.4	5.8	71.9	100.0	22.3	1,255
Region									
Western	0.0	3.9	1.2	1.4	2.8	90.4	100.0	6.5	217
Central	1.8	12.9	6.4	3.2	5.7	69.8	100.0	24.3	258
Greater Accra	1.1	27.3	8.1	5.6	3.0	54.8	100.0	42.1	332
Volta	0.9	6.1	5.0	7.3	12.3	68.4	100.0	19.3	177
Eastern	0.0	4.9	1.3	4.4	4.5	84.8	100.0	10.6	206
Ashanti	1.7	7.6	4.0	2.8	7.2	76.6	100.0	16.2	397
Brong Ahafo	0.0	4.7	3.5	2.9	7.2	81.6	100.0	11.2	214
Northern	2.9	9.6	2.8	6.4	14.2	64.1	100.0	21.8	304
Upper East	0.0	28.3	15.3	16.3	9.1	30.5	100.0	59.9	95
Upper West	6.4	25.1	12.1	5.7	2.9	47.6	100.0	49.2	64
Mother's education									
No education	1.9	13.0	4.1	5.9	9.1	66.0	100.0	24.8	606
Primary	0.8	14.3	6.0	5.8	5.9	67.2	100.0	26.9	431
Middle/JSS/JHS	0.8	8.3	5.1	3.9	6.1	75.7	100.0	18.1	903
Secondary+	2.2	15.7	4.6	4.0	7.4	66.1	100.0	26.5	324
Wealth quintile									
Lowest	1.8	11.0	5.7	6.9	11.1	63.4	100.0	25.4	519
Second	1.2	9.4	3.1	4.4	5.6	76.1	100.0	18.2	474
Middle	0.3	11.4	4.4	3.3	5.5	75.1	100.0	19.4	433
Fourth	1.0	11.6	6.0	3.6	4.5	73.2	100.0	22.2	444
Highest	2.0	16.3	5.5	5.4	7.9	62.6	100.0	29.3	393
Total	1.3	11.8	4.9	4.8	7.0	70.1	100.0	22.8	2,264

Note: Total includes 1 woman for whom information on place of delivery is missing.
[1] Includes newborns who received a checkup after the first week

9.5.1 Type of Provider of First Postnatal Checkup for the Newborn

Table 9.10 shows the type of provider of the newborn's first postnatal checkup that took place within two days after birth. Overall, 20 percent of newborns received a postnatal checkup from a skilled provider: 19 percent from a doctor, 2 percent from a nurse/midwife, and a very small percentage (less than 1 percent) from a community health officer/nurse. Two percent of newborns received a postnatal checkup from a traditional birth attendant.

Seventy-seven percent of newborns did not receive a postnatal checkup within the first two days after birth. Differentials by background characteristics are similar to those observed for last births in the two years preceding the survey by time of the newborn's first postnatal checkup (Table 9.9).

Table 9.10 Type of provider of first postnatal checkup for the newborn

Percent distribution of last births in the two years preceding the survey by type of provider of the newborn's first postnatal health check during the two days after the last live birth, according to background characteristics, Ghana 2014

| Background characteristic | Type of health provider of newborn's first postnatal checkup | | | | No postnatal checkup in the first two days after birth | Total | Number of births |
	Doctor	Nurse/midwife	Community health officer/ nurse	Traditional birth attendant			
Mother's age at birth							
<20	13.5	3.3	0.0	2.2	80.3	100.0	213
20-34	19.8	1.5	0.1	2.2	76.3	100.0	1,608
35-49	17.0	1.6	0.0	2.2	79.2	100.0	443
Birth order							
1	20.0	2.5	0.0	1.6	75.5	100.0	509
2-3	18.5	1.5	0.1	2.1	77.6	100.0	915
4-5	21.9	0.8	0.0	2.2	75.0	100.0	524
6+	11.5	2.4	0.0	3.5	82.5	100.0	316
Place of delivery							
Health facility	23.3	1.6	0.0	0.0	75.1	100.0	1,691
Elsewhere	4.8	2.0	0.2	8.6	83.6	100.0	572
Residence							
Urban	22.1	0.7	0.0	0.6	76.6	100.0	1,009
Rural	15.8	2.6	0.1	3.4	77.7	100.0	1,255
Region							
Western	6.5	0.0	0.0	0.0	93.5	100.0	217
Central	20.3	2.0	0.0	2.0	75.7	100.0	258
Greater Accra	40.1	0.0	0.0	2.0	57.9	100.0	332
Volta	15.9	0.6	0.0	2.6	80.7	100.0	177
Eastern	3.2	0.4	0.5	6.4	89.4	100.0	206
Ashanti	14.7	0.0	0.0	1.5	83.8	100.0	397
Brong Ahafo	6.6	1.6	0.0	2.5	88.8	100.0	214
Northern	13.0	6.0	0.0	1.6	78.2	100.0	304
Upper East	57.4	1.4	0.0	1.2	40.1	100.0	95
Upper West	32.2	13.9	0.0	3.1	50.8	100.0	64
Mother's education							
No education	17.0	4.5	0.0	2.9	75.2	100.0	606
Primary	21.7	0.7	0.0	4.2	73.1	100.0	431
Middle/JSS/JHS	15.5	0.9	0.1	1.5	81.9	100.0	903
Secondary+	26.4	0.1	0.0	0.0	73.5	100.0	324
Wealth quintile							
Lowest	17.0	3.9	0.0	3.8	74.6	100.0	519
Second	11.3	2.5	0.2	4.2	81.8	100.0	474
Middle	15.5	1.4	0.0	2.3	80.6	100.0	433
Fourth	22.0	0.2	0.0	0.0	77.8	100.0	444
Highest	29.3	0.0	0.0	0.0	70.7	100.0	393
Total	18.6	1.7	0.0	2.2	77.2	100.0	2,264

Note: Total includes 1 woman for whom information on place of delivery is missing.

9.6   PROBLEMS IN ACCESSING HEALTH CARE

Many factors can prevent women from getting medical advice or treatment for themselves when they are sick. Information on such factors is particularly important in understanding and addressing the barriers women may face in seeking care during pregnancy and at the time of delivery.

In the 2014 GDHS, women were asked whether or not each of the following factors would be a significant problem for them in seeking medical care: getting permission to go for treatment, getting money for treatment, distance to a health facility, and not wanting to go alone. Table 9.11 shows that more than half of women (51 percent) reported that at least one of these problems would pose a barrier to seeking health care for themselves when they are sick. More than 4 in 10 women (42 percent) stated that getting money for treatment is a serious problem in accessing health care for themselves, one in four (25 percent) stated distance to a health facility as a serious problem, and about one in six (16 percent) stated that not wanting to go alone is a problem. Only 6 percent of women perceived getting permission to go for treatment as a serious problem.

Women with five or more children (62 percent), those who are divorced, separated, or widowed (57 percent), unemployed women or those who are employed but not for cash (54 percent), women living in rural areas (58 percent), and those residing in the Northern region (71 percent) are more likely than other women to cite having at least one of these problems in seeking health care for themselves. This percentage is also highest among women with no education and women in the poorest households (64 percent and 68 percent, respectively).

Table 9.11 Problems in accessing health care

Percentage of women age 15-49 who reported that they have serious problems in accessing health care for themselves when they are sick, by type of problem, according to background characteristics, Ghana 2014

Background characteristic	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Not wanting to go alone	At least one problem accessing health care	Number of women
Age						
15-19	8.7	46.5	27.9	24.5	58.4	1,625
20-34	5.6	38.0	23.7	13.6	47.1	4,589
35-49	5.3	44.6	26.4	13.7	51.9	3,182
Number of living children						
0	7.4	38.5	23.5	19.3	50.3	2,994
1-2	5.0	37.2	22.1	13.1	45.8	2,843
3-4	5.2	43.6	25.3	12.3	50.3	2,119
5+	6.4	54.5	35.7	17.4	61.8	1,440
Marital status						
Never married	7.6	41.1	23.6	18.8	51.9	3,094
Married or living together	5.5	40.2	26.6	14.1	48.8	5,321
Divorced/separated/widowed	4.2	52.1	24.0	13.1	57.4	981
Employed last 12 months						
Not employed	8.2	43.5	25.4	20.2	53.8	2,201
Employed for cash	5.1	40.5	24.8	13.2	48.5	5,681
Employed not for cash	6.3	43.8	27.5	17.5	54.2	1,514
Residence						
Urban	5.5	35.2	17.2	13.7	44.1	5,051
Rural	6.6	49.3	34.9	17.7	58.4	4,345
Region						
Western	8.0	34.3	19.7	6.7	44.0	1,038
Central	4.1	34.3	18.2	11.9	42.3	937
Greater Accra	3.7	24.8	12.6	13.4	35.4	1,898
Volta	2.2	61.8	32.2	16.8	69.7	720
Eastern	8.8	47.4	36.2	17.6	59.1	878
Ashanti	6.8	49.3	26.6	17.3	55.9	1,798
Brong Ahafo	5.8	32.5	21.3	13.6	41.7	769
Northern	8.6	60.2	49.8	33.7	70.8	786
Upper East	4.3	46.0	20.0	9.4	51.5	358
Upper West	15.1	64.1	53.8	15.2	70.2	215
Education						
No education	6.8	54.9	37.8	21.0	63.5	1,792
Primary	6.8	50.8	28.8	15.3	58.6	1,672
Middle/JSS/JHS	5.9	39.6	22.5	14.3	48.7	3,862
Secondary+	5.0	27.0	17.1	13.4	36.9	2,070
Wealth quintile						
Lowest	7.6	58.6	45.1	24.3	67.6	1,511
Second	7.5	54.0	35.2	18.2	63.4	1,636
Middle	6.6	45.6	23.7	13.7	53.9	1,938
Fourth	5.2	36.4	18.4	12.5	44.5	2,117
Highest	4.1	22.7	12.6	12.1	32.7	2,194
Total	6.0	41.7	25.4	15.5	50.7	9,396

CHILD HEALTH AND EARLY DEVELOPMENT 10

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Key Findings:

- Ten percent of newborns have low birth weights (less than 2.5 kg).
- The proportion of children age 12-23 months who have received all basic immunisations has dropped from 79 percent in 2008 to 77 percent in 2014.
- Four percent of children under age 5 showed symptoms of acute respiratory infection in the two weeks before the survey; and about one half of these children were taken to a health facility or provider for advice or treatment.
- Half of children age 4-15 were engaged by an adult household member in more than four activities that support learning during the seven days preceding the survey; children living in the richest households were almost twice as likely as those living in the poorest households to engage in these activities.
- Over half of children age 4-15 have not had anyone read to them, and over one-fifth live in households with no children's books or reading materials.
- More than one-third of the children who attended school in the 2014-2015 school year regularly brought their reading materials home.
- Nearly 6 in 10 parents/caretakers want their children age 4-15 to be taught in both English and a local language while, about 3 in 10 prefer their children to be taught in English only.
- The majority of children age 4-15 years who attended school in the 2014 2015 school year walked to school (84 percent) and nearly one-third spend more than 20 minutes to get to school.

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This chapter presents findings from the 2014 GDHS on child health and early development. The first part of the chapter discusses data on child health, including neonatal conditions (weight and size at birth), vaccination status, and treatment practices the three major childhood illnesses of acute respiratory infection (ARI), fever, and diarrhoea. The information on weight and size, treatment practices, and contact with health facilities during illness paves the way for strategic planning and implementation of programmes to reduce neonatal and infant mortality. When combined with information on childhood mortality, this information can be used to identify those women and children who face increased risk because they do not fully use existing maternal and child health (MCH) services, and to assist with planning improvements for these services.

Information was obtained for all live births that occurred in the five years preceding the survey. Wherever possible, data from the 2014 GDHS are compared with data from the five earlier DHS surveys in Ghana, conducted in 1988, 1993, 1998, 2003, and 2008. However, analysis of trends in maternity care indicators is complicated by differences among the questions asked. The first three GDHS surveys asked questions on antenatal care and tetanus injections for all births, whereas the 2003, 2008, and 2014 surveys confined these questions to the most recent birth. In addition, the questions on maternity care and children's health referred to periods of varying lengths of time (sometimes five years and sometimes three years) preceding the survey. Although it is possible to adjust for some of these inconsistencies, it is not possible to do so for all. Therefore, caution should be used when interpreting the trend data.

The second part of the chapter focuses on early childhood development. It presents information on how parents and household members engage and support children's learning and development, as well as the mode of travel and time it takes to get to school.

10.1   CHILD'S SIZE AND WEIGHT AT BIRTH

A child's birth weight or size at birth indicates the child's vulnerability to the risk of childhood illness and the child's chance of survival. Children whose birth weight is less than 2.5 kilograms, or children reported to be *very small* or *smaller than average* are considered to have a higher than average risk of early childhood death. For births in the five years preceding the survey, birth weight was recorded on the questionnaire if available from written records or mother's recall. Because birth weight may not be known for many babies, the mother's estimate of the baby's size at birth was also obtained. Even though the estimate is subjective, it can be a useful proxy for the weight of the child.

Table 10.1 presents information on child's weight and size at birth, according to background characteristics. Sixty percent of children born in the five years preceding the survey were weighed at birth. Among children with a reported birth weight, 10 percent were of low birth weight (less than 2.5 kg). The results on size of the baby at birth show only small differences by background characteristics. The proportion of babies reported to be of low birth weight was highest in teenage mothers (12 percent) and among first-order births (12 percent). The Eastern region has the highest proportion of babies with low birth weight (14 percent), while the Volta region has the lowest proportion (6 percent). Women in the lowest wealth quintile recorded the highest proportion of babies with low birth weight (11 percent).

Overall, sixteen percent of births are reported to be very small or smaller than average.

Table 10.1 Child's size and weight at birth

Percent distribution of live births in the five years preceding the survey by mother's estimate of baby's size at birth, percentage of live births in the five years preceding the survey that have a reported birth weight, and among live births in the five years preceding the survey with a reported birth weight, percentage less than 2.5 kg, according to background characteristics, Ghana 2014

Background characteristic	Percent distribution of all live births by size of child at birth					Percentage of all births that have a reported birth weight[1]	Number of births	Births with a reported birth weight[1]	
	Very small	Smaller than average	Average or larger	Don't know/ missing	Total			Percentage less than 2.5 kg	Number of births
Mother's age at birth									
<20	6.5	11.5	81.7	0.3	100.0	53.2	573	11.6	304
20-34	4.1	10.9	84.9	0.2	100.0	62.2	4,042	9.2	2,516
35-49	5.0	12.3	81.8	0.9	100.0	56.8	1,080	9.9	614
Birth order									
1	4.9	13.6	81.4	0.1	100.0	69.1	1,387	12.2	958
2-3	4.0	10.5	85.2	0.4	100.0	64.6	2,194	9.4	1,418
4-5	4.6	10.3	85.0	0.1	100.0	55.8	1,336	7.2	745
6+	4.9	10.9	83.3	0.9	100.0	40.3	778	7.6	313
Mother's smoking status									
Smokes cigarettes/ tobacco	*	*	*	*	100.0	*	2	*	2
Does not smoke	4.5	11.2	84.0	0.3	100.0	60.3	5,692	9.5	3,432
Residence									
Urban	3.8	11.9	84.0	0.4	100.0	76.5	2,563	9.6	1,961
Rural	5.1	10.7	84.0	0.3	100.0	47.0	3,132	9.5	1,473
Region									
Western	2.8	8.4	88.6	0.2	100.0	56.9	574	8.7	326
Central	2.9	9.3	87.7	0.1	100.0	52.0	622	8.0	324
Greater Accra	2.1	12.7	85.2	0.0	100.0	80.0	880	6.5	704
Volta	6.5	13.8	79.8	0.0	100.0	63.1	436	5.8	275
Eastern	5.2	15.3	79.3	0.2	100.0	49.1	532	13.5	261
Ashanti	4.9	10.3	84.1	0.8	100.0	73.7	1,065	11.4	785
Brong Ahafo	3.2	13.4	82.9	0.5	100.0	63.7	497	10.6	317
Northern	9.0	6.4	84.3	0.3	100.0	28.4	709	12.9	201
Upper East	5.8	16.5	76.7	1.1	100.0	67.9	227	10.5	154
Upper West	1.6	14.0	84.3	0.2	100.0	57.3	152	12.7	87
Mother's education									
No education	5.7	9.7	84.1	0.5	100.0	41.3	1,561	8.6	645
Primary	3.9	11.0	85.1	0.0	100.0	50.6	1,141	8.0	577
Middle/JSS/JHS	4.5	12.5	82.7	0.3	100.0	68.6	2,208	11.1	1,514
Secondary+	3.1	11.0	85.5	0.5	100.0	88.9	785	8.4	698
Wealth quintile									
Lowest	6.5	11.1	82.0	0.4	100.0	37.9	1,263	11.4	478
Second	3.5	10.8	85.6	0.2	100.0	45.0	1,196	8.6	538
Middle	5.3	10.7	83.9	0.2	100.0	61.8	1,114	8.4	688
Fourth	3.9	12.4	83.2	0.4	100.0	75.3	1,074	9.9	808
Highest	3.0	11.3	85.3	0.4	100.0	87.9	1,048	9.7	921
Total	4.5	11.2	84.0	0.3	100.0	60.3	5,695	9.5	3,434

Note: Total includes 1 child for whom information on mother's smoking status is missing. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Based on either a written record or the mother's recall

10.2 VACCINATION COVERAGE

The 2014 GDHS collected information on immunisation coverage for all children born in the five years before the survey. The government of Ghana has adopted the World Health Organisation (WHO) and UNICEF guidelines for vaccinating children. According to these guidelines, to be considered fully vaccinated, a child should receive the following vaccinations: one dose each of BCG and measles, three doses of polio vaccine, and three doses of DPT. In addition, in Ghana, a vaccine against yellow fever is recommended for children. BCG, which protects against tuberculosis, should be given at birth or at first clinical contact. DPT protects against diphtheria, pertussis (whooping cough), and tetanus. A dose of polio vaccine is given at birth (Polio 0) or within 13 days of birth. DPT and polio vaccine guidelines require three vaccinations at approximately 6, 10, and 14 weeks of age. The measles and yellow fever vaccines are given at nine months. Currently, the pentavalent vaccine, (DPT-HepB-Hib) introduced in 2002, has replaced the DPT vaccine. This vaccine contains, in addition to DPT, the hepatitis B vaccine and a vaccine against *Haemophilus*

influenza type B. It is recommended that children receive the complete schedule of vaccinations before 12 months.

In 2012, the Ministry of Health introduced two new vaccines, the pneumococcal and rotavirus vaccines. These protect children from pneumococcal diseases (particularly pneumonia and other invasive pneumococcal diseases) and diarrhea, respectively. The country had earlier in the year introduced a measles second-dose vaccine at 18 months. In 2013, the Ministry of Health replaced the measles-only vaccine at nine months with a rubella-containing measles vaccine [Measles-Rubella (MR) vaccine] also given at nine months. Ghana follows a schedule for the administration of all basic childhood vaccines. BCG is given shortly after birth. Oral polio vaccine is given at birth and at approximately age 6, 10, and 14 weeks. Pentavalent vaccine is also given at approximately age 6, 10, and 14 weeks. Measles-rubella and yellow fever vaccines are given at or soon after the child reaches 9 calendar months (39 weeks). The rotavirus vaccine is given at age 6 and 10 weeks. The pneumococcal vaccine is administered as an injection to infants in three doses at age 6, 10, and 14 weeks. The measles-only dose offered to children at 18 months is primarily a booster dose. It is recommended that all vaccinations be recorded on a card that is given to the parents or guardians.

In the 2014 GDHS, information on vaccination coverage was obtained in two ways—from health cards and from mother's verbal reports. All mothers were asked to show the interviewer the health card on which the child's immunisations are recorded. If the card was available, the interviewer copied the dates of each vaccination received. If a vaccination was not recorded on the card, 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, she was asked to recall whether the child had received BCG, polio, pentavalent, pneumococcal, rotavirus, measles, and yellow fever vaccines. If she recalled that the child had received the polio, pentavalent, measles, pneumococcal or rotavirus vaccines, she was asked about the number of doses that the child received.

The data presented in Table 10.2.1 are for children age 12-23 months, the youngest cohort of children who have reached the age by which they should have had the basic vaccines, and are restricted to children who were alive at the time of the survey. The table shows the percentage of children age 12-23 months who received specific vaccines at any time before the survey by source of information. Overall, 77 percent of children age 12-23 months are fully immunised (have received all basic vaccinations). This percentage is slightly lower than that reported in the 2008 GDHS (79 percent). Only 2 percent of children in Ghana have not received any vaccinations; in the 2008 GDHS, by comparison, 1 percent of children was reported to have not received any vaccinations. Seventy-one percent of children age 12-23 months were fully immunised by age 12 months, which is slightly higher than that reported in the 2008 GDHS (70 percent).

With respect to specific vaccines, 97 percent of children have received BCG, 97 percent have received the first dose of pentavalent vaccine, 97 percent have received polio 1, 93 percent have received the first dose of pneumococcal vaccine, and 91 percent have received one dose of rotavirus vaccine. Coverage for the pentavalent, polio, pneumococcal, and rotavirus vaccinations declines with subsequent doses; 89 percent of children received the recommended three doses of pentavalent (DPT-HepB-Hib), 84 percent received three doses of polio, 89 percent received two doses of rotavirus, and 84 percent received three doses of pneumococcal vaccine. Coverage of the first dose of measles vaccine is 89 percent and that of yellow fever is 88 percent, similar to that reported in the 2008 GDHS (90 percent and 89 percent, respectively, for measles and yellow fever).

Table 10.2.1 Vaccinations by source of information: Children age 12-23 months

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Ghana 2014

Source of information	BCG	Pentavalent			Polio[1]				Measles 1	Pneumococcal			Rotavirus		Yellow fever	All age appropriate vaccinations[2]	All basic vaccinations[3]	No vaccinations	Number of children
		1	2	3	0	1	2	3		1	2	3	1	2					
Vaccinated at any time before survey																			
Vaccination card	86.8	87.2	86.6	84.4	69.8	87.9	87.3	82.7	80.5	85.1	84.0	80.3	83.7	82.5	79.4	57.0	76.4	0.0	982
Mother's report	10.0	9.4	8.8	4.1	9.0	9.2	6.2	1.4	8.8	8.2	7.3	3.9	7.7	6.2	8.6	0.8	0.9	1.6	132
Either source	96.8	96.6	95.4	88.5	78.8	97.1	93.5	84.0	89.3	93.3	91.3	84.2	91.3	88.7	88.0	57.7	77.3	1.6	1,113
Vaccinated by 12 months of age[4]	96.6	96.5	95.3	87.7	78.8	97.0	93.4	83.3	82.5	93.2	91.0	83.0	90.8	88.5	79.1	50.8	71.1	1.6	1,113

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, three doses of pentavalent (DPT-HepB-Hib) vaccine, four doses of polio vaccine, one dose of measles, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of yellow fever
[3] BCG, measles, and three doses each of pentavalent (DPT-HepB-Hib) and polio vaccine (excluding polio vaccine given at birth)
[4] For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccination.

Table 10.2.2 shows the percentage of children age 24-35 months who received specific vaccines at any time before the survey by source of information and proportion vaccinated by the appropriate age. Overall, 36 percent of children age 24-35 months have received all age-appropriate vaccinations. Sixty-four percent of children age 24-35 months received all age appropriate vaccinations by the recommended age. With respect to specific vaccines by the appropriate age, 97 percent of children received BCG, 96 percent received the first dose of pentavalent vaccine, 96 percent received polio 1, 75 percent received the first dose of pneumococcal vaccine, and 71 percent received the first dose of rotavirus vaccine. As expected, vaccination coverage by the recommended age for the pentavalent, polio, pneumococcal, and rotavirus vaccinations declines with subsequent doses; 86 percent of children received the recommended three doses of pentavalent (DPT-HepB-Hib), 80 percent received three doses of polio, 61 percent received three doses of pneumococcal vaccine, and 66 percent received two doses of rotavirus vaccine. Coverage of the first dose vaccines by the recommended age is 90 percent for measles vaccine, 87 percent for yellow fever, and 60 percent for the second dose of measles. The results of the 2014 GDHS relate to fieldwork that took place from September to December, 2014. Therefore, the relatively lower coverage for the newer vaccines (rotavirus and pneumococcal) in children age 24-35 months is probably the result of missed opportunities for children who were, at the time of the introduction, relatively older, and had taken more than their first doses of the traditional vaccines given at 6, 10, and 14 weeks. Consequently, the results should be interpreted with caution.

Table 10.2.2 Vaccinations by source of information: Children 24-35 months

Percentage of children age 24-35 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by appropriate age, Ghana 2014

Source of information	BCG	Pentavalent			Polio[1]				Measles 1	Pneumococcal			Rotavirus		Yellow fever	Measles 2	All age appropriate vaccinations[2]	No vaccinations	Number of children
		1	2	3	0	1	2	3		1	2	3	1	2					
Vaccinated at any time before survey																			
Vaccination card	78.7	78.6	77.5	76.1	60.8	79.3	78.1	75.8	72.8	60.8	57.5	52.9	58.7	54.9	71.8	51.5	34.7	0.2	872
Mother's report	17.9	17.8	16.0	9.7	16.0	17.0	13.2	3.9	17.2	14.3	12.6	8.3	12.7	11.3	15.9	11.6	1.6	1.3	218
Either source	96.6	96.4	93.5	85.8	76.8	96.3	91.2	79.8	90.0	75.0	70.0	61.3	71.4	66.2	87.7	63.2	36.3	1.5	1,090
Vaccinated by appropriate age[3,4]	96.6	96.2	93.4	85.6	76.8	96.2	91.2	79.9	89.5	74.7	70.0	60.8	71.0	65.6	87.0	59.5	63.6	1.7	1,090

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, three doses of pentavalent (DPT-HepB-Hib) vaccine, four doses of polio vaccine, two doses of measles, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of yellow fever
[3] For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccination.
[4] By 12 months of age for all vaccines, except measles 2 vaccine, which should be received by 24 months of age

Table 10.3.1 shows the 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 the percentage with a vaccination card by background characteristics. Vaccination coverage does not differ substantially by background characteristics, but there are some notable trends. Children in urban areas are most likely to have all basic vaccinations, but children in rural areas are most likely to have all age appropriate vaccinations. Children who are their mother's sixth or higher birth have lower rates of age-appropriate vaccination and, in fact, are more likely to have never been vaccinated. Children whose mothers have a secondary or higher education have noticeably higher rates of both basic and age-appropriate vaccinations. The proportion of children with all basic vaccinations does not vary with the mother's wealth quintile, but age appropriate vaccinations increase with increasing wealth of the mother.

Table 10.3.1 Vaccinations by background characteristics: Children 12-23 months

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), the percentage ever with a vaccination card, and the percentage with a vaccination card seen, by background characteristics, Ghana 2014

Background characteristic	BCG	Pentavalent			Polio[1]				Measles 1	Pneumococcal			Rotavirus		Yellow fever	All age appro-priate vaccina-tions[2]	All basic vaccina-tions[3]	No vaccina-tions	Percent-age ever with a vaccina-tion card	Percent-age with a vaccina-tion card seen	Number of children
		1	2	3	0	1	2	3		1	2	3	1	2							
Sex																					
Male	96.3	95.9	94.7	86.8	77.0	96.5	93.0	83.4	88.2	92.3	90.1	81.7	90.7	87.9	86.8	57.2	78.1	1.9	98.9	88.5	564
Female	97.2	97.3	96.2	90.3	80.6	97.7	94.0	84.7	90.3	94.3	92.5	86.8	92.0	89.6	89.2	58.3	76.6	1.2	99.1	87.9	550
Birth order																					
1	95.4	96.1	95.3	84.9	80.5	96.5	93.9	78.8	88.3	93.7	91.7	81.8	91.1	88.8	89.3	56.3	70.2	1.9	98.7	83.0	260
2-3	98.7	97.3	95.8	90.9	83.4	97.4	93.6	87.1	91.0	94.6	93.0	86.3	93.0	90.6	89.0	61.8	81.4	0.8	99.7	89.8	426
4-5	97.4	97.2	95.9	89.2	77.2	97.2	93.2	85.3	89.1	93.8	91.4	86.4	91.5	89.3	86.9	59.0	80.6	1.6	99.1	90.6	265
6+	92.8	94.9	93.7	87.0	66.5	96.9	92.9	82.3	86.6	88.4	85.8	79.2	87.0	82.5	84.7	47.3	72.6	3.1	97.7	88.3	162
Residence																					
Urban	97.2	95.9	94.5	88.1	87.3	96.1	92.2	83.0	88.3	94.1	91.9	85.7	91.0	88.3	87.2	64.4	76.0	1.6	99.9	86.3	499
Rural	96.4	97.2	96.2	88.8	71.8	97.9	94.5	84.8	90.0	92.6	90.8	83.0	91.6	89.0	88.6	52.3	78.4	1.6	98.3	89.7	615
Region																					
Western	96.8	95.4	94.8	83.5	84.5	97.6	91.2	78.7	85.6	87.3	85.6	80.5	83.7	80.5	78.9	52.9	69.4	2.4	98.7	85.9	104
Central	95.9	98.4	98.4	89.5	81.4	98.4	95.4	77.2	90.2	94.6	92.7	84.6	94.5	92.0	87.2	51.1	70.9	1.6	100.0	82.1	133
Greater Accra	98.4	97.2	96.3	91.1	94.6	96.7	93.4	86.3	92.2	95.2	93.6	88.3	95.2	92.4	92.9	76.4	82.3	1.2	100.0	85.2	179
Volta	96.4	90.9	90.9	85.6	80.7	93.9	90.7	86.4	83.8	89.5	87.7	83.5	89.6	86.5	86.9	62.7	78.8	1.7	98.3	86.0	86
Eastern	94.5	94.7	92.5	89.8	70.7	97.9	95.7	90.0	86.9	94.4	91.0	88.3	90.1	86.9	89.6	59.8	79.5	2.1	100.0	92.8	103
Ashanti	98.1	99.1	95.7	92.5	77.4	97.3	93.1	84.8	95.1	94.5	93.1	83.6	89.2	86.1	93.6	53.1	78.9	0.0	100.0	90.3	180
Brong Ahafo	100.0	99.5	99.5	88.2	72.4	100.0	96.4	85.1	93.0	97.8	97.2	88.3	97.0	97.7	88.9	56.2	82.2	0.0	100.0	91.6	117
Northern	92.1	93.6	92.0	80.7	57.8	94.2	90.3	79.7	79.4	88.9	85.6	76.9	88.6	85.1	77.5	41.0	69.0	4.4	94.6	88.9	140
Upper East	97.9	98.7	97.9	93.3	92.9	97.1	94.2	90.7	92.1	95.0	92.0	78.6	89.1	87.2	93.5	65.2	85.0	1.3	98.7	92.1	43
Upper West	98.6	97.5	97.5	96.7	86.1	98.6	98.6	94.6	96.4	96.0	93.7	88.9	96.0	92.6	94.9	73.1	91.2	1.4	100.0	96.6	29
Mother's education																					
No education	93.0	95.1	94.2	86.7	68.4	96.1	92.8	84.2	85.8	90.9	88.6	83.0	89.5	87.5	84.6	51.4	75.6	3.5	96.9	89.6	305
Primary	98.0	93.9	90.6	83.7	72.0	95.0	90.5	79.5	87.7	90.3	85.8	76.0	86.9	82.2	87.5	50.2	75.2	1.0	99.6	86.2	209
Middle/JSS/JHS	98.0	98.7	98.0	90.0	83.8	98.9	95.2	85.4	90.8	95.6	95.0	86.2	93.4	91.1	88.8	58.9	77.7	0.7	99.9	89.2	448
Secondary+	99.0	97.4	97.0	94.3	94.3	96.5	94.1	85.7	93.7	95.2	93.1	92.0	94.8	92.9	92.9	77.5	82.6	1.0	100.0	84.8	152
Wealth quintile																					
Lowest	95.7	95.8	95.1	87.4	63.4	96.9	94.2	85.2	86.5	91.8	88.9	80.9	90.6	87.9	85.1	47.3	77.5	2.7	97.3	91.5	249
Second	95.4	96.3	94.4	86.5	72.5	97.5	93.2	85.6	89.5	92.0	89.6	81.2	90.5	88.0	87.0	51.8	77.4	1.2	98.8	89.0	236
Middle	98.2	96.7	94.7	88.6	78.6	97.1	93.9	82.2	89.3	93.8	90.9	83.7	92.4	89.4	88.4	58.1	78.2	1.2	99.7	88.3	209
Fourth	96.2	96.0	94.9	88.8	87.6	97.2	92.7	85.3	88.9	92.2	91.9	86.6	91.4	87.8	90.5	66.5	77.4	1.9	99.7	88.1	221
Highest	98.9	98.5	98.5	91.9	96.0	96.7	93.4	81.4	92.9	97.3	96.1	89.9	92.1	90.7	89.5	67.7	76.0	0.6	100.0	82.8	198
Total	96.8	96.6	95.4	88.5	78.8	97.1	93.5	84.0	89.3	93.3	91.3	84.2	91.3	88.7	88.0	57.7	77.3	1.6	99.0	88.2	1,113

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, three doses of pentavalent (DPT-HepB-Hib) vaccine, four doses of polio vaccine, one dose of measles vaccine, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of yellow fever vaccine
[3] BCG, measles, and three doses each of pentavalent (DPT-HepB-Hib) and polio vaccine (excluding polio vaccine given at birth)

Table 10.3.2 shows the percentage of children age 24-35 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and the percentage with a vaccination card by background characteristics. Large differences in coverage of age-appropriate vaccinations are observed at the level of regions; the lowest percentage of children with age-appropriate vaccination coverage is in the Central region (18 percent) and the highest is in the Greater Accra region (48 percent). Age-appropriate vaccination coverage generally increases somewhat with increasing education. The proportion of children with age-appropriate vaccination does not vary markedly with sex, birth order, residence, or mother's wealth quintile.

Overall, 80 percent of mothers of children 24-35 months had the children's vaccination card seen by interviewers, lower than for children age 12-23 months (88 percent), probably due to the misplacement or wear and tear of older children's cards.

Table 10.3.2 Vaccinations by background characteristics: Children 24-35 months

Percentage of children age 24-35 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), the percentage ever with a vaccination card, and the percentage with a vaccination card seen, by background characteristics, Ghana 2014

Background characteristic	BCG	Pentavalent			Polio[1]				Measles 1	Pneumococcal			Rotavirus		Yellow fever	Measles 2	All age-appropriate vaccinations[2]	No vaccinations	Percentage ever with a vaccination card	Percentage with a vaccination card seen	Number of children
		1	2	3	0	1	2	3		1	2	3	1	2							
Sex																					
Male	96.4	96.8	93.8	88.5	77.2	96.7	91.7	81.1	90.1	74.7	68.7	59.8	71.7	65.6	89.1	62.2	33.0	1.7	98.8	83.0	567
Female	96.9	95.9	93.2	82.9	76.3	95.9	90.7	78.3	89.8	75.4	71.4	62.9	71.2	66.8	86.2	64.3	39.9	1.4	98.1	76.8	524
Birth order																					
1	96.0	96.4	91.6	82.0	80.8	95.3	88.1	77.9	92.0	75.8	70.6	57.2	74.2	68.6	91.8	66.5	39.7	2.1	98.5	75.9	290
2-3	96.9	96.9	95.3	89.8	81.0	96.9	93.1	82.5	90.5	74.9	69.5	64.9	72.6	68.1	86.9	62.3	37.7	1.0	98.3	81.0	403
4-5	97.5	96.6	94.4	88.5	71.9	96.8	92.9	82.0	87.5	75.6	72.3	63.7	71.6	65.3	85.6	57.7	30.8	1.4	98.9	84.1	272
6+	95.3	94.4	90.3	76.0	64.5	95.8	88.7	70.7	89.0	72.5	65.7	54.0	60.8	56.4	85.1	70.1	36.1	2.4	97.8	77.3	126
Residence																					
Urban	98.6	97.1	93.4	87.6	85.8	95.8	90.9	79.0	89.1	79.7	74.3	65.6	77.1	71.0	88.1	62.1	37.7	0.9	99.6	78.5	518
Rural	94.9	95.7	93.6	84.2	68.6	96.8	91.5	80.5	90.8	70.8	66.2	57.4	66.3	61.9	87.3	64.1	35.1	2.1	97.4	81.4	572
Region																					
Western	95.4	91.4	88.7	78.8	79.5	92.2	82.1	76.1	84.8	64.1	60.9	53.8	66.0	62.0	80.5	64.6	29.4	3.9	99.6	79.1	111
Central	94.6	97.5	96.3	81.5	76.8	98.3	94.9	72.3	90.0	75.1	69.5	49.0	66.1	59.8	89.5	57.7	17.8	1.2	98.8	67.6	119
Greater Accra	100.0	100.0	97.9	95.3	100.0	98.8	98.2	83.6	91.0	89.5	84.0	82.6	87.2	84.2	92.3	68.0	48.2	0.0	100.0	79.1	178
Volta	99.2	93.8	93.8	87.3	76.1	97.8	96.5	88.3	90.2	69.6	69.6	63.8	66.9	65.1	87.5	72.2	46.6	0.0	100.0	91.7	92
Eastern	95.2	92.4	89.7	81.1	66.6	95.8	90.0	78.4	86.5	79.0	76.0	69.0	73.5	71.5	81.9	70.7	45.1	3.0	100.0	83.3	107
Ashanti	99.0	97.9	93.3	87.7	71.4	93.8	86.5	78.9	93.4	73.7	65.0	49.5	70.6	60.4	91.2	58.4	33.3	1.0	99.0	80.0	210
Brong Ahafo	99.1	99.2	96.9	89.2	70.4	100.0	97.7	87.0	96.3	82.9	80.3	75.6	77.6	75.5	93.6	67.4	44.9	0.0	99.1	84.9	92
Northern	86.7	94.6	87.8	75.0	58.3	93.8	81.7	69.2	82.2	62.5	54.2	48.3	58.8	51.1	78.8	47.2	26.2	4.7	89.4	71.9	115
Upper East	100.0	97.8	97.0	92.0	87.3	100.0	99.2	86.6	95.1	79.9	77.3	69.3	75.6	67.5	88.1	72.3	39.8	0.0	100.0	91.6	40
Upper West	96.3	96.5	96.0	95.2	82.3	98.0	98.0	97.2	95.1	57.1	56.4	53.1	53.4	51.6	93.1	66.6	29.8	1.5	100.0	91.8	26
Mother's education																					
No education	92.7	93.2	90.0	79.3	61.5	94.9	87.7	76.6	85.8	67.6	62.1	54.5	62.7	58.7	81.5	57.1	31.4	3.1	95.0	79.8	271
Primary	98.7	97.5	93.3	84.1	76.8	96.7	91.8	77.7	87.6	75.4	71.6	62.3	71.0	65.3	84.4	56.0	29.5	0.7	99.7	82.1	239
Middle/JSS/JHS	97.6	96.9	94.2	88.4	80.3	96.2	91.5	80.6	91.0	76.2	71.2	61.8	73.6	67.9	90.0	67.9	39.0	1.2	99.7	78.0	429
Secondary+	97.9	98.8	98.4	92.8	94.2	98.8	95.9	86.5	98.5	84.5	78.6	70.3	81.4	76.1	97.3	72.0	48.2	1.2	99.0	82.7	151
Wealth quintile																					
Lowest	92.3	96.5	91.9	83.0	61.9	95.9	88.8	78.7	89.6	71.1	65.7	58.4	65.9	61.5	85.8	66.8	38.6	2.4	94.2	81.5	217
Second	95.4	95.5	94.2	88.7	61.9	96.8	94.0	84.0	86.7	65.6	60.3	52.6	62.0	58.2	82.6	53.7	27.8	2.7	99.1	87.1	233
Middle	98.2	93.6	91.5	81.5	83.5	94.8	88.5	80.9	90.6	72.6	67.9	58.9	67.6	60.7	88.2	64.1	34.1	1.5	99.6	78.9	211
Fourth	99.3	97.4	95.3	85.8	90.9	96.1	90.9	72.6	88.6	81.5	76.8	67.4	79.5	73.6	88.6	63.8	37.1	0.4	100.0	74.9	209
Highest	98.3	98.9	94.5	89.6	87.4	97.9	93.6	82.2	94.5	85.2	80.3	69.8	82.9	77.6	93.7	68.3	44.4	0.6	99.3	76.9	220
Total	96.6	96.4	93.5	85.8	76.8	96.3	91.2	79.8	90.0	75.0	70.0	61.3	71.4	66.2	87.7	63.2	36.3	1.5	98.5	80.0	1,090

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, three doses of pentavalent (DPT-HepB-Hib) vaccine, four doses of polio vaccine, two doses of measles vaccine, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of yellow fever vaccine

10.3 TRENDS IN VACCINATION COVERAGE

Table 10.4 shows, among children age 12-59 months at the time of the survey, the percentage who received specific vaccines by age 12 months and the percentage with a vaccination card. Sixty-four percent of children age 12-59 months received all their vaccinations by age 12 months. Children in the oldest cohort (48-59 months) are less likely to have received all their vaccinations (55 percent) than children age 12-23 months (71 percent). This pattern is seen with each vaccine but is more marked when all the vaccines are considered together. Vaccination cards were shown to interviewers for 88 percent of children age 12-23 months, compared with 67 percent of children age 48-59 months. The difference may partly result from cards for older children having been lost or misplaced over the longer period of time. This difference is similar to findings in the 2008 GDHS, where 86 percent of children age 12-23 months and 60 percent of children age 48-59 months had their cards seen. Overall, vaccination cards were shown to interviewers for 77 percent of children age 12-59 months, an improvement over 2008 where cards were shown to interviewers for 73 percent of children.

The findings from the 2014 GDHS support a trend towards increasing vaccination coverage for children 12-23 months from 1988. However, the percentage of fully immunised children dropped from 79 percent in 2008 to 77 percent in 2014 (Figure 10.1). On the contrary, the coverage for various vaccines has marginally improved over the 2008 coverage levels. Immunisation coverage has improved among children of mothers with a secondary or higher education (83 percent in 2014 compared with 74 percent in 2008). Immunisation coverage also improved among children of mothers with no education (76 percent in 2014 compared with 73 percent in 2008). This notwithstanding, there were decreases in vaccination coverage. The most notable declines were among children in the Western region (from 82 percent in 2008 to 69 percent in 2014), in the Ashanti region (from 85 percent in 2008 to 79 percent in 2014), and among children in highest wealth quintile (from 84 percent in 2008 to 76 percent in 2014).

Table 10.4 Vaccinations in first year of life

Percentage of children age 12-59 months at the time of the survey who received specific vaccines by age 12 months, the percentage ever with a vaccination card, and the percentage with a vaccination card seen, by current age of child, Ghana 2014

Age in months	BCG	Pentavalent			Polio[1]				Measles 1	Pneumococcal			Rotavirus		Yellow fever	All basic vaccina-tions[2]	No vaccina-tions	Percent-age ever with a vaccina-tion card	Percent-age with a vaccina-tion card seen	Number of children
		1	2	3	0	1	2	3		1	2	3	1	2						
12-23	96.6	96.5	95.3	87.7	78.8	97.0	93.4	83.3	82.5	93.2	91.0	83.0	90.8	88.5	79.1	71.1	1.6	99.0	88.2	1,113
24-35	96.5	95.9	92.6	84.2	76.7	95.6	90.4	78.6	81.7	73.9	69.0	58.8	70.3	65.0	78.5	65.9	2.0	98.5	80.0	1,090
36-47	95.8	94.4	90.2	78.0	75.5	95.3	87.2	73.9	80.6	31.8	29.3	24.1	30.4	27.8	76.6	60.8	2.7	98.8	71.0	1,060
48-59	93.8	92.8	86.9	75.4	73.8	94.0	86.1	68.9	78.6	32.8	30.0	24.3	30.3	27.3	73.3	55.4	3.8	97.4	66.6	1,004
12-59	95.7	95.0	91.4	81.6	76.3	95.6	89.4	76.4	81.2	59.2	55.9	48.5	56.6	53.1	77.2	63.6	2.5	98.4	76.7	4,268

Note: Information was obtained from the vaccination card or if there was no written record, from the mother. For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccinations.
[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles, and three doses each of pentavalent (DPT-HepB-Hib) and polio vaccine (excluding polio vaccine given at birth)

The percentage of children age 12-23 months who are fully immunised has increased over the past twenty-five years, from 47 percent in 1988 to 77 percent in 2014. However, the percentage of children fully immunised has declined slightly between 2008 and 2014 from 79 percent to 77 percent (Figure 10.1).

Figure 10.1 Trends in basic vaccination coverage among children 12-23 months, Ghana 1988-2014

Percentage of children age 12-23 months

Note: Children age 12-23 months who received all basic vaccinations, i.e., BCG, measles, and three doses each of DPT or pentavalent (DPT-HepB-Hib) and polio vaccine (excluding polio vaccine given at birth).
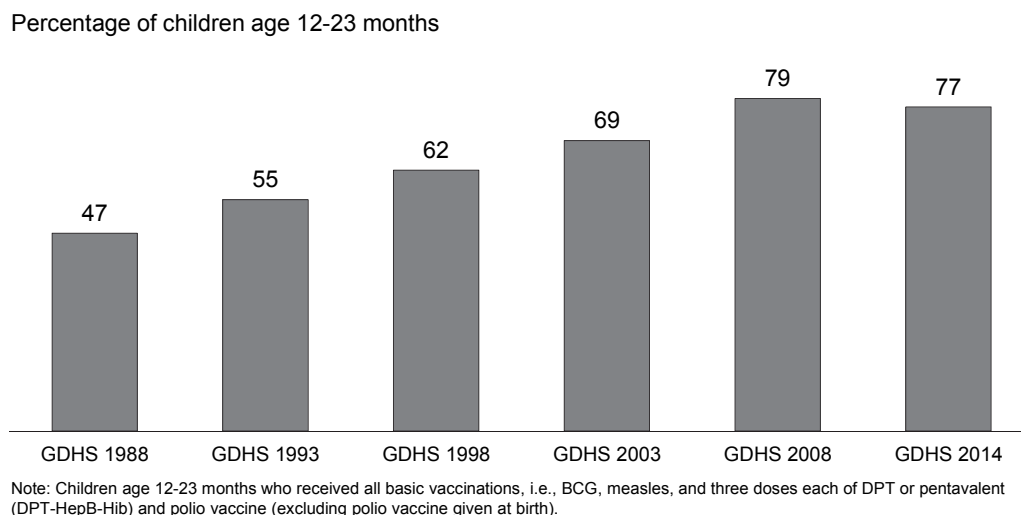
10.4 ACUTE RESPIRATORY INFECTION

Pneumonia and other respiratory tract infections are leading causes of death among young children in Ghana. In the case of pneumonia, early diagnosis and treatment with antibiotics can prevent a large proportion of deaths due to acute respiratory infections (ARIs). The prevalence of ARI in the 2014 GDHS was estimated by asking mothers whether their children under age 5 had been ill with a cough accompanied by short, rapid breathing in the two weeks preceding the survey. These symptoms, though compatible with pneumonia, are subjective (i.e., mother's perception of illness) and not validated by a medical examination. Table 10.5 shows the percentage of children under age 5 who had a cough accompanied by short, rapid breathing (symptoms of ARI).

From mothers' reports, it is estimated that 4 percent of children under age 5 had symptoms of ARI in the two weeks before the survey. A little over half of these children (53 percent) were taken to a health facility or provider (data not shown separately). This was similar to what was reported in the 2008 GDHS where half (51 percent) of the children were seen at a health facility or by a provider. There are minimal differentials in the prevalence of ARI by background characteristics, but it is worth noting that children in rural areas are almost twice as likely to have experienced symptoms of ARI as compared with children in urban areas.

Table 10.5 Prevalence and treatment of symptoms of ARI

Among children under age 5, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey, according to background characteristics, Ghana 2014

| | Among children under age 5: | |
Background characteristic	Percentage with symptoms of ARI[1]	Number of children
Age in months		
<6	2.9	571
6-11	5.5	592
12-23	4.7	1,113
24-35	2.9	1,090
36-47	3.2	1,060
48-59	2.6	1,004
Sex		
Male	3.4	2,822
Female	3.7	2,608
Mother's smoking status		
Smokes cigarettes/tobacco	*	2
Does not smoke	3.6	5,428
Cooking fuel		
Electricity, LPG, natural gas, or biogas	2.2	1,088
Kerosene	*	0
Coal, lignite	*	1
Charcoal	3.6	1,668
Wood, straw, shrubs, grass, agricultural crop	4.1	2,664
No food cooked in household	*	9
Residence		
Urban	2.5	2,450
Rural	4.4	2,981
Region		
Western	4.8	557
Central	3.0	588
Greater Accra	3.1	858
Volta	4.2	417
Eastern	7.4	506
Ashanti	2.6	995
Brong Ahafo	2.3	478
Northern	3.5	670
Upper East	1.9	219
Upper West	1.2	143
Mother's education		
No education	3.5	1,473
Primary	4.0	1,084
Middle/JSS/JHS	3.7	2,124
Secondary+	2.6	748
Wealth quintile		
Lowest	2.6	1,198
Second	5.0	1,137
Middle	5.3	1,065
Fourth	2.5	1,025
Highest	2.3	1,006
Total	3.6	5,431

Note: Total includes one child for whom information on mother's smoking status is missing. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Symptoms of ARI (cough accompanied by short, rapid breathing that was chest-related and/or by difficult breathing that was chest-related) are considered a proxy for pneumonia.
[2] Excludes pharmacy, shop, and traditional practitioner

Treatment with antibiotics can often ameliorate the symptoms of ARI, thereby saving lives. In the 2014 GDHS, 41 percent of children under age 5 who had symptoms of ARI in the two weeks before the survey received antibiotics for their illness (data not shown).

10.5 FEVER

Fever is a sign of malaria and other acute infections in children. Malaria and other illnesses that cause fever contribute to high levels of malnutrition and mortality. While fever can occur year-round, malaria is more prevalent after the rainy season. For this reason, temporal factors must be accounted for when interpreting fever as an indicator of malaria prevalence. Malaria is a major contributory cause of death in infancy and childhood in many developing countries. A policy of presumptive treatment of fever with antimalarial medication, once advocated in many countries where malaria is endemic, was revised in Ghana in 2010. The current policy emphasises testing before treatment. Malaria in Ghana is discussed in greater detail in Chapter 12.

Table 10.6 shows the percentage of children under 5 with fever during the two weeks preceding the survey and the percentage receiving various treatments, by selected background characteristics. A little more than one-tenth (14 percent) of all children under 5 reported having fever in the past two weeks. Fever is most common among children age 12-35 months (17 percent) and is least common (4 percent) in children less than 6 months. The prevalence of fever is similar for both sexes but slightly higher for children in rural (15 percent) compared with urban (12 percent) areas. Regional differentials show that the proportion of children with fever is highest in the Upper West region (25 percent) and lowest in the Western, Central, and Greater Accra regions (11 percent each). Fever prevalence decreases slightly as mother's education increases but shows no clear relationship with wealth quintile of the mother.

Over half of the children with a fever (56 percent) were taken to a health facility or provider for treatment. Nearly half of the children with a fever took antimalarial medicines, and a quarter took antibiotics. The proportion of children who were taken to a health facility was lower for older children compared with younger children. The proportion of children who were taken to a health facility or provider was slightly higher among females (59 percent) than males (54 percent) and among rural (59 percent) than urban children (51 percent). The proportion of children under age 5 with fever for whom advice was sought from a health facility or provider was slightly higher among those whose mothers have secondary education or more compared with those whose mothers have lower education. The percentage of children who took antimalarial medicines follows similar trends as treatment sought at a health facility or with a provider.

Table 10.6 Prevalence and treatment of fever

Among children under age 5, the percentage who had a fever in the two weeks preceding the survey and among children with fever, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage who took antimalarial medicines, and the percentage who received antibiotics as treatment, by background characteristics, Ghana 2014

	Among children under age 5:		Among children under age 5 with fever			
Background characteristic	Percentage with fever	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[1]	Percentage who took antimalarial medicines	Percentage who took antibiotics	Number of children
Age in months						
<6	4.0	571	(59.1)	(25.4)	(53.1)	23
6-11	14.2	592	56.1	31.7	21.9	84
12-23	16.8	1,113	60.2	51.5	24.6	188
24-35	16.9	1,090	52.7	52.4	30.0	185
36-47	13.3	1,060	58.1	47.0	25.3	141
48-59	13.1	1,004	51.3	55.4	14.6	131
Sex						
Male	14.5	2,822	53.6	46.8	25.5	409
Female	13.1	2,608	58.7	50.6	24.2	342
Residence						
Urban	12.4	2,450	51.2	47.3	29.3	304
Rural	15.0	2,981	59.1	49.3	21.9	448
Region						
Western	10.9	557	77.8	80.0	41.2	61
Central	10.9	588	66.4	65.1	20.4	64
Greater Accra	10.7	858	(39.3)	(31.3)	(30.9)	91
Volta	13.8	417	54.7	45.5	28.0	58
Eastern	17.8	506	56.3	44.7	22.7	90
Ashanti	15.3	995	45.0	48.0	24.8	152
Brong Ahafo	13.9	478	62.4	54.6	27.7	67
Northern	15.8	670	50.3	33.1	13.3	106
Upper East	12.7	219	79.8	47.0	34.8	28
Upper West	24.9	143	75.8	62.0	12.1	36
Mother's education						
No education	16.0	1,473	57.5	45.4	23.4	236
Primary	14.1	1,084	51.8	46.9	22.1	153
Middle/JSS/JHS	12.9	2,124	54.3	48.9	25.5	273
Secondary+	12.0	748	63.8	58.3	31.9	90
Wealth quintile						
Lowest	15.5	1,198	55.1	41.4	20.4	186
Second	16.6	1,137	52.9	46.4	20.9	189
Middle	14.2	1,065	61.6	54.6	31.7	151
Fourth	10.8	1,025	56.9	51.4	20.8	110
Highest	11.5	1,006	54.0	52.8	33.8	116
Total	13.8	5,431	55.9	48.5	24.9	752

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes pharmacy, shop, market, and traditional practitioner

10.6 DIARRHOEAL DISEASE

Severe diarrhoea leading to dehydration is a major cause of morbidity and mortality among young children in Ghana. Death can be prevented by administering oral rehydration therapy (ORT). Exposure to diarrhoea-causing agents is frequently related to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta. In the 2014 GDHS, mothers were asked whether any of their children under five years of age had diarrhoea during the two weeks preceding the survey. If a child had diarrhoea, the mother was asked about feeding practices during the diarrhoeal episode and what actions were taken to treat the diarrhoea. Because the prevalence of diarrhoea varies seasonally, the results of the 2014 GDHS—which relates to the fieldwork period from September to December, 2014—should be interpreted with caution.

10.6.1 Prevalence and Treatment of Diarrhoea

Table 10.7 shows the percentage of children under 5 with diarrhoea in the two weeks preceding the survey, by select background characteristics. One in ten children (12 percent) had diarrhoea during this period; 2 percent had diarrhoea with blood, which could be a sign of dysentery.

Table 10.7 Prevalence of diarrhoea

Percentage of children under age 5 who had diarrhoea in the two weeks preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Diarrhoea in the two weeks preceding the survey		
	All diarrhoea	Diarrhoea with blood	Number of children
Age in months			
<6	5.6	0.1	571
6-11	14.9	1.6	592
12-23	16.8	2.8	1,113
24-35	16.1	2.6	1,090
36-47	7.3	0.6	1,060
48-59	7.8	0.9	1,004
Sex			
Male	13.1	1.7	2,822
Female	10.2	1.5	2,608
Source of drinking water[1]			
Improved	11.9	1.5	4,706
Not improved	10.8	2.3	725
Toilet facility[2]			
Improved, not shared	5.4	0.4	629
Shared[3]	10.5	1.9	1,306
Non-improved	13.4	1.7	3,496
Residence			
Urban	10.5	1.6	2,450
Rural	12.8	1.6	2,981
Region			
Western	6.8	1.4	557
Central	8.7	2.3	588
Greater Accra	7.3	1.0	858
Volta	6.9	2.5	417
Eastern	15.7	1.6	506
Ashanti	14.2	1.2	995
Brong Ahafo	17.1	2.1	478
Northern	16.0	1.5	670
Upper East	12.0	1.2	219
Upper West	15.2	2.3	143
Mother's education			
No education	14.4	1.9	1,473
Primary	11.4	1.9	1,084
Middle/JSS/JHS	11.5	1.2	2,124
Secondary+	7.9	1.7	748
Wealth quintile			
Lowest	14.1	1.7	1,198
Second	14.4	1.7	1,137
Middle	12.5	1.8	1,065
Fourth	10.1	1.8	1,025
Highest	6.8	0.8	1,006
Total	11.7	1.6	5,431

[1] See Table 2.1 for definition of categories.
[2] See Table 2.2 for definition of categories.
[3] Facilities that would be considered improved if they were not shared by two or more households

Very young children under six months are least likely to have had diarrhoea (6 percent) when compared with older children, presumably because most of them are exclusively breastfed and hence less exposed to contaminated food. Diarrhoea prevalence increases with age and peaks at 12-35 months (16-17 percent), then declines at older ages. Age 12-23 months is when children start to walk and are at increased risk of contamination from the environment. The introduction of other liquids and foods at the time of weaning can also facilitate the spread of disease-causing agents. Differences in diarrhoea prevalence by sex and by urban-rural residence are small. Children in the Brong Ahafo region have a higher prevalence of diarrhoea (17 percent) when compared with children in the other regions. Prevalence of diarrhoea is lowest

among children in the Western, Greater Accra, and Volta regions (7 percent each) and among children of mothers with a secondary or higher education (8 percent). As expected, diarrhoea prevalence is lowest among children who live in households with improved, unshared toilet facilities (5 percent), and households that are in the highest wealth quintile (7 percent). Surprisingly, diarrhoea prevalence is nearly the same among children residing in households with an improved source of drinking water (12 percent) and those residing in households where the source of drinking water is unimproved (11 percent).

Mothers of children with diarrhoea in the two weeks preceding the survey were asked what was done to manage or treat the illness. Table 10.8 shows the percentage of children with diarrhoea who were taken to a health facility or provider for treatment, the percentage who received ORT, and the percentage given other treatments, by background characteristics.

Overall, 45 percent of children with diarrhoea were taken to a health provider for treatment. Children age 12-23 months are more likely to be taken to a health facility for treatment than children of other ages. Children with bloody diarrhoea (59 percent) are more likely to be taken to a health facility for treatment compared with children with non-bloody diarrhoea (43 percent). There is no clear pattern for treatment-seeking behaviour by sex of child, and mother's education.

Oral rehydration therapy (ORT), which involves giving children with diarrhoea a solution, prepared from oral rehydration salts (ORS) or recommended home fluids (RHF)—usually a home-made sugar-salt-water solution—is a simple and effective response to diarrhoeal illness. In the 2014 GDHS, about half of children with diarrhoea were treated with either ORS or RHF (53 percent). Nineteen percent of children were given increased fluids. Children with bloody diarrhoea (63 percent) are more likely to receive ORT than children with non-bloody diarrhoea (52 percent). There is no clear variation in proportions of children likely to receive ORT by sex, residence (rural or urban), education, or wealth quintile of the child's mother.

Overall, 62 percent of children under 5 with diarrhoea were treated with ORT or increased fluids.

The MoH of Ghana has included zinc supplementation in the management of acute watery diarrhoea and dysentery in children under 5[1]. In the 2014 GDHS, only 7 percent of children with diarrhoea were given zinc supplements. Children age 12-23 months were more likely to receive zinc for diarrhoea than the other age groups. Zinc supplementation in children with diarrhoea varied very little by sex and rural-urban residence. Children with bloody diarrhoea (11 percent) were more likely to have been given zinc supplementation than those with non-bloody diarrhoea (7 percent). Children of mothers with a secondary or higher education were less likely to be given zinc supplementation compared with children of mothers with lower educational levels.

Antibiotics are generally not recommended for use in managing non-bloody diarrhoea in young children. In the 2014 GDHS, one-third of children with diarrhoea were treated with antibiotics, with a notable difference between bloody and non-bloody diarrhoea (42 percent and 32 percent, respectively). The use of antibiotics is highest among children whose mothers have the highest educational level. To the contrary, children of mothers in households in the lowest wealth quintile are more likely to receive antibiotics when they have diarrhoea. Home remedies were given to 23 percent of children with diarrhoea, and 5 percent received antimotility medicines. One in six children with diarrhoea (17 percent) was given no treatment at all.

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[1] Under-5 Child Health Policy: 2007-2015 MoH, Ghana.

Table 10.8 Diarrhoea treatment

Among children under age 5 who had diarrhoea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage given other treatments, by background characteristics, Ghana 2014

Background characteristic	Percentage of children with diarrhoea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)			Increased fluids	ORT or increased fluids	Other treatments					No treatment	Number of children with diarrhoea
		Fluid from a special ORS packet	Home-made fluid	Either ORS or home-made fluid			Antibiotic medicines	Anti-motility medicines	Zinc supple-ments	Intra-venous solution	Home remedy/ other		
Age in months													
<6	(20.5)	(16.6)	(7.6)	(20.2)	(13.5)	(31.1)	(10.9)	(3.7)	(0.0)	(0.0)	(18.0)	(52.5)	32
6-11	53.6	46.7	8.1	53.0	13.0	57.3	28.2	11.0	9.0	0.6	17.8	24.1	88
12-23	57.7	58.3	4.1	60.9	15.3	67.0	39.6	3.0	13.0	0.6	23.3	13.8	187
24-35	42.1	50.4	6.6	54.7	27.2	65.4	34.9	4.5	4.2	0.3	26.7	9.0	176
36-47	34.2	37.6	17.1	45.7	19.4	57.5	25.0	7.4	5.4	0.0	22.7	23.5	77
48-59	31.0	47.5	10.9	53.3	18.6	63.2	37.2	1.0	4.4	0.0	22.8	9.9	78
Sex													
Male	43.0	47.8	8.6	53.0	16.8	60.9	30.1	4.6	6.4	0.4	26.4	15.5	371
Female	47.4	49.7	7.0	53.7	22.2	63.1	37.6	5.2	8.8	0.2	18.5	18.0	267
Type of diarrhoea													
Non-bloody	42.7	47.1	8.1	51.8	18.2	60.9	31.8	4.3	6.8	0.2	22.6	17.4	552
Bloody	58.8	58.6	7.1	62.8	24.6	68.0	42.4	8.5	11.4	1.2	26.3	10.7	86
Residence													
Urban	38.3	48.2	6.2	51.3	22.0	63.1	33.3	4.7	6.2	0.0	20.8	15.2	256
Rural	49.3	48.9	9.1	54.6	17.1	60.9	33.1	4.9	8.2	0.6	24.6	17.4	382
Region													
Western	(75.9)	(61.9)	(17.3)	(75.3)	(26.0)	(89.2)	(17.8)	(1.7)	(9.2)	(0.0)	(51.7)	(7.0)	38
Central	48.3	67.6	12.7	71.6	30.8	78.5	25.2	12.8	7.7	0.0	33.7	1.7	51
Greater Accra	(33.7)	(41.9)	(5.3)	(44.5)	(11.8)	(51.1)	(39.0)	(3.6)	(4.6)	(0.0)	(19.6)	(10.7)	63
Volta	(44.0)	(41.3)	(3.0)	(41.3)	(5.9)	(44.3)	(20.8)	(8.8)	(0.0)	(0.0)	(30.6)	(29.0)	29
Eastern	42.5	60.1	23.9	75.8	31.5	83.9	20.6	4.7	9.5	0.0	16.3	11.1	80
Ashanti	27.5	39.3	2.4	39.3	25.1	56.0	34.8	1.0	8.3	0.0	24.2	18.2	141
Brong Ahafo	49.6	39.7	6.5	45.0	13.8	50.6	38.8	7.4	8.2	0.0	12.2	28.3	82
Northern	52.0	48.7	3.2	51.4	2.7	52.6	40.4	6.2	5.0	2.0	20.6	23.3	107
Upper East	59.6	57.8	6.6	61.5	23.6	70.9	53.8	4.4	19.0	0.0	10.0	3.4	26
Upper West	67.0	50.8	2.8	51.6	28.4	62.9	33.0	0.0	3.0	0.0	35.9	15.3	22
Mother's education													
No education	51.4	47.0	6.2	51.3	11.5	55.2	37.9	4.9	8.0	1.0	20.2	19.7	212
Primary	40.9	50.7	10.4	58.8	21.1	66.6	26.8	3.5	8.6	0.0	26.1	16.9	123
Middle/JSS/ JHS	42.1	48.7	7.5	52.2	24.0	64.8	28.4	6.7	7.1	0.0	25.9	15.1	244
Secondary+	41.3	49.8	10.6	53.4	21.5	63.5	49.7	0.0	3.7	0.0	15.5	10.6	59
Wealth quintile													
Lowest	53.8	46.6	6.8	51.8	10.4	55.6	44.0	0.5	7.9	1.3	22.0	17.6	168
Second	47.1	48.2	10.7	55.7	19.8	66.2	27.2	7.8	8.2	0.0	20.0	18.0	164
Middle	33.6	47.0	8.6	50.8	22.0	58.8	24.4	3.7	10.3	0.0	32.8	13.6	134
Fourth	41.0	53.9	7.8	56.0	22.3	63.8	40.8	10.8	4.7	0.0	10.7	19.9	104
Highest	45.5	49.9	3.0	51.8	28.0	69.5	26.7	1.9	2.6	0.0	32.9	10.8	69
Total	44.9	48.6	7.9	53.3	19.1	61.8	33.2	4.9	7.4	0.3	23.1	16.5	638

Note: ORT includes fluid prepared from oral rehydration salt (ORS) packets and homemade fluids. Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes pharmacy, shop, and traditional practitioner

10.6.2 Feeding Practices

Mothers are encouraged to continue normal feeding of children with diarrhoea and to increase the amount of fluids given during the diarrhoeal episode. These practices help to reduce dehydration and minimise the adverse consequences of diarrhoea on the child's nutritional status, thus preventing death or complications. Mothers interviewed in the 2014 GDHS were asked whether they gave the child less, the same amount, or more fluids and food than usual when their child had diarrhoea. Table 10.9 shows the percent distribution of children under 5 who had diarrhoea in the two weeks preceding the survey by feeding practices, according to background characteristics.

Nineteen percent of children with diarrhoea were given more to drink than usual, 45 percent were given the same as usual, and 36 percent were given less to drink (i.e., somewhat less and much less) or nothing at all. It is particularly disheartening that 18 percent of children with diarrhoea were given much less to drink or nothing to drink. This is a retrogression from the 2008 GDHS, where 38 percent of children with diarrhoea were given more to drink than usual and 10 percent were given much less to drink or nothing to drink. Giving extra fluids to children with diarrhoea does not vary substantially by background characteristics; however, children whose mothers have no education were the least likely to receive more fluids compared with children of mothers with primary education or better.

As in the 2008 GDHS findings, food intake is curtailed even more than fluid intake during episodes of diarrhoea. Only five percent of children with diarrhoea were given more to eat than usual, 37 percent were given the same amount of food as usual, and 53 percent were given less food to eat than usual or nothing at all. These patterns reflect a gap in practical knowledge among some mothers regarding the nutritional requirements of children during diarrhoeal episodes. These findings are similar to the 2008 GDHS and reveal a need for further efforts on education and behaviour change communication in order to reduce the number of children that become dehydrated and/or malnourished because of improper fluid and feeding practices during diarrhoea.

Overall, 12 percent of children with diarrhoea were given increased fluids and continued feeding, and 42 percent were given increased fluids, continued feeding, and ORT. There are no marked differentials in these indicators by background characteristics; however, there was an increase in both indicators with increasing wealth quintile.

Table 10.9 Feeding practices during diarrhoea

Percent distribution of children under age 5 who had diarrhoea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during the diarrhoea episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during the episode of diarrhoea, by background characteristics, Ghana 2014

Background characteristic	Amount of liquids given						Amount of food given							Percent-age given increased fluids and continued feeding[1]	Percent-age who continued feeding and were given ORT and/or increased fluids[1]	Total	Number of children with diarrhoea
	More	Same as usual	Some-what less	Much less	None	Total	More	Same as usual	Some-what less	Much less	Stop-ped food	Never gave food	Total				
Age in months																	
<6	(13.5)	(59.5)	(6.7)	(19.2)	(1.1)	100.0	(2.0)	(20.1)	(11.0)	(8.9)	(10.4)	(47.6)	100.0	(4.5)	(16.8)	(0.0)	32
6-11	13.0	53.3	13.4	18.0	2.4	100.0	3.5	35.0	21.4	21.6	1.1	17.5	100.0	8.0	33.2	0.0	88
12-23	15.3	38.0	23.2	21.9	1.7	100.0	5.0	27.6	27.6	31.4	7.5	1.0	100.0	8.0	44.1	0.0	187
24-35	27.2	42.9	16.7	13.2	0.0	100.0	6.4	41.8	28.5	20.9	2.3	0.2	100.0	20.2	47.4	0.0	176
36-47	19.4	49.2	13.7	17.1	0.6	100.0	11.7	41.0	16.8	29.0	1.4	0.0	100.0	13.8	38.0	0.0	77
48-59	18.6	43.4	23.8	12.9	1.3	100.0	1.6	53.3	22.9	18.2	4.0	0.0	100.0	11.4	44.9	0.0	78
Sex																	
Male	16.8	50.0	18.6	13.3	1.2	100.0	5.4	41.0	24.4	20.7	3.9	4.6	100.0	10.5	43.8	0.0	371
Female	22.2	36.9	17.5	22.4	1.0	100.0	5.4	31.3	24.1	28.9	4.4	5.9	100.0	14.8	38.3	0.0	267
Type of diarrhoea																	
Non-bloody	18.2	46.6	18.5	16.1	0.7	100.0	5.5	38.8	23.8	22.1	4.0	5.7	100.0	12.0	42.2	0.0	552
Bloody	24.6	31.5	16.1	24.1	3.7	100.0	5.0	25.2	27.1	36.8	4.8	1.1	100.0	14.4	37.2	0.0	86
Residence																	
Urban	22.0	45.3	18.5	13.6	0.5	100.0	6.4	40.2	21.5	22.7	4.2	5.0	100.0	15.5	41.6	0.0	256
Rural	17.1	44.0	17.9	19.5	1.5	100.0	4.7	34.7	26.1	25.1	4.1	5.2	100.0	10.2	41.4	0.0	382
Region																	
Western	(26.0)	(19.4)	(38.2)	(11.3)	(5.1)	100.0	(16.0)	(21.7)	(44.8)	(9.3)	(5.1)	(3.0)	100.0	(22.9)	(74.8)	(0.0)	38
Central	30.8	42.2	12.1	12.9	1.9	100.0	1.4	37.7	30.1	25.1	2.2	3.5	100.0	24.1	56.5	0.0	51
Greater Accra	(11.8)	(49.7)	(23.9)	(14.6)	(0.0)	100.0	(3.4)	(41.9)	(17.1)	(22.1)	(10.2)	(5.3)	100.0	(4.1)	(33.3)	(0.0)	63
Volta	(5.9)	(60.2)	(11.1)	(22.7)	(0.0)	100.0	(0.0)	(32.3)	(25.0)	(38.5)	(0.0)	(4.1)	100.0	(0.0)	(21.7)	(0.0)	29
Eastern	31.5	38.0	15.5	12.3	2.7	100.0	5.7	34.6	22.4	25.0	10.3	2.1	100.0	16.5	50.5	0.0	80
Ashanti	25.1	43.8	16.3	14.8	0.0	100.0	9.4	39.4	22.6	27.0	1.7	0.0	100.0	17.3	36.7	0.0	141
Brong Ahafo	13.8	49.8	13.9	21.4	1.1	100.0	1.5	45.4	16.8	26.3	1.8	8.2	100.0	6.8	25.9	0.0	82
Northern	2.7	51.3	19.8	26.3	0.0	100.0	1.1	31.8	25.9	26.0	3.1	12.2	100.0	1.9	38.5	0.0	107
Upper East	23.6	46.4	19.4	8.9	1.7	100.0	15.6	49.1	13.0	7.6	6.0	8.7	100.0	18.4	58.7	0.0	26
Upper West	28.4	32.3	18.0	18.6	2.6	100.0	6.9	25.2	46.2	14.7	0.0	6.9	100.0	22.9	49.7	0.0	22
Mother's education																	
No education	11.5	45.3	20.6	21.2	1.4	100.0	2.5	35.6	28.0	23.7	2.9	7.2	100.0	6.9	38.8	0.0	212
Primary	21.1	46.2	18.8	12.0	1.9	100.0	11.7	41.0	22.9	15.9	3.0	5.5	100.0	14.5	51.4	0.0	123
Middle/JSS/JHS	24.0	42.6	16.5	16.3	0.7	100.0	5.8	37.7	24.9	23.8	3.5	4.2	100.0	17.2	44.0	0.0	244
Secondary+	21.5	46.8	14.8	16.8	0.0	100.0	1.0	30.0	10.9	43.9	13.5	0.8	100.0	6.7	20.2	0.0	59
Wealth quintile																	
Lowest	10.4	43.8	20.6	24.8	0.4	100.0	4.8	34.2	27.4	23.0	0.8	9.8	100.0	7.1	40.2	0.0	168
Second	19.8	46.7	15.0	16.4	2.0	100.0	4.3	40.0	21.0	22.4	7.5	4.8	100.0	11.7	43.2	0.0	164
Middle	22.0	45.7	17.4	13.5	1.3	100.0	6.5	39.3	21.6	26.7	2.9	3.0	100.0	12.0	36.3	0.0	134
Fourth	22.3	49.6	13.3	14.8	0.0	100.0	7.3	36.5	27.9	24.3	1.5	2.5	100.0	14.3	43.3	0.0	104
Highest	28.0	31.3	28.2	10.7	1.9	100.0	4.6	32.5	24.1	25.5	10.8	2.5	100.0	24.3	48.3	0.0	69
Total	19.1	44.6	18.1	17.1	1.1	100.0	5.4	36.9	24.3	24.1	4.1	5.1	100.0	12.3	41.5	0.0	638

Note: It is recommended that children should be given more liquids to drink during diarrhoea, and food should not be reduced. Figures in parentheses are based on 25-49 unweighted cases.
[1] Continued feeding practices include children who were given more, same as usual, or somewhat less food during the diarrhoea episode.

10.7 KNOWLEDGE OF ORS PACKETS

A simple and effective response to dehydration caused by diarrhoea is a prompt increase in the child's fluid intake through some form of ORT, which may include the use of a solution prepared from packets of oral rehydration salts (ORS). To ascertain how widespread knowledge of ORS is in Ghana, mothers were asked whether they know about ORS packets.

Table 10.10 shows the percentage of mothers with a live birth in the five years preceding the survey who know about ORS packets for treatment of diarrhoea, by background characteristics. Knowledge of ORS among mothers is near universal in Ghana, with 95 percent of mothers having heard of it. Although knowledge does not vary profoundly with background characteristics, younger mothers are slightly less

likely to know about ORS than older mothers. Knowledge of ORS is slightly lower in Northern (86 percent) and Upper West (88 percent) regions compared with other regions (94-98 percent). ORS knowledge is slightly higher among urban mothers (98 percent) compared with rural mothers (93 percent), and it increases with education and wealth quintile.

Table 10.10 Knowledge of ORS packets

Percentage of women age 15-49 with a live birth in the five years preceding the survey who know about ORS packets for treatment of diarrhoea by background characteristics, Ghana 2014

Background characteristic	Percentage of women who know about ORS packets	Number of women
Age		
15-19	91.2	184
20-24	92.5	704
25-34	96.2	1,972
35-49	95.8	1,283
Residence		
Urban	97.6	1,914
Rural	93.2	2,228
Region		
Western	97.0	427
Central	97.4	455
Greater Accra	98.4	674
Volta	94.2	315
Eastern	96.7	389
Ashanti	97.1	738
Brong Ahafo	94.7	374
Northern	85.7	480
Upper East	94.5	178
Upper West	88.4	111
Education		
No education	87.9	1,079
Primary	95.5	812
Middle/JSS/JHS	98.4	1,640
Secondary+	99.2	611
Wealth quintile		
Lowest	86.4	869
Second	95.3	840
Middle	97.5	827
Fourth	98.4	814
Highest	99.0	791
Total	95.2	4,142

ORS = Oral rehydration salts

10.8 STOOL DISPOSAL

If human feces are left uncontained, diseases can spread by direct contact or by animal contact with the feces. Hence, the proper disposal of children's stools is important in preventing the spread of disease. Disposal is safe if the child used the toilet or latrine, stools are rinsed into toilet or latrine, or stools are buried. Table 10.11 shows the percent distribution of mothers who have their youngest child under age 5 living with them, by the way in which the child's stools are disposed of, according to background characteristics and type of toilet facilities in the household.

The most common method of disposing of young children's stools is throwing stools into the garbage (47 percent), followed by rinsing into a toilet or latrine (27 percent). Eight percent of children are using a toilet or latrine, and 5 percent of children have their stools left in the open (not contained). Overall, only 40 percent of mothers safely dispose of young children's stools safely; a reduction from that reported in the GDHS 2008 (48 percent).

There are differences in the way children's stools are disposed of, according to background characteristics. For example, older children are much more likely than younger children to have their stools disposed of safely. As expected, children living in households with an improved, unshared toilet facility (59 percent) and children in urban areas (43 percent) are more likely to have safe disposal of their stools than

those in households without improved toilet facilities (30 percent) and children in rural areas (37 percent). By region, the proportion of children whose stools are disposed of safely ranges from 10 percent in the Northern region to 61 percent in the Eastern region. Safe disposal of children's stools increases with mother's level of education and household wealth quintile.

Table 10.11 Disposal of children's stools

Percent distribution of youngest children under age 5 living with the mother by the manner of disposal of the child's last faecal matter, and percentage of children whose stools are disposed of safely, according to background characteristics, Ghana 2014

| Background characteristic | Manner of disposal of children's stools | | | | | | | | Percent-age of children whose stools are disposed of safely[1] | Number of children |
	Child used toilet or latrine	Put/rinsed into toilet or latrine	Buried	Put/rinsed into drain or ditch	Thrown into garbage	Left in the open	Other	Total		
Age in months										
<6	1.2	18.6	1.7	18.8	54.4	4.7	0.5	100.0	21.5	561
6-11	2.3	19.1	3.4	10.1	61.5	3.1	0.6	100.0	24.7	580
12-23	3.0	25.7	5.0	4.9	56.0	4.4	0.9	100.0	33.8	1,062
24-35	11.4	31.5	4.2	4.6	41.0	6.2	0.7	100.0	47.1	794
36-47	15.8	39.0	5.3	2.4	31.2	5.3	1.1	100.0	60.1	554
48-59	25.2	29.9	7.2	2.4	27.1	7.2	0.5	100.0	62.2	401
Toilet facility[2]										
Improved, not shared	20.0	37.7	1.3	3.7	35.2	1.2	0.5	100.0	59.0	461
Shared[3]	12.5	43.4	1.1	4.7	37.0	1.1	0.1	100.0	56.9	959
Non-improved or shared	4.7	19.1	6.2	8.4	53.2	7.2	1.0	100.0	30.0	2,531
Residence										
Urban	10.8	29.4	2.9	5.7	48.3	2.3	0.4	100.0	43.1	1,817
Rural	6.3	25.3	5.7	8.0	46.1	7.3	1.1	100.0	37.3	2,133
Region										
Western	8.2	45.1	1.2	7.3	36.0	1.4	0.4	100.0	54.5	397
Central	8.1	35.2	3.1	3.3	49.2	0.9	0.2	100.0	46.3	430
Greater Accra	16.9	24.5	1.7	5.7	47.8	3.1	0.0	100.0	43.2	642
Volta	8.4	21.3	15.1	5.0	43.8	6.2	0.0	100.0	44.8	307
Eastern	14.0	42.1	5.2	6.6	30.3	0.7	0.5	100.0	61.3	377
Ashanti	8.1	31.4	0.4	7.4	52.1	0.3	0.0	100.0	39.9	696
Brong Ahafo	4.1	29.5	2.6	6.3	45.4	8.7	3.5	100.0	36.2	357
Northern	0.2	2.9	6.5	11.9	58.8	17.2	2.6	100.0	9.6	465
Upper East	0.5	6.5	18.3	7.1	54.5	12.8	0.3	100.0	25.4	171
Upper West	2.7	11.4	5.3	11.8	56.7	11.7	0.3	100.0	19.5	108
Mother's education										
No education	5.0	15.9	7.0	9.2	51.2	10.1	1.6	100.0	27.9	1,035
Primary	7.6	24.9	5.0	7.7	46.6	7.6	0.6	100.0	37.5	773
Middle/JSS/JHS	8.2	34.3	3.4	6.8	44.5	2.1	0.5	100.0	45.9	1,568
Secondary+	15.9	31.0	1.9	2.2	48.0	0.6	0.0	100.0	48.8	575
Wealth quintile										
Lowest	2.9	12.3	8.8	9.8	48.8	14.8	2.4	100.0	24.0	846
Second	5.5	27.8	5.9	8.1	47.0	5.1	0.5	100.0	39.2	808
Middle	7.3	30.6	4.4	8.6	46.3	2.1	0.5	100.0	42.3	775
Fourth	9.7	32.9	1.5	4.8	49.6	1.2	0.2	100.0	44.1	778
Highest	17.3	33.8	1.0	3.1	43.8	0.8	0.0	100.0	52.1	744
Total	8.4	27.2	4.4	7.0	47.1	5.0	0.7	100.0	39.9	3,951

Note: Totals may not add up to 100 percent because cases with missing information are not shown separately.
[1] Children's stools are considered to be disposed of safely if the child used a toilet or latrine, if the faecal matter was put/rinsed into a toilet or latrine or if it was buried.
[2] See Table 2.2 for definition of categories
[3] Facilities that would be considered improved if they were not shared by two or more households

10.9 CHILDHOOD EARLY LEARNING AND DEVELOPMENT

Child development refers to the biological, psychological, and emotional changes that occur in human beings between birth and the end of adolescence, as the child progresses from dependency to increasing autonomy. According to the Children's Act (Act 560) of 1998, children are not to be deprived access to education and other activities required for their development. During these formative years, it is important to build the child's confidence and desire to learn, and expose him or her to the different aspects of learning in both academic and non-academic areas, so that the child will have a well-rounded primary

education. The children should also be exposed to a range of activities at home, in school, and in the community for them to discover their talents and interests.

This section presents focus on children age 4-15. It presents information on how parents and household members engage and support children's learning and development, as well as on the mode of travel and time it takes for children to get to school.

10.9.1 Support for Learning

Placing children in school is an important decision parents take. Such a decision could be more beneficial if parents also take interest in children's school activities while at home. The involvement of parents and other adult household members in children's school work has important effects on the children's development. The confluence of developmental and contextual changes in the early adolescence increases the risk that students may not reach their potential and heightens the need to identify sources of support. Thus, adult participation in activities with children, availability of books in the home for the child, and the conditions of care are important indicators of learning support (Hill and Tyson 2009).

Instruction in the classroom is only one piece of the educational system. All stakeholders involved in education, including parents and community members, need to work together to help students improve their learning outcomes. These include the involvement of adults with children in the following activities: helping with homework, buying or borrowing books to read, taking the child to the library, taking the child to a reading event, talking to the child's teacher about learning progress, participating in parent teacher association and school management committee activities, regularly reading to the child, encouraging child to read, communicating high expectations to the child, providing the child with a lantern/torch/lamp, and relieving the child of some household chores or other activities.

Table 10.12 presents information about the different types of learning support that household members provided to children age 4-15 in that household during the last seven days preceding the survey. The data indicate that the mean number of activities that household adult members engage in with children is about four.

Thirty-five percent of the children engaged in one to three activities with an adult household members in the past week. Half of children age 4-15 (50 percent) were engaged by an adult household member in four or more activities that support learning. Generally, children in urban areas (56 percent) are more likely than their rural counterparts (45 percent) to engage in four or more learning activities with household members. Substantial differentials by region and socio-economic status are also observed: engagement of household members in four or more activities with children is highest in Greater Accra, Eastern, Central, and Western regions (54-57 percent) and lowest in Northern region (38 percent). While 68 percent of children living in the richest households get engaged in four or more activities with household members, the proportion of those living in the poorest households is 36 percent. Engagement of household members in activities with children increases with parents'/caretakers' education and increasing wealth. Whereas the mean number of activities for children whose parents have a secondary or higher education is five, that of children whose parents have no education is three.

Some of the activities, such as helping with homework, talking to the child's teacher about progress, participating in parent-teacher and school management committee activities, and providing the child with a lantern, torch, or lamp, only apply to children currently in school. Data in Table 10.12 on activities that promote learning can be recalculated for only those children age 4-15 who attended school during the 2014-2015 school year. In that case, the proportion of children engaged by an adult household member in four or more activities to support learning increased from 50 percent among all children to 57 percent among children of the same age attending school (data not shown). However, the percentage of children engaged in one to three activities with an adult household member in the past week is almost the same for all children age 4-15 (35 percent) and for those children age 4-15 who attended school during the 2014-2015 school year

(34 percent, data not shown). The mean number of activities that household adult members engage in with children is about four in both groups of children regardless of whether they attended school (data not shown).

Table 10.12 Activities that promote learning

Percentage of children age 4-15 with whom a household member engaged in activities that promote learning in the past seven days, by background characteristics, Ghana 2014

| Background characteristic | Percentage of children age 4-15 with whom household members engaged in: | | Mean number of activities that promote learning that household members engaged in with children age 4-15 in the past seven days | Number of children age 4-15 |
	1-3 activities that promote learning in the past seven days	4+ activities that promote learning in the past seven days		
Age in years				
4-6	33.5	45.9	3.4	1,589
7-9	33.7	53.4	4.0	1,733
10-12	36.8	51.7	3.9	1,568
13-15	36.0	48.9	3.7	1,619
Sex				
Male	35.2	49.3	3.7	3,242
Female	34.8	50.8	3.8	3,267
Residence				
Urban	33.9	56.3	4.1	3,003
Rural	35.9	44.7	3.4	3,506
Region				
Western	27.2	57.4	4.3	623
Central	32.3	55.9	4.3	664
Greater Accra	35.6	54.2	3.7	1,064
Volta	30.8	52.3	3.8	564
Eastern	31.8	55.2	4.0	638
Ashanti	40.9	47.8	4.1	1,225
Brong Ahafo	32.2	47.4	3.4	571
Northern	35.5	38.1	2.7	671
Upper East	41.9	38.6	3.2	290
Upper West	46.6	40.1	3.1	198
Mother's/father's/ caretaker's education				
No education	38.8	36.6	2.9	2,057
Primary	37.0	46.6	3.6	1,152
Middle/JSS/JHS	34.2	56.1	4.2	2,440
Secondary+	25.2	69.5	4.9	859
Wealth quintile				
Lowest	37.0	36.0	2.8	1,477
Second	36.5	44.9	3.4	1,413
Middle	38.2	51.5	4.0	1,338
Fourth	34.7	55.9	4.3	1,216
Highest	26.5	67.8	4.6	1,064
Total	35.0	50.0	3.8	6,509

Note: Total includes one child for whom information on mother's/father's/caretaker's education is missing.
[1] Activities include helping with homework, buying or borrowing books to read, taking child to library, taking child to a reading event, talking to child's teacher about child's learning progress, participating in parent teacher association, participating in a school management committee, regularly reading to the child, encouraging the child to read, communicating high expectations to the child, providing the child with a lantern/torch/lamp, relieving the child of some household chores, or other similar activities.

10.9.2 Reading, Book Ownership, and Textbook and Reading Materials

The importance of being able to read is widely accepted. The ability to read is associated with improved quality of life, not only for the individual, but in the case of adults, also for their families and communities. Students who learn to read within the first few years of school have a greater chance of succeeding in and completing primary school.

There is evidence that children benefit most from regular reading that includes sensitive, responsive and language-rich interactional routines (Dickinson et al. 2012). As parents read with children, they have the opportunity for frequent, sensitively tuned, language-rich interactions that draw children into conversations about books, the world, language, and concepts. Allocating time to practice reading is an important way that

parents and other community members can assist with building a child's reading skills. It is important to note that the most fundamental issue related to the impact of reading on children is reading frequency.

Table 10.13 provides information about the frequency that household members read to children age 4-15 years in the household. Overall, about one-fifth (21 percent) of children age 4-15 are living in households where a member reads to them a few times a week. Sixteen percent of children are read by a household member once a week. Fifty-eight percent of the children had no member of the household read to them.

The proportion of urban children who got a member of the household read to them a few times a week is higher than their rural counterparts (28 percent and 16 percent, respectively). Regional differences are observed in the proportion of children who live in households where someone reads to them a few times a week, ranging from 29 percent in Greater Accra to 10 percent in Upper West. This percentage increases substantially with parents'/caretakers' education and household wealth.

Table 10.13 also presents information about the availability of children's books and reading materials in the household. Overall, 61 percent of the children age 4-15 years live in households that had between 1 and 10 children's books and reading materials in the house, 11 percent have 11 to 20 books, and 5 percent had 21 or more books.

However, about one-fifth of children lived in households without any children's books and reading materials. The percentage of children age 4-15 living in households without any children's books and reading materials is highest in Upper West (45 percent) and lowest in Upper East, Central, and Ashanti (14, 15, and 16 percent, respectively).

By urban-rural residence, children in urban areas are more likely than those in rural areas to own books and reading materials and to own more of them. Substantial differences are observed by parent's/caretaker's education, wealth and ownership of books. Nearly one-third of children whose parents have no education (31 percent) have no children's books and reading material at the house compared with 7 percent of children whose parents have a secondary or higher education. A similar pattern is observed by household wealth.

Table 10.13 Reading and book ownership

Percent distribution of children age 4-15 by how often a household member reads to the child and by the number of children's books and reading materials present in the house at the time of the survey, according to background characteristics, Ghana 2014

Background characteristic	Frequency that a household member reads to children age 4-15							Number of children's books and reading materials present in the house at the time of the survey						Number of children age 4-15
	A few times a week	Once a week	Once a month	Every six months	Nobody reads to child	Other/ Don't know/ Missing	Total	1 to 10 books	11 to 20 books	21+ books	None	Don't know/ Missing	Total	
Age in years														
4-6	24.3	18.5	4.0	0.5	52.0	0.6	100.0	55.2	6.6	4.0	33.3	0.9	100.0	1,589
7-9	24.9	16.2	5.3	0.7	52.4	0.5	100.0	63.1	9.7	4.1	21.9	1.1	100.0	1,733
10-12	19.7	16.8	3.4	0.3	59.1	0.8	100.0	64.8	11.5	5.8	16.9	1.0	100.0	1,568
13-15	16.2	12.8	2.8	0.7	67.1	0.4	100.0	59.4	15.4	7.3	16.9	1.0	100.0	1,619
Sex														
Male	21.4	15.9	3.7	0.5	57.8	0.7	100.0	60.0	11.1	5.6	22.8	0.5	100.0	3,242
Female	21.3	16.1	4.1	0.6	57.4	0.5	100.0	61.4	10.5	5.0	21.7	1.4	100.0	3,267
Residence														
Urban	27.5	17.8	3.5	0.5	50.4	0.3	100.0	60.5	13.6	8.9	16.2	0.7	100.0	3,003
Rural	16.1	14.5	4.2	0.6	63.8	0.8	100.0	60.8	8.4	2.2	27.4	1.2	100.0	3,506
Region														
Western	27.5	18.2	4.9	3.0	46.3	0.3	100.0	64.0	9.7	5.8	19.3	1.1	100.0	623
Central	20.1	20.8	6.9	0.7	51.0	0.5	100.0	60.5	15.9	7.8	15.3	0.5	100.0	664
Greater Accra	29.2	15.0	3.3	0.2	51.1	1.2	100.0	52.8	10.0	12.8	23.5	0.9	100.0	1,064
Volta	15.1	21.6	3.7	0.0	59.6	0.0	100.0	66.0	11.2	1.4	21.3	0.1	100.0	564
Eastern	22.7	18.4	5.7	0.3	52.4	0.5	100.0	60.1	8.5	3.4	27.0	1.0	100.0	638
Ashanti	26.3	12.5	1.6	0.2	59.2	0.2	100.0	60.3	16.9	6.3	16.0	0.6	100.0	1,225
Brong Ahafo	14.6	16.0	3.2	0.1	65.7	0.4	100.0	61.3	7.4	1.0	29.4	0.9	100.0	571
Northern	11.4	12.2	3.1	0.8	70.9	1.6	100.0	63.7	5.3	0.8	28.2	2.0	100.0	671
Upper East	14.7	18.2	5.7	0.2	60.7	0.5	100.0	73.8	8.8	0.4	14.2	2.9	100.0	290
Upper West	10.2	7.0	4.6	0.8	77.1	0.3	100.0	51.3	1.5	0.6	45.3	1.3	100.0	198
Mother's/father's/ caretaker's education														
No education	11.7	10.4	3.3	0.5	73.2	0.8	100.0	57.6	7.3	2.5	31.1	1.6	100.0	2,057
Primary	16.0	14.3	4.0	0.4	64.5	0.8	100.0	60.9	9.2	4.1	25.4	0.4	100.0	1,152
Middle/JSS/JHS	24.6	20.3	4.4	0.6	49.6	0.4	100.0	62.0	12.9	5.4	18.7	1.0	100.0	2,440
Secondary+	42.4	19.9	3.5	0.8	33.4	0.1	100.0	64.1	15.4	13.3	6.9	0.2	100.0	859
Wealth quintile														
Lowest	10.0	12.1	3.6	0.5	72.4	1.4	100.0	56.9	5.5	0.8	35.3	1.5	100.0	1,477
Second	13.5	12.4	4.5	0.1	69.0	0.4	100.0	58.9	9.4	2.1	28.9	0.6	100.0	1,413
Middle	22.0	19.2	4.5	0.6	53.6	0.2	100.0	65.1	9.1	4.2	20.6	1.0	100.0	1,338
Fourth	30.3	20.3	4.0	0.8	44.4	0.4	100.0	62.2	14.6	8.6	13.7	0.9	100.0	1,216
Highest	36.6	17.6	2.7	1.0	41.8	0.4	100.0	61.0	17.9	13.4	7.0	0.7	100.0	1,064
Total	21.4	16.0	3.9	0.6	57.6	0.5	100.0	60.7	10.8	5.3	22.2	1.0	100.0	6,509

Note: Total includes 1 child for whom information on mother's/father's/caretaker's education is missing.

The frequency with which children bring their reading materials home can widen their reading experience. Parents have a vested interest in their child's reading as it holds the key to other areas of learning and life. It is possible to improve student outcomes with materials that support and build students' emerging literacy skills. The more opportunities children have to read stories and other teaching and learning materials, the quicker they will learn to read. Even though the school will take steps to help the children to develop the skills needed to become a confident reader, parents play an important part by supporting and encouraging their children.

Exposure to books in early years plays an essential role in children's emerging ability to interpret the meanings of words and provides the child with greater understanding of the nature of the print. The presence of books is important for later school performance and IQ scores. Evidence suggests that the simple act of providing books to families can increase the frequency of reading and may have beneficial effects on interactions around books (Dickinson et al. 2012). It is possible to improve student outcomes with materials that support and build students' emerging literacy skills. The more opportunities children have to read stories and other teaching and learning materials, the quicker they will learn to read.

Table 10.14 provides information about how often children bring their textbooks and other reading materials home from school. The data show that 17 percent of children age 4-15 who were attending school always brought reading materials home, 17 percent of the children brought reading materials home often and

36 percent sometimes. Almost 3 in 10 children (29 percent) never brought any reading material home from school.

Younger children (age 4-6) are less likely than the older children (13-15 years) to bring reading materials home. Urban and female children are more likely to bring reading materials home from school frequently than rural and male children. Regional disparities exist with respect to the frequency with which children bring home reading materials. Children in Greater Accra region (29 percent) are the most likely to always bring home reading materials, whereas children in Upper West are the least likely to do so (4 percent). Children whose parents have a secondary or higher education and those who live in the wealthiest households are generally more likely than other subgroups to bring home reading materials frequently.

Table 10.14 Textbooks and reading materials

Among children age 4-15 who attended school during the 2014-2015 school year, percent distribution of the frequency of bringing home textbooks and other reading materials from school, according to background characteristics, Ghana 2014

Background characteristic	Frequency of bringing home textbooks and other reading materials from school						Number of children age 4-15 who attended school during the 2014-2015 school year
	Always	Often	Sometimes	Never	Don't know/Missing	Total	
Age in years							
4-6	16.0	13.1	27.8	42.2	0.9	100.0	1,223
7-9	16.5	16.3	36.9	30.1	0.3	100.0	1,429
10-12	18.7	17.4	38.5	24.9	0.4	100.0	1,293
13-15	18.4	20.9	41.4	18.5	0.8	100.0	1,207
Sex							
Male	15.3	16.6	36.6	30.9	0.6	100.0	2,555
Female	19.4	17.2	35.8	27.1	0.5	100.0	2,596
Residence							
Urban	23.6	20.7	30.5	24.4	0.8	100.0	2,425
Rural	11.8	13.5	41.3	33.1	0.4	100.0	2,727
Region							
Western	21.1	27.6	20.6	30.1	0.6	100.0	560
Central	16.3	17.5	48.0	18.2	0.0	100.0	353
Greater Accra	29.2	21.5	26.2	22.2	0.8	100.0	824
Volta	15.5	10.5	39.9	33.9	0.2	100.0	488
Eastern	20.8	15.3	37.5	25.5	0.8	100.0	515
Ashanti	18.9	20.9	35.6	24.3	0.3	100.0	1,009
Brong Ahafo	10.5	13.3	36.4	39.0	0.8	100.0	485
Northern	4.8	6.9	52.7	34.9	0.7	100.0	522
Upper East	9.6	10.0	43.4	35.5	1.5	100.0	232
Upper West	4.2	6.9	38.3	50.1	0.5	100.0	163
Mother's/father's/ caretaker's education							
No education	8.5	12.1	43.5	35.2	0.7	100.0	1,502
Primary	12.7	14.3	43.6	28.4	1.0	100.0	888
Middle/JSS/JHS	20.2	19.8	32.9	26.8	0.2	100.0	2,026
Secondary+	33.2	21.8	21.3	22.8	0.8	100.0	735
Wealth quintile							
Lowest	6.3	8.5	46.7	37.8	0.6	100.0	1,103
Second	9.7	13.6	42.8	33.6	0.3	100.0	1,052
Middle	15.3	16.4	37.3	30.4	0.6	100.0	1,098
Fourth	22.4	23.2	30.6	22.9	0.9	100.0	1,004
Highest	37.0	24.6	20.3	17.6	0.5	100.0	894
Total	17.4	16.9	36.2	29.0	0.6	100.0	5,152

Note: Total includes one child for whom information on mother's/father's/caretaker's education is missing.

10.9.3 Language for Education

The opportunity for children to use their local language has implications for their educational and cognitive development. It is argued that the use of a language other than the child's local language in education threatens their academic development and deprives them of many social advantages. However, formulating and implementing language policies of education in Ghana especially at the lower primary level has been a contentious issue at social and political levels. Parents have expressed different opinions regarding the language of instruction to be used in primary schools in the country. One school of thought suggests the

use of English only as the language of instruction, while others have proposed the use of the local languages and yet some think a combination of both the English and local languages will suffice.

In Ghana, the language of instruction at lower primary school level is English combined with the local language, while that of the upper primary is English. For those who propose the use of local languages, using the mother tongue in early education will lead to a better understanding of the curriculum content and to a more positive attitude towards school. However, opponents to this idea think that it will be very costly and also be impossible to draw up a uniform code of instruction as there are more than 40 local languages in the country.

Table 10.15 shows that for 56 percent of children age 4-15, parents/caretakers want their children to be taught in both English and a local language, for 36 percent of children parents/caretakers want them to be taught in English only, and for only 6 percent parents/caretakers want children to be taught in a local language only.

The percentage of children living in households where parents/caretakers want them to be taught in both English and a local language is almost the same in urban and in rural areas (57 percent and 56 percent, respectively). Parents'/caretakers' preference for teaching children in English and a local language is highest among children living in Upper West and Volta regions (66-68 percent), children whose parents have primary or more education (57-58 percent), and those living in the wealthiest households (60 percent).

Table 10.15 Language for education

Percent distribution of children age 4-15 by the language in which the parent/caretaker wants their child to be taught in, according to background characteristics, Ghana 2014

| Background characteristic | Language in which the parent/caretaker wants their child to be taught in | | | | | Number of children age 4-15 |
	Home language other than English	English	Both languages	Don't know/Missing	Total	
Age in years						
4-6	5.4	36.4	56.4	1.8	100.0	1,589
7-9	5.8	34.5	58.4	1.3	100.0	1,733
10-12	6.7	36.7	55.6	1.0	100.0	1,568
13-15	6.9	36.6	55.2	1.3	100.0	1,619
Sex						
Male	6.3	35.4	56.9	1.3	100.0	3,242
Female	6.1	36.6	56.0	1.4	100.0	3,267
Residence						
Urban	9.1	33.0	57.2	0.7	100.0	3,003
Rural	3.7	38.6	55.8	1.9	100.0	3,506
Region						
Western	3.6	44.6	50.8	1.0	100.0	623
Central	8.9	30.8	59.8	0.5	100.0	664
Greater Accra	4.8	33.5	60.8	0.8	100.0	1,064
Volta	2.0	29.3	68.0	0.7	100.0	564
Eastern	2.7	31.5	64.3	1.5	100.0	638
Ashanti	14.2	34.8	50.7	0.3	100.0	1,225
Brong Ahafo	10.2	53.9	34.9	0.9	100.0	571
Northern	0.6	36.6	57.7	5.0	100.0	671
Upper East	1.4	34.9	61.9	1.8	100.0	290
Upper West	0.7	28.9	66.1	4.3	100.0	198
Mother's/father's/ caretaker's education						
No education	6.0	37.5	53.6	2.9	100.0	2,057
Primary	6.0	35.8	56.9	1.3	100.0	1,152
Middle/JSS/JHS	6.1	35.2	58.1	0.5	100.0	2,440
Secondary+	7.1	34.9	57.8	0.2	100.0	859
Wealth quintile						
Lowest	2.9	38.6	54.8	3.7	100.0	1,477
Second	4.2	39.6	55.4	0.8	100.0	1,413
Middle	7.1	35.3	56.6	1.0	100.0	1,338
Fourth	9.7	34.0	56.1	0.2	100.0	1,216
Highest	8.2	30.8	60.4	0.6	100.0	1,064
Total	6.2	36.0	56.4	1.4	100.0	6,509

Note: Total includes 1 child for whom information on mother's/father's/caretaker's education is missing.

10.9.4 Travel to School

Being able to move from home to school with ease is important for the child. Each day during the school term pupils and their parents travel from home to school in the morning and make the return trip later in the day. Many pupils living close to school walk, with those living farther away travelling mainly by bus or car.

Table 10.16 shows that the majority of children age 4-15 years who attended school in the 2014-2015 school year (84 percent) walked to school, 13 percent of the children commuted to school by bus or car, and 2 percent went to school on bicycle. Younger children age 4-6 years are slightly less likely to walk to school than older children (81 percent compared with 85-86 percent), and more likely to go to school by bus or car (17 percent of children age 4-6 versus 12-13 percent of older children). Older children age 13-15 are slightly more likely than younger children age 4-6 to go to school by bicycle (3 percent and 1 percent, respectively).

In terms of residence, 90 percent of children in rural areas and 77 percent of children in urban areas went to school on foot. Children in Upper West and Northern regions (94-95 percent) are the most likely to walk to school and those in Ashanti and Greater Accra (75-76 percent) are the least likely to do so.

Table 10.16 also shows that children whose parents/caretakers have no education are more likely than those whose parents/caretakers have a secondary or higher education to walk to school (94 and 62 percent, respectively). Similarly, the percentage who walk to school is highest among children from the poorest households (95 percent) and lowest among those living in the wealthiest households (59 percent).

The distance between home and school, and the ease with which pupils can access transport to school, often affects a child's ability to attend school regularly. A child who is already tired before beginning classroom activities will find it difficult to comprehend the learning activities. Data show that 68 percent of school children age 4-15 travel for less than 20 minutes to get to school. About one-third spend more than 20 minutes to get to school: 24 percent spend 21-40 minutes, and 8 percent spend more than 40 minutes.

Generally, older children spend a longer time to get to school than younger children. Three-quarters of school children in Brong Ahafo (77 percent) traveled to school for less than 20 minutes compared with about half (54 percent) of children in Upper West.

Table 10.16 Travel to school

Percent distribution of children age 4-15 who attended school in the 2014-2015 school year by the usual mode they get to school and the time it takes to get to school, according to background characteristics, Ghana 2014

Background characteristic	The usual mode to get to school						The time it takes to get to school								Number of children age 4-15 who attended school during the 2014-2015 school year
	By foot	By bicycle	By bus/car	By motor-bike	Other/ Missing	Total	<20 minutes	21-40 minutes	41-60 minutes	61-90 minutes	1.5-3 hours	More than 3 hours	Don't know/ Missing	Total	
Age in years															
4-6	80.9	1.0	16.5	1.4	0.2	100.0	71.8	21.8	5.1	0.9	0.0	0.0	0.4	100.0	1,223
7-9	84.9	1.2	13.2	0.7	0.0	100.0	70.8	22.3	5.1	1.1	0.0	0.0	0.6	100.0	1,429
10-12	86.0	1.5	12.0	0.2	0.3	100.0	67.5	24.3	6.8	1.1	0.2	0.0	0.0	100.0	1,293
13-15	84.7	2.9	12.2	0.0	0.2	100.0	60.5	27.3	8.6	2.5	0.6	0.0	0.4	100.0	1,207
Sex															
Male	83.7	2.0	13.5	0.6	0.1	100.0	66.7	23.8	6.8	1.8	0.4	0.0	0.5	100.0	2,555
Female	84.7	1.2	13.3	0.6	0.1	100.0	68.9	23.9	5.9	1.1	0.1	0.0	0.3	100.0	2,596
Residence															
Urban	77.4	1.1	20.5	0.8	0.1	100.0	68.8	24.8	5.5	0.4	0.0	0.0	0.4	100.0	2,425
Rural	90.2	2.1	7.1	0.4	0.1	100.0	66.9	23.0	7.1	2.3	0.4	0.0	0.3	100.0	2,727
Region															
Western	85.2	0.8	13.9	0.1	0.1	100.0	70.5	21.1	6.4	1.4	0.4	0.0	0.2	100.0	560
Central	86.0	0.3	13.7	0.0	0.0	100.0	73.4	19.2	6.6	0.9	0.0	0.0	0.0	100.0	353
Greater Accra	76.2	0.1	23.1	0.1	0.4	100.0	64.6	26.6	6.9	1.1	0.0	0.0	0.8	100.0	824
Volta	92.3	2.0	4.1	0.9	0.7	100.0	65.6	24.7	7.6	1.9	0.2	0.0	0.0	100.0	488
Eastern	87.2	0.6	12.0	0.3	0.0	100.0	62.2	27.8	7.2	2.2	0.4	0.0	0.2	100.0	515
Ashanti	74.9	0.6	24.5	0.0	0.0	100.0	70.4	24.8	3.8	0.7	0.1	0.0	0.2	100.0	1,009
Brong Ahafo	86.6	4.2	8.2	1.0	0.0	100.0	76.7	19.0	3.1	1.0	0.0	0.0	0.2	100.0	485
Northern	94.8	2.8	0.7	1.6	0.0	100.0	70.3	18.1	7.8	1.7	0.8	0.1	1.2	100.0	522
Upper East	87.7	8.6	0.1	3.3	0.2	100.0	55.6	33.1	8.0	2.2	0.3	0.0	0.8	100.0	232
Upper West	94.4	2.1	1.9	1.6	0.0	100.0	53.5	28.0	14.5	4.0	0.0	0.0	0.0	100.0	163
Mother's/father's/ caretaker's education															
No education	93.6	2.2	3.3	0.7	0.1	100.0	67.0	22.5	7.5	2.2	0.4	0.0	0.4	100.0	1,502
Primary	93.7	1.6	4.3	0.5	0.0	100.0	65.2	26.1	5.6	2.1	0.3	0.0	0.8	100.0	888
Middle/JSS/JHS	81.1	1.0	17.2	0.5	0.2	100.0	68.2	24.8	6.2	0.7	0.1	0.0	0.1	100.0	2,026
Secondary+	62.1	2.1	34.5	1.1	0.2	100.0	71.7	21.2	5.3	1.1	0.0	0.0	0.6	100.0	735
Wealth quintile															
Lowest	95.4	3.2	0.2	0.8	0.4	100.0	60.1	25.7	8.9	3.8	0.8	0.0	0.8	100.0	1,103
Second	92.9	1.5	5.3	0.3	0.0	100.0	69.6	22.4	5.9	1.8	0.1	0.0	0.2	100.0	1,052
Middle	89.0	1.6	9.0	0.5	0.0	100.0	72.1	21.1	5.9	0.6	0.1	0.0	0.2	100.0	1,098
Fourth	79.9	0.9	17.8	1.1	0.2	100.0	69.1	25.7	4.3	0.2	0.0	0.0	0.5	100.0	1,004
Highest	59.1	0.8	39.8	0.3	0.1	100.0	68.4	24.5	6.5	0.3	0.1	0.0	0.2	100.0	894
Total	84.2	1.6	13.4	0.6	0.1	100.0	67.8	23.8	6.3	1.4	0.2	0.0	0.4	100.0	5,152

Note: Total includes one child for whom information on mother's/father's/caretaker's education is missing.

NUTRITION OF CHILDREN AND WOMEN 11

Key Findings:

- Among Ghanaian children under age 5 at the time of the survey, 19 percent were stunted (short for their age), 5 percent were wasted (thin for their height), and 11 percent were underweight (thin for their age). About 3 percent of children were overweight (heavy for their height).
- Almost all children in Ghana (98 percent) are breastfed at some point in their life. Fifty-two percent of children younger than 6 months were exclusively breastfed. The median duration of exclusive breastfeeding is about four months.
- Seventy-three percent of breastfed children had been given complementary foods by age 6-9 months.
- Only 13 percent of children age 6-23 months meet the minimum standards set by three core infant and young child feeding (IYCF) practices.
- Micronutrient malnutrition is highly prevalent and persistent; 66 percent of children age 6-59 months are anaemic, 27 percent are mildly anaemic, 37 percent are moderately anaemic, and about 2 percent are severely anaemic.
- Forty-two percent of Ghanaian women age 15-49 are anaemic, a reduction from 59 percent in 2008.
- Sixty-six percent of the surveyed households have iodised salt and 39 percent have adequately iodised salt (15+ ppm).

This chapter focuses on the nutritional status of children and adults in Ghana. In the 2014 GDHS survey, height and weight measurements were collected from eligible women, men, and children age 0-59 months in the subsample of households selected for the male survey (half of all households).The chapter shows the nutritional status of children under 5; infant and young child feeding practices, including breastfeeding and feeding with solid/semi-solid foods; diversity of foods fed and frequency of feeding; and micronutrient status, supplementation, and fortification. The discussion also covers the nutritional status of women and men age 15-49.

Adequate nutrition is critical to children's growth and development. The period from birth to age 2 is especially important for physical, mental, and cognitive growth, health, and development. This period is, however, often marked by poor infant and young child feeding practices that result in poor nutrition, including micronutrient deficiencies and repeated episodes of infection that interfere with optimal growth. Childhood illnesses such as diarrhoea and acute respiratory infections (ARIs) are also common. Adequate provision of nutrients, beginning in early stages of life, is crucial to ensure good physical and mental development and long-term health.

A woman's nutritional status has important implications for her health and that of her children. Malnutrition in women results in reduced productivity, increased susceptibility to infections, and slowed recovery from illness. Low body mass index and short stature, anaemia, or other micronutrient deficiencies results in increased risk of complications in pregnancy including poor foetal development, a heightened risk of adverse pregnancy outcomes, and death from postpartum haemorrhage.

11.1 Nutritional Status of Children

The anthropometric data on height and weight collected in the 2014 GDHS permit the measurement and evaluation of the nutritional status of young children in Ghana. This evaluation allows identification of subgroups of the child population that are at increased risk of faltered growth, disease, impaired mental development, and death. Marked differences, especially with regard to height-for-age, weight-for-height, and weight-for-age, are often seen among subgroups of children within the country.

11.1.1 Measurement of Nutritional Status among Young Children

The 2014 GDHS collected data on the nutritional status of children under 5 by measuring their height and weight. Measurements were done in the subsample of households selected for the male survey and biomarker collection, regardless of whether the children's mothers were interviewed in the survey. Data were collected to calculate three indices: height-for-age, weight-for-height, and weight-for-age. Weight measurements were obtained using a SECA 878 digital scale, designed for weighing children and adults. Height measurements were carried out using a Shorr Productions measuring board. Children younger than 24 months were measured lying down on the board (recumbent length), and standing height was measured for older children.

Indicators of the nutritional status of children were calculated using new growth standards published by the World Health Organization (WHO) in 2006. These new growth standards were generated through data collected in the WHO Multicenter Growth Reference Study (WHO 2006). The findings of that study, which sampled 8,440 children in six countries (Brazil, Ghana, India, Norway, Oman, and the United States), describe how children should grow under optimal conditions. The WHO child growth standards can therefore be used to assess children all over the world, regardless of ethnicity, social and economic influences, and feeding practices. The new growth standards replace the previously used NCHS/CDC/WHO reference standards. The three indices are expressed in standard deviation units from the Multicenter Growth Reference Study median.

Each of these indices—height-for-age, weight-for-height, and weight-for-age—provides different information about growth and body composition that can be used to assess nutritional status. The height-for-age index is an indicator of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted), or chronically malnourished. Children who are below minus three standard deviations (-3 SD) are considered severely stunted. Stunting reflects failure to receive adequate nutrition over a long period and is also affected by recurrent and chronic illness. Height-for age, therefore, represents the long-term effects of malnutrition (specifically, undernutrition) in a population and is not sensitive to recent, short-term changes in dietary intake.

The weight-for-height index measures body mass in relation to body height or length and describes current nutritional status. Children whose Z-scores are below -2 SD from the median of the reference population are considered thin (wasted), or acutely malnourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey. It may result from inadequate food intake or a recent episode of illness causing loss of weight and the onset of malnutrition. Children whose weight-for-height is below -3 SD are considered severely wasted.

Overweight and obesity are other forms of malnutrition that are becoming concerns for some children in developing countries. Children whose Z-score values are +2 SD above the median for weight-for-height are considered overweight.

Weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic malnutrition. Children whose weight-for-age is below -2 SD from the median of the reference population are classified as underweight. Children whose weight-for-age is below -3 SD from the median are considered severely underweight.

Z-score means are also calculated as summary statistics representing the nutritional status of children in a population. These mean scores describe the nutritional status of the entire population without the use of a cut-off. A mean Z-score of less than 0 (i.e., a negative value for stunting, wasting, or underweight) suggests that the distribution of an index has shifted downward and, on average, children in the population are less well-nourished than children in the WHO Multicentre Growth Reference Study.

11.1.2 Data Collection

Height and weight measurements were obtained for 3,118 children under age 5 who were present in the 2014 GDHS sample households at the time of the survey. The nutritional status report covers the 97 percent of children for whom complete and credible anthropometric and age data were collected. The analysis of the anthropometric data on height and weight allows the evaluation of the nutritional status of young children and the identification of subgroups of the child population that are at increased risk of faltered growth, disease, impaired mental development, and death.

11.1.3 Levels of Child Malnutrition

Table 11.1 and Figure 11.1 show the percentage of children under 5 classified as malnourished according to the three anthropometric indices of nutritional status (height-for-age, weight-for-height, and weight-for-age). Overall, at the time of the 2014 GDHS, 19 percent of children were stunted, 5 percent were wasted, and 11 percent were underweight.

Height-for-age

Analysis by age group shows that stunting peaks in children age 24-35 months (28 percent) and is lowest (6 percent) in children age 6-8 months (Figure 11.1). Both stunting and severe stunting are slightly higher in male children (20 percent and 5 percent, respectively) than in female children (17 percent and 5 percent, respectively). Children with a preceding birth interval shorter than 24 months are at the highest risk of being stunted (29 percent) when compared with the first-born children and children with a preceding birth interval longer than 24 months. Forty percent of children whose size at birth was reported by mothers to be very small are stunted, which is twice the national average of stunting. Children in rural areas are more likely to be stunted (22 percent) than those in urban areas (15 percent). Regional variations are apparent, with stunting prevalence being the highest in Northern region (33 percent) and the lowest in the Greater Accra region (10 percent). Mother's educational level generally has an inverse relationship with children's stunting: the proportion of stunting declines drastically from 26 percent among children of mothers with no education to only 4 percent among children whose mothers have a secondary or higher education. A similar inverse relationship is observed between household wealth and stunting levels. Children in the poorest households are almost three times as likely to be stunted as children in the wealthiest households (25 percent versus 9 percent).

Weight-for-height

Table 11.1 indicates that wasting is highest in children 9-11 months (11 percent) and lowest in children 36-47 months (1 percent). Female children are more likely to be wasted (5 percent) than male children (4 percent). As is the case with stunting, children who were reportedly very small at birth are most likely to be wasted (8 percent) when compared with other children. By residence, children residing in urban areas are slightly less likely to be wasted than children in rural areas (4 percent versus 6 percent). Wasting levels in children across regions exist, ranging from a low of 3 percent among children in Volta to 9 percent among children in Upper East. There is no clear correlation between other background characteristics such as mother's education or wealth and wasting levels.

Table 11.1 Nutritional status of children

Percentage of children under 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Ghana 2014

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Number of children
Age (in months)												
<6	3.3	8.0	-0.1	1.4	6.9	3.7	-0.2	0.8	4.2	1.7	-0.3	301
6-8	1.4	5.9	-0.4	2.4	10.2	3.2	-0.4	2.9	13.1	2.1	-0.6	139
9-11	1.3	10.5	-0.5	1.9	10.6	1.9	-0.6	2.5	12.5	1.2	-0.7	142
12-17	3.7	12.7	-0.8	1.3	5.1	3.0	-0.5	2.1	11.3	2.8	-0.7	302
18-23	6.4	21.9	-1.1	0.5	8.1	3.3	-0.3	2.7	14.6	1.3	-0.8	287
24-35	6.6	28.2	-1.3	0.5	4.3	2.8	-0.2	2.3	13.8	1.3	-0.8	575
36-47	5.2	22.9	-1.1	0.1	1.4	3.1	-0.0	1.1	11.2	1.1	-0.7	573
48-59	5.5	17.7	-1.1	0.1	2.4	0.9	-0.3	0.9	8.9	0.0	-0.8	576
Sex												
Male	5.3	20.4	-1.0	0.8	4.3	3.6	-0.2	1.8	10.6	1.4	-0.7	1,514
Female	4.5	17.0	-0.9	0.5	5.1	1.6	-0.3	1.6	11.6	1.0	-0.7	1,381
Birth interval in months[3]												
First birth[4]	3.6	16.9	-0.9	0.5	3.7	1.9	-0.3	1.2	11.9	0.8	-0.7	607
<24	10.2	28.7	-1.3	1.0	5.2	3.4	-0.2	5.1	17.5	2.3	-0.9	242
24-47	5.3	18.9	-0.9	0.8	4.8	2.9	-0.2	1.4	9.9	1.0	-0.7	977
48+	3.3	14.3	-0.8	0.7	5.2	3.0	-0.3	1.2	8.9	1.6	-0.7	768
Size at birth[3]												
Very small	10.7	39.8	-1.6	0.0	7.6	0.8	-0.6	4.1	29.4	0.0	-1.3	106
Small	6.5	18.3	-1.2	3.3	7.2	1.7	-0.6	3.7	17.9	0.5	-1.1	271
Average or larger	4.2	16.8	-0.9	0.4	4.2	3.0	-0.2	1.2	9.0	1.4	-0.6	2,213
Mother's interview status												
Interviewed	4.8	18.0	-0.9	0.7	4.7	2.7	-0.2	1.7	10.8	1.2	-0.7	2,593
Not interviewed but in household	4.0	21.5	-1.1	0.0	1.9	2.4	-0.2	2.8	8.6	0.0	-0.8	62
Not interviewed and not in the household[5]	6.8	26.5	-1.1	0.3	5.1	1.4	-0.2	1.6	14.3	1.2	-0.8	240
Mother's nutritional status[6]												
Thin (BMI<18.5)	8.6	21.5	-1.3	1.4	7.4	1.5	-0.7	4.4	21.7	0.0	-1.2	107
Normal (BMI 18.5-24.9)	6.4	22.8	-1.1	1.0	6.0	2.6	-0.3	1.9	14.7	0.9	-0.8	1,255
Overweight/ obese (BMI ≥ 25)	2.1	10.4	-0.6	0.4	3.3	3.0	-0.1	0.8	4.8	1.8	-0.4	873
Residence												
Urban	3.1	14.8	-0.7	0.6	3.5	3.4	-0.2	1.4	8.6	1.9	-0.6	1,320
Rural	6.5	22.1	-1.1	0.8	5.6	1.9	-0.3	1.9	13.1	0.7	-0.8	1,575
Region												
Western	5.5	17.7	-1.0	0.0	3.9	1.5	-0.3	1.9	10.6	1.1	-0.8	306
Central	8.6	22.0	-1.1	0.6	7.7	4.6	-0.2	2.3	13.9	1.0	-0.8	340
Greater Accra	1.5	10.4	-0.5	0.8	3.7	5.2	-0.0	0.4	8.7	3.3	-0.3	424
Volta	6.2	19.3	-1.0	0.0	2.5	4.2	-0.2	1.5	10.5	2.4	-0.7	215
Eastern	4.0	17.0	-0.9	0.6	3.2	1.6	-0.2	0.8	7.9	0.8	-0.6	273
Ashanti	2.3	16.1	-0.8	0.7	3.5	1.5	-0.2	1.6	9.4	0.9	-0.6	496
Brong Ahafo	2.6	17.2	-0.9	0.4	4.5	1.4	-0.3	0.7	5.9	0.5	-0.7	284
Northern	10.7	33.1	-1.4	1.6	6.3	1.3	-0.4	3.6	20.0	0.2	-1.1	360
Upper East	3.5	14.4	-0.9	1.0	9.4	1.4	-0.5	2.5	10.8	0.0	-0.9	118
Upper West	5.7	22.2	-1.0	1.4	4.4	2.8	-0.3	1.9	13.5	0.3	-0.8	78
Mother's education[7]												
No education	8.6	25.6	-1.2	0.9	5.2	2.6	-0.3	2.8	14.2	0.7	-0.9	780
Primary	5.3	19.8	-1.0	1.3	3.8	2.4	-0.2	1.0	11.6	0.5	-0.7	519
Middle/JSS/JHS	2.7	16.1	-0.9	0.5	4.5	2.5	-0.2	1.6	9.7	1.6	-0.7	1,027
Secondary+	1.3	3.6	-0.3	0.0	5.0	4.1	-0.1	0.4	4.6	2.4	-0.3	328
Wealth quintile												
Lowest	7.6	24.8	-1.2	1.1	6.1	1.5	-0.4	2.7	15.6	0.5	-1.0	665
Second	8.2	25.5	-1.2	0.9	3.8	3.3	-0.2	1.9	13.3	0.7	-0.8	591
Middle	4.2	17.9	-0.9	0.5	2.2	2.0	-0.2	1.0	7.2	0.6	-0.7	603
Fourth	2.2	14.4	-0.8	0.3	6.8	2.1	-0.3	1.3	11.6	1.7	-0.7	540
Highest	1.3	8.5	-0.4	0.4	4.3	4.6	-0.1	1.3	6.3	3.1	-0.3	496
Total	4.9	18.8	-0.9	0.7	4.7	2.6	-0.2	1.7	11.0	1.2	-0.7	2,895

Note: Table is based on children who stayed in the household on the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used NCHS/CDC/WHO reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. The total includes four children for whom information on size at birth is missing.
[1] 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 87 cm; standing height is measured for all other children.
[2] Includes children who are below -3 standard deviations (SD) from the WHO Child Growth standards population median
[3] Excludes children whose mothers were not interviewed
[4] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval
[5] Includes children whose mothers are deceased
[6] Excludes children whose mothers were not weighed and measured, children whose mothers were not interviewed, and children whose mothers were pregnant or gave birth within the preceding 2 months. Mother's nutritional status in terms of BMI (body mass index) is presented in Table 11.10.1.
[7] For women who are not interviewed, information is taken from the Household Questionnaire. Excluded are children whose mothers are not listed in the Household Questionnaire.

Weight-for-age

In Ghana, the peak levels of low weight-for-age are found among children 18-23 months (15 percent), followed by those age 24-35 months (14 percent). There are no major differences by gender. The percentage of children who are underweight shows a strong correlation with child's size at birth as perceived by mothers.

Children born to thin mothers (BMI < 18.5) are more than four times as likely to be underweight (22 percent) as children born to mothers who are overweight/obese (5 percent). Children living in rural areas are more likely to be underweight than those in urban areas (13 percent and 9 percent, respectively). The proportion of underweight children ranges from 6 percent in the Brong Ahafo region to 20 percent in the Northern region. Children born to mothers with little or no education are substantially more likely to be underweight than children of more educated women.

Figure 11.1 Nutritional status of children by age
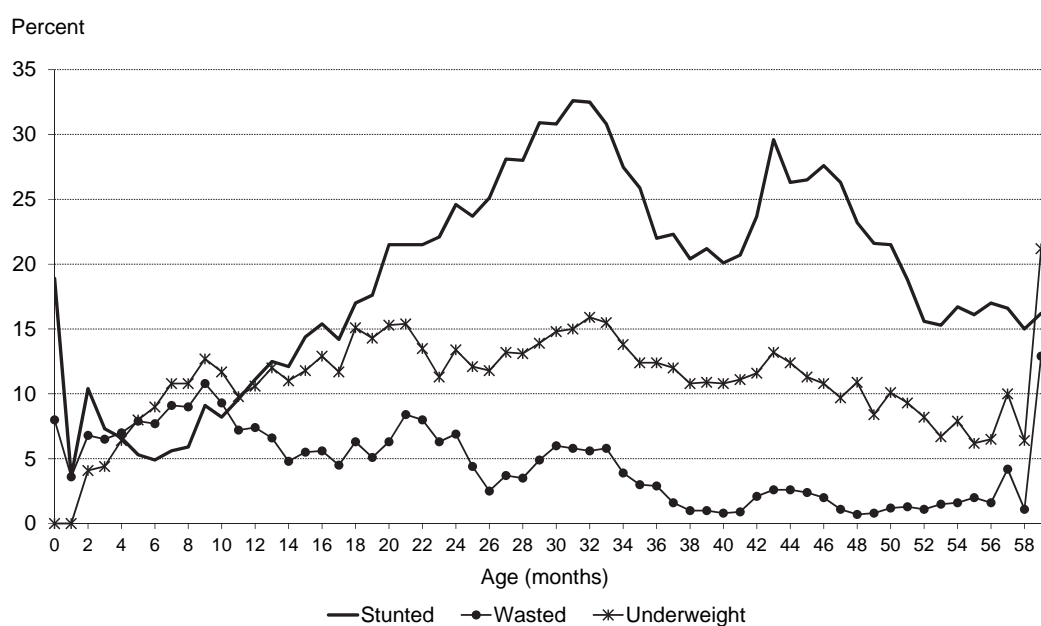
Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

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11.1.4 Trends in Children's Nutritional Status

Figure 11.2 displays the trends in the proportion of children under 5 who are stunted, wasted, or underweight between the 2003 and 2014 GDHS surveys. The data show a downward trend and reveal that all three nutritional status indices have improved in the last decade.

The proportion of stunted children has decreased steadily from 35 percent in 2003 to 19 percent in 2014. The proportion of wasted children has decreased from 8 percent in 2003 and 9 percent in 2008, to 5 percent in 2014. The proportion of underweight children has decreased from 18 percent in 2003 to the current level of 11 percent. Overweight among children fluctuated between 4-5 percent between 2003 and 2008, and is currently at 3 percent.

Figure 11.2 Trends in nutritional status of children under age 5, Ghana 2003-2014

Percent

Note: *Stunting* reflects chronic malnutrition; *Wasting* reflects acute malnutrition; *Underweight* reflects chronic or acute malnutrition or a combination of both. Data are based on the WHO Child Growth Standards (2006).
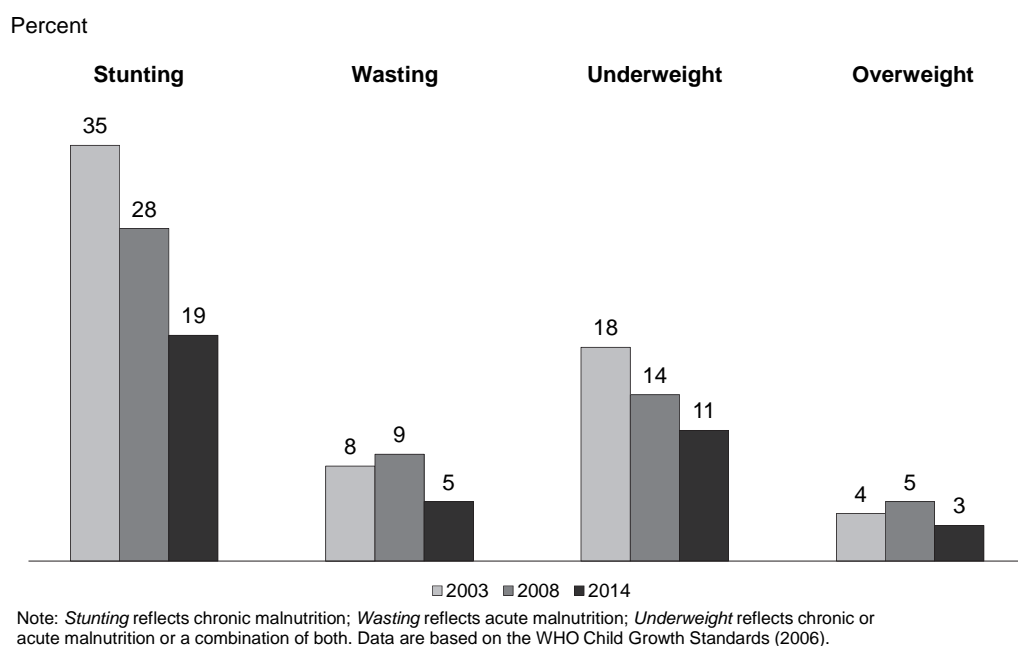
11.2 BREASTFEEDING AND COMPLEMENTARY FEEDING

Optimal feeding is critical to ensure adequate growth and child development, nutritional status, health and, thus, the survival of infants and young children. GDHS data can be used to evaluate infant feeding practices, including breastfeeding duration, introduction of complementary weaning foods, and use of feeding bottles. The pattern of infant feeding has important influences on both the child and the mother. Feeding practices are the principal determinants of a child's nutritional status. Poor nutritional status in young children exposes them to greater risks of morbidity. Biologically, breastfeeding suppresses the mother's return to fertile status and affects the length of the birth interval as well as the level of fertility. These effects are influenced by both the duration and frequency of breastfeeding and the age at which the child receives foods and liquids to complement breast milk.

11.2.1 Initiation of Breastfeeding

Early initiation of breastfeeding is important for both the mother and the child. Early suckling stimulates the release of prolactin, which helps in the production of milk, and oxytocin, which is responsible for the ejection of milk. It also stimulates contraction of the uterus after childbirth and reduces postpartum blood loss. The first milk known as colostrum, produced in the first few days after delivery, is highly nutritious and contains antibodies that provide natural immunity to the infant. It is recommended that children be fed colostrum immediately after birth (within one hour) and that they continue to be exclusively breastfed even if the regular breast milk has not yet started to flow.

Table 11.2 presents the percentage of last-born children born in the two years preceding the survey according to whether they were ever breastfed, when they began breastfeeding, and whether they were fed anything other than breast milk prior to the start of breastfeeding. Breastfeeding is almost universal in Ghana and over 98 percent of lastborn children born in the past two years preceding the 2014 GDHS have been breastfed at some point in time. The differences in any breastfeeding by background characteristic are minor.

More than half (56 percent) of children are breastfed within one hour of birth, while almost 9 in 10 (87 percent) are breastfed within one day of birth. Initiation of breastfeeding within one hour varies more

substantially by region and by the person who provided assistance at delivery. Mothers residing in Northern and Upper East regions are most likely to initiate breastfeeding within one hour of birth (65 percent each), while those in Upper West are the least likely (41 percent). Women whose births were assisted by a traditional birth attendant are the most likely to have started breastfeeding early (62 percent) and those whose deliveries were not assisted by anyone are the least likely (34 percent).

The practice of providing a prelacteal feed to the newborn is not recommended because it exposes the baby to the risk of infection and may limit the frequency of suckling by the infant, which is a key in successful establishment of breastfeeding. Among last-born children, born in the two years immediately preceding the survey who were ever breastfed, 15 percent received a prelacteal feed. The highest proportion of last-born children who received a prelacteal feed were children residing in urban areas (18 percent) and those in the wealthiest households (24 percent).

Table 11.2 Initial breastfeeding

Among last-born children who were born in the two years preceding the survey, the percentage who were ever breastfed and the percentages who started breastfeeding within one hour and within one day of birth; and among last-born children born in the two years preceding the survey who were ever breastfed, the percentage who received a prelacteal feed, by background characteristics, Ghana 2014

	Among last-born children born in the past two years:				Among last-born children born in the past two years who were ever breastfed:	
Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Number of last-born children	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	98.3	54.5	86.1	1,170	15.2	1,150
Female	98.5	56.8	88.7	1,093	14.9	1,077
Assistance at delivery						
Health professional[3]	98.3	56.8	87.1	1,706	14.8	1,676
Traditional birth attendant	98.9	62.4	88.7	337	17.3	334
Other	97.7	37.5	87.3	156	11.8	152
No one	100.0	34.1	87.3	65	16.6	65
Place of delivery						
Health facility	98.3	56.6	87.0	1,691	14.8	1,662
At home	98.8	53.1	88.5	565	15.4	559
Residence						
Urban	98.2	54.5	84.6	1,009	18.0	991
Rural	98.5	56.5	89.5	1,255	12.7	1,236
Region						
Western	98.1	62.0	87.4	217	17.1	213
Central	99.4	60.9	90.6	258	16.5	257
Greater Accra	98.3	52.8	82.1	332	18.8	326
Volta	97.6	44.1	87.8	177	6.4	173
Eastern	98.3	50.7	82.5	206	17.2	203
Ashanti	97.7	50.0	86.9	397	16.6	388
Brong Ahafo	96.7	59.2	84.6	214	13.6	206
Northern	99.6	64.7	91.3	304	17.0	302
Upper East	99.4	65.2	97.9	95	4.3	95
Upper West	100.0	40.6	92.2	64	1.6	64
Mother's education						
No education	99.3	58.8	91.9	606	12.1	601
Primary	97.7	52.8	88.4	431	12.5	421
Middle/JSS/JHS	98.4	55.2	85.8	903	16.0	888
Secondary+	97.5	54.4	81.7	324	21.5	316
Wealth quintile						
Lowest	98.4	58.6	91.5	519	11.0	511
Second	98.6	56.2	90.2	474	13.6	468
Middle	98.2	51.0	87.5	433	14.8	426
Fourth	98.8	57.7	86.3	444	13.9	439
Highest	97.8	53.7	79.3	393	23.9	384
Total	98.4	55.6	87.3	2,264	15.1	2,227

Note: Table is based on last-born children born in the two years preceding the survey regardless of whether the children are living or dead at the time of interview. Total includes 1 child for whom information on place of delivery is missing. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes children who started breastfeeding within one hour of birth
[2] Children given something other than breast milk during the first three days of life
[3] Doctor, nurse/midwife, or community health officer/nurse

The trends data on initiation of breastfeeding indicate that the proportion of children ever breastfed has remained stable around 98 percent over the past decade. The percentage of children who started breastfeeding within one hour of birth, however, has increased from 46 percent in 2003 to 52 percent in 2008, and further to 56 percent in 2014. Giving prelacteal feed to newborns, which is discouraged, has shown a slow decline from 20 percent in 2003, to 18 percent in 2008, and to 15 percent in 2014.

11.3 BREASTFEEDING STATUS BY AGE

UNICEF and WHO recommend that children be exclusively breastfed during the first six months of life and that they be given age-appropriate solid or semi-solid complementary food in addition to continued breastfeeding from age 6 months to at least age 24 months. Exclusive breastfeeding is recommended because breast milk is uncontaminated and contains all of the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to diseases or infections. Early supplementation is discouraged for several reasons. First, it exposes infants to pathogens and increases their risk of infection. Second, it decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production. Third, in low-resource settings, supplementary food is often nutritionally inferior.

The Ghana national IYCF strategy promotes exclusive breastfeeding through age 6 months and, thereafter, the introduction of semi-solid or solid foods along with continued breast milk until the child is at least two years old. To create the environment that will enable mothers, families, and other caregivers in all circumstances to make informed choices about optimal feeding practices in particular, work has been done to promote breastfeeding, enforce the International Code of Marketing of Breast milk Substitutes, implement maternal protection laws, and promote baby-friendly hospitals across the country.

Table 11.3 and Figure 11.3 show breastfeeding practices by child's age. Data show that duration of breastfeeding is long in Ghana; almost 9 in 10 children are breastfed until age 12-15 months. More than half (52 percent) of children under 6 months are exclusively breastfed. However, only 36 percent are continued to exclusively breastfeed at 4-5 months.

The recommended age for introduction of complementary foods is six months; almost three-quarters (73 percent) of children 6-8 months were given complementary foods. Twelve percent of children age 2-3 months and 34 percent of children age 4-5 months also received complementary foods, which is not recommended for these younger age groups.

The use of a bottle with a nipple, regardless of the contents (breastmilk, formula, or any other liquid), requires hygienic handling to avoid contamination that may place the infant at risk of infection. The survey results show that 16 percent of infants less than 6 months are fed using a bottle with a nipple; the percentage goes up to 28 percent among children age 6-9 months.

Trends data on breastfeeding indicate that the percentage of children 0-5 months who are exclusively breastfed has decreased by 17 percent between 2008 and 2014, from 63 percent to 52 percent. The percentages of young children who are bottle fed appear to have increased over the past decade. In 2003 and 2008, 11 percent and 12 percent children under 6 months, respectively, were fed with bottles with nipples; this percentage has increased to 16 percent in 2014.

Table 11.3 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother by breastfeeding status, the percentage currently breastfeeding; and the percentage of all children under age 2 using a bottle with a nipple, according to age (in months), Ghana 2014

		Breastfeeding status									
Age (in months)	Not breast-feeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods	Total	Percent-age currently breast-feeding	Number of youngest child under two years living with their mother	Percent-age using a bottle with a nipple	Number of all children under two years
0-1	0.0	78.4	8.9	4.1	5.9	2.8	100.0	100.0	131	4.5	132
2-3	0.4	53.1	22.8	4.3	6.9	12.4	100.0	99.6	207	17.2	211
4-5	1.5	36.2	17.8	4.1	6.8	33.6	100.0	98.5	223	21.6	227
6-8	0.5	5.7	15.7	2.7	2.8	72.6	100.0	99.5	309	28.9	317
9-11	1.6	0.7	8.2	0.4	0.0	89.0	100.0	98.4	270	18.0	275
12-17	9.3	0.7	4.6	1.0	0.0	84.4	100.0	90.7	563	10.1	574
18-23	40.8	0.1	1.9	0.9	0.2	56.1	100.0	59.2	498	6.0	540
0-3	0.3	62.9	17.4	4.2	6.5	8.7	100.0	99.7	338	12.3	344
0-5	0.8	52.3	17.6	4.2	6.6	18.6	100.0	99.2	561	16.0	571
6-9	0.6	4.5	14.8	2.3	2.2	75.7	100.0	99.4	395	27.6	403
12-15	5.4	0.7	5.4	1.5	0.0	87.0	100.0	94.6	369	11.4	373
12-23	24.1	0.4	3.4	1.0	0.1	71.1	100.0	75.9	1,062	8.1	1,113
20-23	49.9	0.1	0.5	0.4	0.0	49.0	100.0	50.1	331	4.4	368

Note: Breastfeeding status refers to a 24-hour period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids, 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.
[1] Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Figure 11.3 Infant feeding practices by age
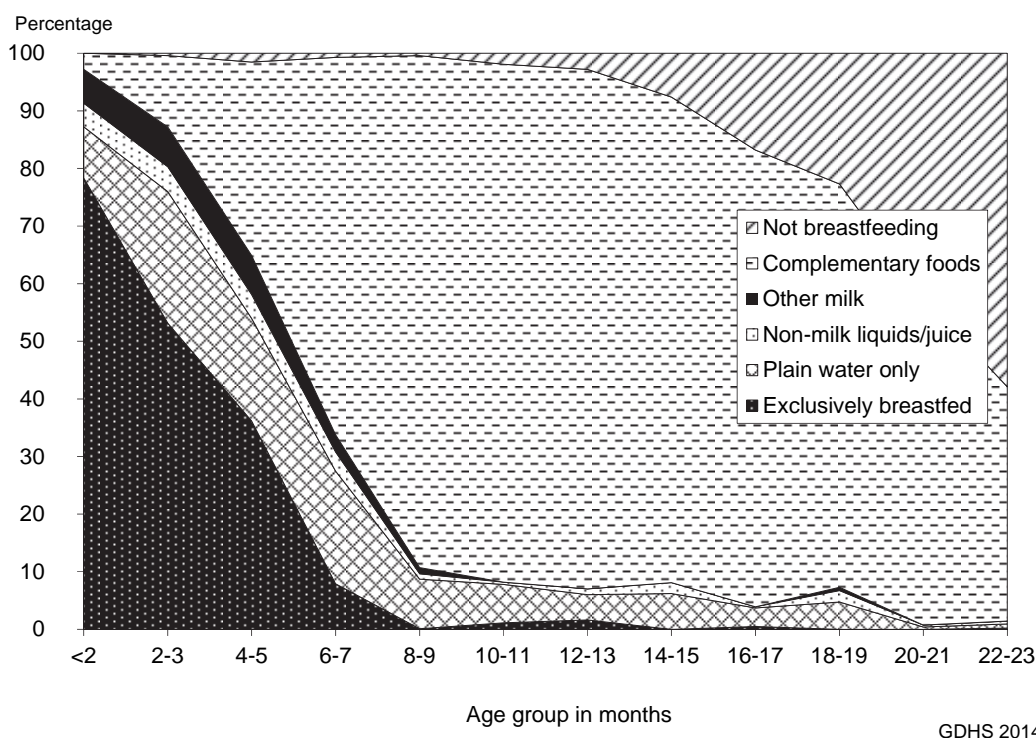
GDHS 2014

Figure 11.4 presents 2014 GDHS results on infant and young child feeding (IYCF) indicators related to breastfeeding status. Detailed descriptions of these indicators can be found in WHO publications (WHO 2008; WHO 2010). As noted previously and as shown in Figure 11.4, 52 percent of children under age 6 months and 36 percent of those age 4-5 months are exclusively breastfed. Ninety-five percent of all children are still breastfeeding at age 1, and 50 percent are still breastfeeding at age 2. Sixty-nine percent

of children age 0-23 months are breastfed appropriately for their age. This includes exclusive breastfeeding for children age 0-5 months and continued breastfeeding along with complementary foods for children age 6-23 months. More than 7 in 10 children under age 6 months (74 percent) are predominantly breastfed. This percentage includes children who are exclusively breastfed and those who receive breast milk and only plain water or non-milk liquids such as juice. Finally, 14 percent of children under age 2 are bottle fed.

Figure 11.4 **IYCF indicators on breastfeeding status**

Percentage of children
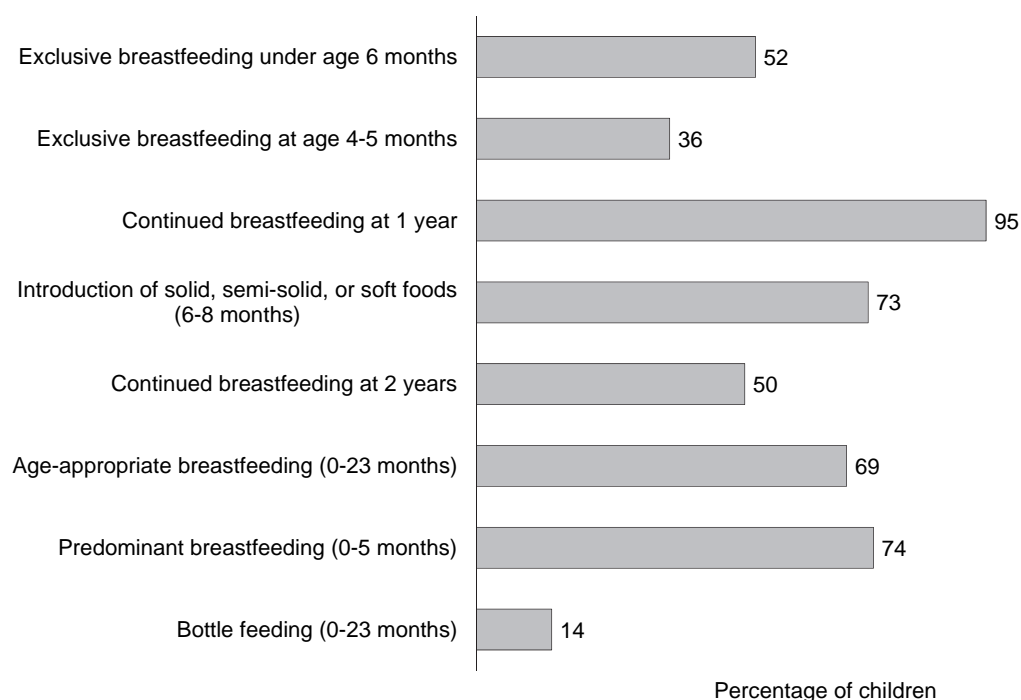
GDHS 2014

11.4 DURATION OF BREASTFEEDING

Table 11.4 provides information on the median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey. The median duration of any breastfeeding is 20.9 months and the mean duration of breastfeeding is 21.2 months. By background characteristics, the most noticeable difference in the median duration of breastfeeding is observed by wealth status, where the median duration ranges from 18.9 months in the richest households to 24.2 months in the poorest households.

The median duration of exclusive breastfeeding for all children is only 2.5 months, and the mean duration is 3.9 months, slightly lower than the figures reported in the 2008 GDHS (3.3 months and 4.4 months, respectively).

Table 11.4 Median duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, by background characteristics, Ghana 2014

| Background characteristic | Median duration (months) of breastfeeding among children born in the past three years[1] | | |
	Any breastfeeding	Exclusive breastfeeding	Predominant breastfeeding[2]
Sex			
Male	20.8	2.6	5.3
Female	20.9	2.4	4.5
Residence			
Urban	19.7	2.4	4.3
Rural	22.0	2.7	5.2
Region			
Western	20.6	*	3.3
Central	20.4	*	5.0
Greater Accra	(18.7)	3.5	5.4
Volta	22.9	3.5	5.5
Eastern	19.6	*	4.8
Ashanti	19.4	*	2.6
Brong Ahafo	21.1	2.5	5.3
Northern	24.8	2.7	7.2
Upper East	23.1	3.9	5.8
Upper West	(24.5)	5.9	7.2
Mother's education			
No education	23.4	2.6	6.3
Primary	21.3	(1.9)	5.0
Middle/JSS/JHS	20.5	2.9	4.1
Secondary+	17.8	*	4.2
Wealth quintile			
Lowest	24.2	3.5	6.4
Second	21.2	*	5.4
Middle	21.3	2.8	4.4
Fourth	19.3	2.6	4.3
Highest	18.9	*	3.2
Total	20.9	2.5	4.9
Mean for all children	21.2	3.9	6.3

Note: Median and mean durations are based on the distributions at the time of the survey of the proportion of births by months since birth. Includes children living and deceased at the time of the survey. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] It is assumed that non-last-born children and last-born children not currently living with the mother are not currently breastfeeding
[2] Either exclusively breastfed or received breast milk and plain water, and/or non-milk liquids only

11.5 TYPES OF COMPLEMENTARY FOODS

After six months, a child requires adequate complementary foods for normal growth as at this age breast milk alone is no longer sufficient to maintain the child's recommended daily allowances of nutritional requirements to enhance growth. Inadequate complementary feeding may lead to malnutrition and frequent illnesses, however, which in turn may lead to death. Complementary feeding is particularly important in sub-Saharan African countries, including Ghana where stunting is highly prevalent and promotion of breastfeeding and appropriate complementary feeding could prevent growth faltering and deaths among children under age 5.

To promote optimal nutrition during this period, promote healthy growth, and foster better development particularly in the first 2 years of a child's life, the Global IYCF Strategy is adapted for and implemented in Ghana. It is intended as a framework for actions to protect, promote, and support appropriate infant and young child feeding. The comprehensive strategy consists of actions to raise awareness through counselling and to provide support for adequate complementary feeding during 6-24 months and continued breastfeeding up to 2 years.

According to Table 11.5, 88 percent of breastfed children age 6-23 months received solid or semi-solid foods in addition to breastmilk during the day or night preceding the interview. The common complementary foods provided include fortified baby foods (19 percent), foods made from grains (78 percent), fruits and vegetables rich in vitamin A (37 percent), other fruits and vegetables (18 percent), and food made from roots and tubers (26 percent). Children are also fed protein-rich foods such as legumes and nuts (12 percent); meat, fish, and poultry (48 percent); and eggs (18 percent). Only 4 percent are given other foods including cheese, yogurt, and other milk products. Liquids fed to children breastfeeding in this age group include other milk (13 percent) and other liquids (27 percent). The use of infant formula is minimal (5 percent).

Among nonbreastfeeding children age 6-23 months, almost everyone received solid or semi-solid foods the previous day. Ninety-four percent of nonbreastfeeding children received foods made from grains; almost 8 in 10 (78 percent) were given meat, fish, poultry, or eggs; 40 percent ate fruits and vegetables other than those rich in vitamin A; 60 percent ate fruits and vegetables rich in vitamin A; and 38 percent consumed food made from roots and tubers.

Table 11.5 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under age 2 who are living with the mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Ghana 2014

	Liquids			Solid or semi-solid foods										
Age (in months)	Infant formula	Other milk[1]	Other liquids[2]	Fortified baby foods	Food made from grains[3]	Fruits and vegetables rich in vitamin A[4]	Other fruits and vegetables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry	Eggs	Cheese, yogurt, other milk product	Any solid or semi-solid food	Number of children
					BREASTFEEDING CHILDREN									
0-1	5.7	2.9	5.5	0.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	131
2-3	6.5	7.8	8.1	2.5	9.8	0.2	0.2	0.5	0.2	0.5	0.2	0.2	12.5	206
4-5	13.8	9.8	9.2	11.8	26.1	1.8	1.4	1.3	1.7	1.7	2.9	2.4	34.1	220
6-8	10.7	16.4	16.7	30.6	54.3	15.8	3.6	7.1	2.2	16.8	7.7	2.1	73.0	308
9-11	4.4	9.3	29.2	22.0	76.0	34.6	13.6	22.1	8.7	45.1	17.8	2.6	90.5	266
12-17	2.8	14.1	28.3	15.3	87.4	45.4	24.9	31.4	17.3	60.2	21.2	6.0	93.0	511
18-23	2.6	10.3	32.7	8.4	88.3	46.2	25.2	39.8	17.3	60.2	23.8	3.4	94.7	295
6-23	4.8	12.9	26.8	18.5	78.0	36.9	18.0	26.0	12.3	47.6	18.1	3.9	88.4	1,380
Total	6.1	11.3	21.4	14.8	59.7	26.5	13.0	18.7	9.0	34.2	13.2	3.1	68.4	1,937
					NONBREASTFEEDING CHILDREN									
0-17	18.3	35.8	46.1	26.2	85.8	51.4	31.6	34.4	25.5	72.8	35.0	17.7	93.2	63
18-23	1.5	20.6	42.3	13.6	94.8	61.4	41.3	38.0	15.8	77.9	32.0	5.5	99.4	203
6-23	4.2	24.6	43.9	16.9	94.2	60.0	39.7	37.7	18.4	77.9	33.2	8.5	99.6	261
Total	5.4	24.2	43.2	16.6	92.7	59.0	39.0	37.1	18.1	76.7	32.7	8.4	98.0	266

Note: Breastfeeding status and food consumed refer to a "24-hour" period (yesterday and last night).
[1] Other milk includes fresh, tinned, and powdered cow or other animal milk.
[2] Doesn't include plain water
[3] Includes fortified baby food
[4] Includes pumpkin, carrots, squash or sweet potatoes, dark green leafy vegetables, mangoes, paw paw, and other locally grown fruits and vegetables that are rich in vitamin A

11.6 INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES

Appropriate IYCF practices include breastfeeding through age 2, introduction of solid and semi-solid foods at age 6 months, and gradual increases in the amount of food given and frequency of feeding as the child gets older. The minimum frequencies for feeding children in developing countries are based on the energy output of complementary foods. The energy needs of children are based on age-specific total daily energy requirements plus 2 SD (to cover almost all children), minus the average energy intake from breast milk. Infants with low breast milk intake need to be fed more frequently than those with high breast milk intake. However, care should be taken that feeding frequencies do not exceed the recommended input from

complementary foods because excessive feeding can result in displacement of breast milk (PAHO/WHO 2003).

According to recommendations, breastfed children age 6-23 months should receive animal-source foods and vitamin A-rich fruits and vegetables daily (PAHO/WHO 2003). Because first foods almost always include a grain- or tuber-based staple, it is unlikely that young children who eat food from less than three groups will receive both an animal-source food and a vitamin A-rich fruit or vegetable. Therefore, three food groups are considered the minimum number appropriate for breastfed children (Arimond and Ruel 2004). Breastfed infants age 6-8 months should receive complementary foods two to three times a day, with one or two snacks; breastfed children age 9-23 months should receive meals three to four times a day, with one or two snacks. Non-breastfed children age 6-23 months should receive milk or milk products two or more times a day to ensure that their calcium needs are met. In addition, they need animal-source foods and vitamin A-rich fruits and vegetables. Four food groups are considered the minimum number appropriate for non-breastfed young children. Non-breastfed children age 12-23 months should be fed meals four to five times each day, with one or two snacks (PAHO/WHO 2003; WHO 2008; and WHO 2010).

Table 11.6 shows the percentage of children under age 2 living with their mothers who are fed according to three IYCF practices[1] based on breastfeeding status, number of food groups, and number of times fed during the day or night preceding the survey. Among breastfed children, 24 percent were given foods from at least four groups and 45 percent were fed the minimum number of times during the day and night preceding the survey. Fifteen percent of the breastfed children fall into both categories, i.e., their feeding practices meet minimum standards with respect to food diversity and feeding frequency (Table 11.6 and Figure 11.4). Regional variations exist; children living in the Central region are most likely to receive the minimum acceptable diet (27 percent), and those in the Eastern region are the least likely (4 percent). Breastfed children of educated mothers (27 percent) who reside in the wealthiest households (22 percent) are most likely to receive a quality diet.

With regards to the non-breastfed children age 6-23 months, only 11 percent were given milk or milk products an adequate number of times, almost half (49 percent) received foods from at least four food groups, and 37 percent were fed the minimum number of times. However, only 5 percent of nonbreastfeeding children feeding practices qualified as being in accordance with all three IYCF practices.

Among all children age 6-23 months, only 13 percent were fed the minimum acceptable diet. Overall, 86 percent of children received breastmilk, milk, or milk products, 28 percent received four or more food groups, and 43 percent received food the minimum number of times. Children in the 12-17 age group, those who live in urban areas and in Greater Accra, children of educated mothers, and those in the wealthiest households are most likely to receive the minimum acceptable diet. It is noteworthy that only 4 percent of children residing in the Eastern region received the minimum acceptable diet.

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[1] It should also be noted that there have been changes in the definition of the standard IYCF indicators since 2008. Examples are the removal of "foods made with fats" as a food group, the requirement that breastfed children receive four instead of three food groups, the requirement that non-breastfed children receive two or more servings of milk or milk products, and the removal of cheese from the milk or milk products list in line with recent WHO IYCF feeding indicators guidelines. Thus, in certain instances comparison of related indicators with previous GDHS reports may be problematic.

Table 11.6 Infant and young child feeding (IYCF) practices

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, by background characteristics, Ghana 2014

Background characteristic	Among breastfed children 6-23 months, percentage fed:				Among non-breastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:				
	4+ food groups[1]	Minimum meal frequency[2]	Both 4+ food groups and minimum meal frequency	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups[1]	Minimum meal frequency[4]	With 3 IYCF practices[5]	Number of non-breastfed children 6-23 months	Breast milk, milk, or milk products[6]	4+ food groups[1]	Minimum meal frequency[7]	With 3 IYCF practices	Number of all children 6-23 months
Age (in months)														
6-8	6.9	50.8	6.4	308	*	*	*	*	2	99.5	6.9	50.6	6.3	309
9-11	19.2	33.1	10.3	266	*	*	*	*	4	98.7	19.9	33.6	10.2	270
12-17	32.6	44.9	19.5	511	(27.6)	(62.3)	(42.0)	(9.1)	53	93.3	35.3	44.6	18.6	563
18-23	31.6	47.7	19.3	295	7.1	45.8	34.8	4.5	203	62.1	37.4	42.4	13.3	498
Sex														
Male	22.0	45.0	14.2	710	14.2	47.9	30.0	7.5	141	85.7	26.3	42.5	13.1	851
Female	26.2	44.1	15.4	670	7.8	50.7	44.2	2.7	120	86.0	29.9	44.1	13.5	790
Residence														
Urban	27.8	45.3	15.9	592	15.6	56.5	41.3	8.5	147	83.2	33.5	44.5	14.4	740
Rural	21.2	44.0	14.0	787	5.8	39.7	30.3	1.1	114	88.1	23.6	42.2	12.3	902
Region														
Western	29.8	40.8	14.4	121	(14.6)	(50.7)	(26.1)	(5.1)	27	84.4	33.6	38.1	12.7	148
Central	39.1	50.2	26.9	167	(5.2)	(67.3)	(48.8)	(0.0)	38	82.3	44.3	49.9	21.9	205
Greater Accra	46.9	51.7	24.8	173	(26.8)	(82.6)	(43.5)	(17.1)	64	80.1	56.6	49.5	22.7	237
Volta	16.9	45.8	11.9	111	*	*	*	*	15	89.1	17.8	44.8	10.5	126
Eastern	17.6	29.6	4.3	112	(8.1)	(14.7)	(13.0)	(2.4)	35	78.1	16.9	25.6	3.9	147
Ashanti	9.7	47.9	8.4	255	(5.1)	(23.8)	(38.4)	(0.0)	39	87.5	11.5	46.7	7.3	294
Brong Ahafo	24.6	38.6	13.4	144	(0.0)	(48.8)	(37.5)	(0.0)	26	84.8	28.3	38.4	11.3	170
Northern	17.2	45.1	14.6	201	*	*	*	*	7	96.7	17.9	45.2	14.1	208
Upper East	15.5	34.7	8.5	60	*	*	*	*	7	90.4	17.1	35.8	8.6	67
Upper West	20.5	52.2	15.1	37	*	*	*	*	4	90.8	20.4	49.3	13.7	41
Mother's education														
No education	17.5	41.8	12.3	394	(6.4)	(29.3)	(39.8)	(4.3)	41	91.1	18.6	41.6	11.6	436
Primary	19.5	37.9	9.9	260	(6.6)	(21.2)	(24.6)	(0.7)	48	85.5	19.8	35.8	8.5	308
Middle/JSS/JHS	24.4	47.3	15.0	557	7.2	53.1	29.7	1.2	116	84.0	29.3	44.2	12.6	674
Secondary+	45.6	52.2	27.4	168	(27.3)	(79.5)	(58.4)	(18.6)	56	81.8	54.1	53.8	25.2	224
Wealth quintile														
Lowest	16.3	41.2	12.1	346	(4.5)	(22.7)	(36.7)	(0.0)	19	94.9	16.7	41.0	11.4	365
Second	16.2	38.3	9.5	297	3.4	28.8	22.5	0.0	57	84.4	18.2	35.8	8.0	353
Middle	24.7	49.0	17.9	254	4.2	38.3	38.5	4.2	49	84.4	26.9	47.3	15.7	303
Fourth	29.0	48.9	14.8	255	8.8	60.1	37.2	0.2	79	78.5	36.3	46.1	11.4	333
Highest	39.7	47.9	22.1	229	(30.9)	(72.9)	(47.8)	(20.3)	57	86.2	46.3	47.9	21.7	286
Total	24.1	44.5	14.8	1,380	11.3	49.2	36.5	5.3	261	85.9	28.1	43.3	13.3	1,641

[1] Food groups: a. infant formula, milk other than breast milk, cheese or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables; d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish, and organ meats; g. legumes and nuts. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[2] For breastfed children, minimum meal frequency is receiving solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months
[3] Includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[4] For non-breastfed children age 6-23 months, minimum meal frequency is receiving solid or semi-solid food or milk feeds at least four times a day
[5] Non-breastfed children age 6-23 months are considered to be fed with a minimum standard of three Infant and Young Child Feeding Practices if they receive other milk or milk products at least twice a day, receive the minimum meal frequency, and receive solid or semi-solid foods from at least four food groups not including the milk or milk products food group
[6] Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula, fresh, tinned and powdered animal milk, and yogurt
[7] Children are fed the minimum recommended number of times per day according to their age and breastfeeding status as described in footnotes 2 and 4

Figure 11.5 IYCF indicators on minimum acceptable diet

Percent

| IYCF Indicator 5: Minimum dietary diversity | IYCF Indicator 6: Minimum meal frequency | IYCF Indicator 7: Minimum acceptable diet |

☐ Breastfed children   ▪ Non-breastfed children   ■ All children 6-23 months
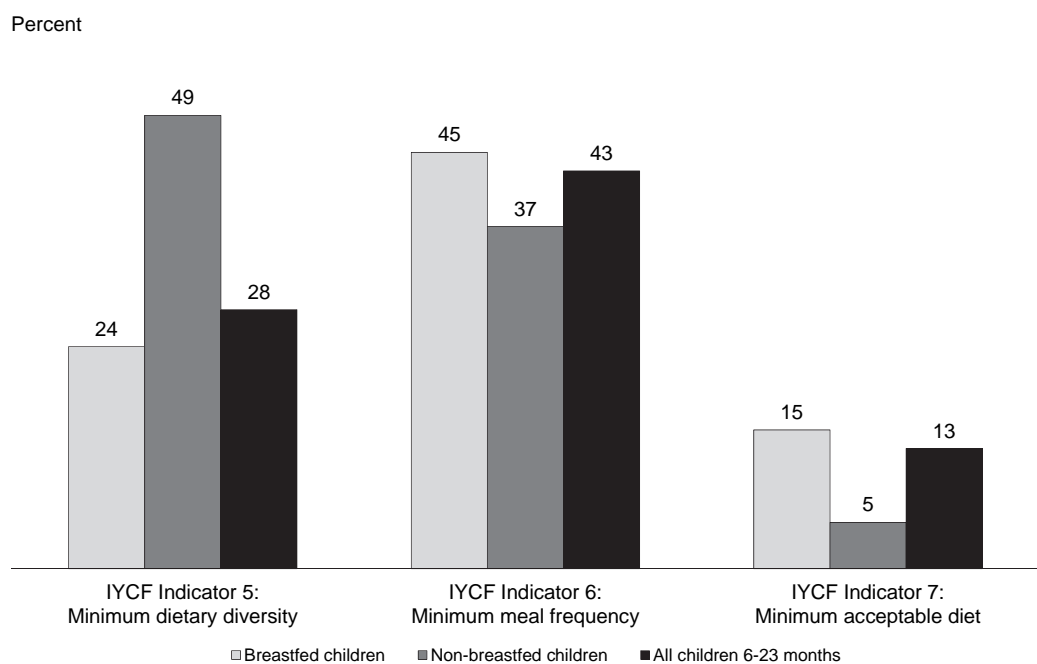
GDHS 2014

11.7 ANAEMIA IN CHILDREN

Anaemia is a condition characterised by a reduction in the red blood cell volume and a decrease in the concentration of haemoglobin in the blood. Haemoglobin is necessary for transporting oxygen to tissues and organs in the body. Anaemia in children is associated with impaired mental and physical development and with increased morbidity and mortality. Anaemia can be a particularly serious problem for pregnant women, leading to premature delivery and low birth weight babies. Globally, iron deficiency anaemia is the most common micronutrient deficiency, and anaemia is often described as an indicator of both poor nutrition and poor health.

The most common causes of anaemia in Ghana are inadequate dietary intake of iron, malaria, and intestinal worm infestation (GHS 2003). Iron and folic acid supplementation and antimalarial prophylaxis for pregnant women, promotion of the use of insecticide-treated bed nets by pregnant women and children under age 5, deworming at 6 months of children age 2 to 5, and food fortification are some important measures to reduce the anaemia burden among vulnerable groups.

The 2014 GDHS survey is the second DHS in Ghana to include anaemia testing of children age 6-59 months and women age 15-49, the first one being the 2008 GDHS. In the 2014 GDHS, anaemia was tested in half of the households, the same subsample that was selected for the male survey. Anaemia prevalence was determined by measuring the level of haemoglobin in the blood. For haemoglobin measurements a drop of capillary blood was taken with a finger prick (using sterile, disposable instruments), and the haemoglobin concentration was measured using the HemoCue photometer system. The results are based on tests of 2,568 (de facto) children present at the time of testing, whose parents consented to their being tested and whose haemoglobin results represented plausible data.

Sixty-six percent of children age 6-59 months in Ghana have some level of anaemia: 27 percent are mildly anaemic, 37 percent are moderately anaemic, and 2 percent are severely anaemic. Overall, prevalence of anaemia decreases with increasing age of the child. The prevalence of any anaemia is highest among children age 6-8 months (80 percent); and more than 7 in 10 children under age 2 are anaemic. Children in rural areas (72 percent) are much more likely to be anaemic compared with children living in urban areas (58 percent). Slight variations are observed in children's anaemia by region. Children

in the Northern region (82 percent) are the most likely to be anaemic, while children in the Ashanti region are the least likely to be anaemic (54 percent). The likelihood of a child having anaemia decreases with increasing mother's education and household wealth. Nevertheless, it is noteworthy that almost half of the children living in households with the most educated mothers and highest wealth quintile are anaemic.

Table 11.7 Prevalence of anaemia in children

Percentage of children age 6-59 months classified as having anaemia, by background characteristics, Ghana 2014

| Background characteristic | Anaemia status by haemoglobin level | | | | Number of children |
	Any anaemia (<11.0 g/dl)	Mild anaemia (10.0-10.9 g/dl)	Moderate anaemia (7.0-9.9 g/dl)	Severe anaemia (< 7.0 g/dl)	
Age (in months)					
6-8	79.7	24.6	51.7	3.4	117
9-11	77.8	28.0	45.6	4.1	143
12-17	78.1	23.8	48.3	6.0	301
18-23	74.4	25.3	47.1	2.1	285
24-35	66.1	30.1	34.5	1.5	573
36-47	61.3	27.0	32.7	1.7	570
48-59	53.2	25.1	27.2	0.9	578
Sex					
Male	65.5	27.0	36.1	2.4	1,355
Female	66.0	26.2	37.7	2.0	1,213
Mother's interview status					
Interviewed	66.8	27.0	37.4	2.4	2,272
Not interviewed but in household	71.3	32.4	37.8	1.2	56
Not interviewed and not in the household[1]	54.1	21.9	31.3	0.8	239
Residence					
Urban	58.3	27.6	29.5	1.2	1,180
Rural	72.0	25.8	43.1	3.1	1,388
Region					
Western	64.6	28.7	32.9	3.0	273
Central	70.2	24.6	43.7	1.9	304
Greater Accra	59.6	28.4	29.9	1.3	389
Volta	69.9	27.8	39.7	2.4	189
Eastern	66.1	28.7	36.7	0.8	238
Ashanti	53.7	24.8	27.1	1.8	432
Brong Ahafo	62.5	28.7	31.8	2.0	260
Northern	82.1	23.2	55.4	3.4	313
Upper East	73.8	30.7	40.5	2.6	105
Upper West	73.8	20.6	45.0	8.2	66
Mother's education[2]					
No education	79.9	26.7	49.7	3.5	688
Primary	68.7	24.8	40.5	3.4	457
Middle/JSS/JHS	60.8	27.7	31.5	1.5	909
Secondary+	52.0	30.1	21.2	0.7	274
Wealth quintile					
Lowest	79.4	26.0	48.9	4.5	588
Second	74.9	26.5	45.7	2.7	530
Middle	63.8	20.9	40.4	2.4	523
Fourth	58.3	31.2	26.6	0.5	483
Highest	47.2	29.6	17.3	0.3	445
Total	65.7	26.6	36.9	2.2	2,568

Note: Table is based on children who stayed in the household on the night before the interview and who were tested for anaemia. Prevalence of anaemia, based on haemoglobin levels, is adjusted for altitude using formulas in CDC, 1998. Haemoglobin in grams per deciliter (g/dl).
[1] Includes children whose mothers are deceased
[2] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

Trends data for anaemia in children indicate that prevalence increased slightly from 76 percent in 2003 to 78 percent in 2008 and decreased to 66 percent between 2008 and 2014 (Figure 11.6).

Figure 11.6 Trends in anaemia status among children age 6-59 months, Ghana 2003-2014

Percent

■ 2003 GHDS   ■ 2008 GDHS   ■ 2014 GDHS
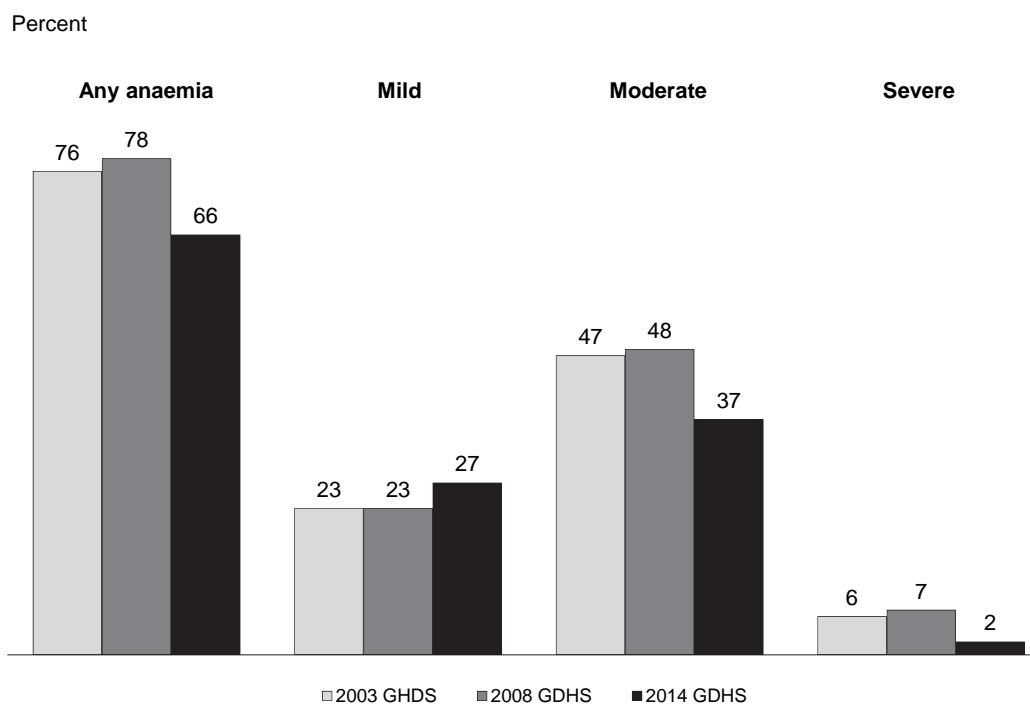
11.8 MICRONUTRIENT INTAKE AMONG CHILDREN

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Micronutrients are available in foods and can also be provided through direct supplementation. Breastfeeding children benefit from supplements given to the mother. In Ghana the prevailing levels of micronutrient deficiency levels related to anaemia, vitamin A, and iodine are considered high and of major public health significance by World Health Organisation standards.

Iron deficiency is one of the primary causes of anaemia, which has serious health consequences for both women and children. Vitamin A is an essential micronutrient for the immune system and plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency (VAD) can cause eye damage and is the leading cause of childhood blindness. VAD also increases the severity of infections such as measles and diarrhoeal disease in children and slows recovery from illness. VAD is common in dry environments where fresh fruits and vegetables are not readily available. Vitamin A supplementation is an important tool in preventing VAD among young children. Iodine is an important trace element essential for the normal function of the thyroid gland. Iodine deficiency is most frequently caused by inadequate iodine intake and has serious effects on growth and mental development. The deficiency is the leading cause of preventable mental impairment worldwide.

Information was collected on food consumption during the day and night preceding the interview among the youngest children under age 2 living with their mothers; these data are useful in assessing the extent to which children are consuming food groups rich in two key micronutrients—vitamin A and iron—in their daily diet. In addition, the GDHS included questions designed to ascertain whether young children had received vitamin A supplements or deworming medication in the six months preceding the survey or iron supplements in the seven days preceding the survey.

Table 11.8 shows the intake of key micronutrients among children and shows the extent to which young children consumed adequate amounts of foods rich in vitamin A and iron by background characteristics. The results show that among the youngest children age 6-23 months living with their mother, 67 percent consumed foods rich in vitamin A on the day or night preceding the survey. There are very slight differences in consumption of vitamin A-rich foods by sex and residence. Nonbreastfeeding children are more likely to consume vitamin A-rich foods (92 percent) compared with breastfeeding children (62 percent). Mother's education shows slight association with the consumption of vitamin A-rich foods: 63 percent of children of mothers with primary education consume vitamin A-rich foods, compared with 78 percent of children of mothers with a secondary or higher education. Regional variations are evident in the consumption of vitamin A-rich foods by children, with the highest proportion being in the Central region (82 percent) and the lowest being in the Northern region (56 percent).

Nearly 7 out of 10 children age 6-23 months living with the mother consumed foods rich in iron in the 24 hours preceding the survey (67 percent). Variations by most background characteristics are similar to those observed for vitamin A-rich foods. By region, the consumption of iron-rich foods among children is highest in Central (78 percent) and lowest in Upper East (36 percent).

Table 11.8 also shows information on vitamin A and iron supplementation. Among all children age 6-59 months, 65 percent received vitamin A supplements in the six months immediately preceding the survey. Vitamin A supplementation is higher among children age 6-23 months than among older children. Breastfeeding children are more likely than nonbreastfeeding children to have received a vitamin A supplement in the last six months (72 percent and 62 percent, respectively). Children in urban areas are slightly less likely to receive a vitamin A supplement than children in rural areas (63 percent versus 68 percent). The proportion of children who received a vitamin A supplement is highest in the Central region (79 percent) and lowest in the Northern region (44 percent). There are no consistent patterns in percentage of children receiving a vitamin A supplement by mothers' education and age at birth, or by household wealth.

Regarding iron supplementation, only 24 percent of children age 6-59 months received an iron supplement in the seven days preceding the survey. There are no notable variations by most background characteristics, except for regions and household wealth. The percentage of children age 6-59 months who received an iron supplement in the seven days preceding the survey ranges from 9 percent in the Upper West to 37 percent in Western. Children from the poorest households are the least likely to have received iron supplementation in the past seven days (19 percent).

Looking at trends, the proportion of children age 6-59 months who received vitamin A supplementation in the preceding six months increased from 56 percent in 2008 to 65 percent in 2014, and the proportion who received an iron supplement in the seven days preceding the survey decreased somewhat, from 28 percent in 2008 to 24 percent in 2014.

Intestinal parasites such as helminthes can contribute to anaemia, and periodic deworming to control such organisms can improve children's health and growth. The 2014 GDHS collected information on whether children age 6-59 months had been given deworming medication in the six months before the survey. Results shown in Table 11.8 indicate that 38 percent of children age 6-59 months received deworming medication in the six months preceding the survey. Children in urban areas are more likely than those in rural areas to receive deworming medication (43 percent and 35 percent, respectively). The regional coverage of deworming medication among children ranges from a low of 13 percent in Upper West to 49 percent in Ashanti. Nonbreastfeeding children, children whose mothers have a secondary or higher education, and those from the wealthiest households are the most likely to be given deworming medication. For example, 52 percent of children who belong to the wealthiest households received deworming medication compared with only 19 percent of children from the poorest households.

Table 11.8 Micronutrient intake among children

Among youngest children age 6-23 months who are living with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, among all children 6-59 months, the percentages given vitamin A supplements in the six months preceding the survey, the percentages given iron supplements in the past seven days, and the percentages given deworming medication in the six months preceding the survey; and among all children age 6-59 months who live in households tested for iodised salt, the percentage who live in households with iodised salt, by background characteristics, Ghana 2014

Background characteristic	Among youngest children age 6-23 months living with the mother:			Among all children age 6-59 months:				Among children age 6-59 months living in households tested for iodised salt	
	Percentage who consumed foods rich in vitamin A in last 24 hours[1]	Percentage who consumed foods rich in iron in last 24 hours[2]	Number of children	Percentage given vitamin A supplements in past 6 months	Percentage given iron supplements in past 7 days	Percentage given deworming medication in past 6 months[3]	Number of children	Percentage living in households with iodised salt[4]	Number of children
Age (in months)									
6-8	25.4	21.6	309	56.4	19.5	5.3	317	67.0	301
9-11	61.9	49.6	270	81.9	26.0	13.7	275	63.4	257
12-17	76.6	69.0	563	76.8	24.3	23.9	574	63.0	533
18-23	84.8	75.4	498	78.1	29.3	37.3	540	56.4	504
24-35	na	na	na	65.8	27.9	48.7	1,090	61.4	1,023
36-47	na	na	na	60.0	21.2	44.9	1,060	61.2	997
48-59	na	na	na	54.9	22.5	46.0	1,004	63.2	935
Sex									
Male	67.5	58.9	851	65.3	24.1	38.8	2,528	60.7	2,375
Female	66.5	58.7	790	65.1	24.7	37.8	2,332	63.1	2,175
Breastfeeding status									
Breastfeeding	62.2	53.6	1,380	72.4	24.3	21.2	1,511	59.9	1,423
Not breastfeeding	92.3	86.1	261	62.0	24.5	46.0	3,345	62.8	3,123
Mother's age									
15-19	67.6	56.6	95	66.7	32.3	34.7	157	73.5	143
20-29	65.9	58.6	761	65.3	24.3	35.9	2,034	60.6	1,875
30-39	67.6	59.6	653	65.3	24.8	40.5	2,109	61.9	2,007
40-49	69.7	57.5	131	64.6	21.1	40.1	560	63.0	525
Residence									
Urban	67.9	62.8	740	62.2	24.3	42.6	2,202	68.8	2,015
Rural	66.2	55.5	902	67.7	24.4	34.7	2,658	56.3	2,535
Region									
Western	63.2	50.4	148	66.3	37.4	46.8	493	80.3	457
Central	81.6	77.5	205	79.0	27.6	41.5	538	58.5	488
Greater Accra	77.5	73.1	237	54.0	20.9	44.9	769	67.4	696
Volta	67.0	63.2	126	76.9	23.7	30.6	372	39.8	353
Eastern	63.4	57.7	147	71.4	31.2	48.2	449	39.3	406
Ashanti	57.3	48.2	294	64.2	21.0	48.8	902	67.2	857
Brong Ahafo	71.7	64.2	170	78.2	35.8	29.5	442	62.2	417
Northern	55.9	47.7	208	44.3	11.5	13.5	579	56.7	571
Upper East	63.5	35.9	67	67.6	19.6	34.6	193	78.4	188
Upper West	72.7	50.3	41	68.9	9.0	13.3	121	74.3	118
Mother's education									
No education	64.0	51.6	436	57.7	17.4	24.9	1,313	57.7	1,278
Primary	63.1	55.1	308	64.9	27.4	37.7	972	55.6	903
Middle/JSS/JHS	67.1	60.0	674	70.5	28.1	44.5	1,917	62.1	1,750
Secondary+	78.0	74.3	224	65.6	23.3	47.8	657	78.8	618
Wealth quintile									
Lowest	61.0	45.8	365	59.0	18.8	22.0	1,057	54.2	1,038
Second	65.6	57.3	353	71.2	25.2	35.9	1,026	51.7	970
Middle	69.1	63.2	303	67.7	27.8	45.0	948	56.5	854
Fourth	71.9	65.7	333	61.9	24.5	40.9	920	68.5	845
Highest	68.5	64.4	286	66.5	26.5	50.4	908	81.7	843
Total	67.0	58.8	1,641	65.2	24.4	38.3	4,860	61.9	4,549

Note: Information on vitamin A is based on both mother's recall and the immunisation card (where available). Information on iron supplements and deworming medication is based on the mother's recall. Total includes four children with missing information on breastfeeding status.
na = Not applicable
[1] Includes meat (including organ meat), fish, poultry, eggs, pumpkin, carrots, squash or sweet potatoes, dark green leafy vegetables, mangoes, paw paw, and other locally grown fruits and vegetables that are rich in vitamin A.
[2] Includes meat (including organ meat), fish, poultry, and eggs.
[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.
[4] Excludes children in households in which salt was not tested.

Ghana has adopted a national programme for universal salt iodisation (USI) to iodise salt as the main approach for the prevention of iodine deficiency. This is backed by the Food and Drugs Law Amendment Act (Act 523) passed in 1996, making provision for the mandatory fortification of all refined and unrefined edible salt with potassium iodate. To generate data on household use or consumption of iodised salt a semi-quantitative rapid test kit was used to measure iodine content of the salt used for cooking in a selected household subsample.

Table 11.8 shows that 62 percent of children live in households that use iodised salt. Children in urban areas (69 percent) are more likely to live in households that use iodised salt than their rural counterparts (56 percent). The percentage of children living in households that use iodised salt is lowest in the Eastern region (39 percent) and highest in the Western region (80 percent). Almost 8 in 10 children who are born to mothers with a secondary or higher education and who belong to the highest wealth quintile live in households with iodised salt.

Table 11.9 shows the proportion of households with iodised salt according to background characteristics. Overall, salt was tested in 87 percent of the households and two-thirds (66 percent) of the tested households had iodised salt. Although the presence of any iodine is most commonly accepted to define iodised salt, the test kits allow classification as to whether the salt contains at least 15 parts per million (ppm) of iodine, which constitutes the adequate amount of iodisation. Using this criterion, only 4 in 10 of the tested households (39 percent) had adequately iodised salt. Although Ghana is far from the 90 percent USI target, these results show substantial improvements in the percentage of households that use any iodised salt and that use adequately iodised salt from 42 percent and 28 percent, respectively, in the 2003 GDHS to 66 percent and 39 percent, respectively, in the 2014 GDHS.

The percentage of households using any iodised salt is far greater in urban (72 percent) than rural areas (58 percent). Western region has the highest proportion of households using iodised salt (84 percent), while Volta and Eastern regions have the lowest proportions (42 percent each). The proportion of households using iodised salt rises steadily from 54 percent in the poorest households to 84 percent in the wealthiest households.

Table 11.9 Presence of iodised salt in household

Among all households, the percentage with salt tested for iodine content and the percentage with no salt in the household; and among households with salt tested, the percent distribution by level of iodine in salt (parts per million or ppm) and percentage with iodised salt, according to background characteristics, Ghana 2014

Background characteristic	Among all households, the percentage			Among households with tested salt:					
	With salt tested	With no salt in the household	Number of households	None (0 ppm)	Inadequate (<15 ppm)	Adequate (15+ ppm)	Total	Percentage with iodised salt	Number of households
Residence									
Urban	84.2	15.8	6,503	28.1	22.1	49.8	100.0	71.9	5,476
Rural	89.3	10.7	5,332	41.8	32.7	25.5	100.0	58.2	4,760
Region									
Western	84.6	15.4	1,298	16.1	23.6	60.3	100.0	83.9	1,097
Central	86.3	13.7	1,180	34.0	31.7	34.3	100.0	66.0	1,018
Greater Accra	84.7	15.3	2,457	26.3	18.8	54.9	100.0	73.7	2,080
Volta	89.7	10.3	1,015	57.6	29.3	13.1	100.0	42.4	911
Eastern	87.4	12.6	1,255	58.1	17.4	24.5	100.0	41.9	1,097
Ashanti	83.4	16.6	2,216	28.5	25.9	45.6	100.0	71.5	1,849
Brong Ahafo	86.7	13.3	1,028	37.4	27.3	35.4	100.0	62.6	891
Northern	93.9	6.1	742	41.8	42.4	15.8	100.0	58.2	696
Upper East	92.8	7.2	378	25.7	57.0	17.3	100.0	74.3	351
Upper West	92.3	7.7	265	21.9	49.8	28.3	100.0	78.1	245
Wealth quintile									
Lowest	95.0	5.0	1,600	46.5	40.8	12.7	100.0	53.5	1,520
Second	89.3	10.7	2,211	48.4	31.2	20.4	100.0	51.6	1,975
Middle	82.0	18.0	2,647	40.2	28.9	30.9	100.0	59.8	2,171
Fourth	81.7	18.3	2,686	27.8	24.3	47.9	100.0	72.2	2,196
Highest	88.3	11.7	2,690	16.0	15.7	68.3	100.0	84.0	2,375
Total	86.5	13.5	11,835	34.5	27.0	38.5	100.0	65.5	10,237

11.9 ADULT NUTRITIONAL STATUS

11.9.1 Nutritional Status of Women

The 2014 GDHS collected anthropometric data on height and weight for women age 15-49 who were interviewed in the survey and were eligible for biomarker data collection. These data were used to assess low maternal height and body mass index (BMI). Women who were pregnant and women who had given birth in the two months preceding the survey were excluded from the BMI calculations. For only 1

percent of women, there was no information on height and/or weight and a BMI could not be estimated, and these women were excluded from this analysis.

Maternal height is an outcome of genetics combined with the effects of nutrition during childhood and adolescence. It helps to predict a risk of difficult delivery because small stature is frequently associated with small pelvic size. The risk of low birth weight babies is also higher for short women. The cutoff point—that is, the height below which a woman is considered to be at risk for poor birth outcomes and obstetric complications—is defined as 145 centimeters. Table 11.10.1 shows that 1 percent of Ghanaian women age 15-49 measure below this height.

Information on BMI is also presented in Table 11.10.1. BMI is calculated by dividing weight in kilograms by height in meters squared (kg/m^2). Pregnant women and women who had a birth in the two months preceding the survey were excluded from the calculation of BMI. A BMI cutoff point of 18.5 has been recommended for assessing chronic energy deficiency among nonpregnant women. At the other end of the BMI scale, women are considered overweight if their BMI falls between 25.0 and 29.9 and obese if their BMI is 30.0 or greater.

Overall, 54 percent of Ghanaian women have a BMI in the normal range, 6 percent are thin, and 40 percent are overweight or obese. Five percent of women are classified as mildly thin, and 1 percent are moderately or severely thin. Overweight and obesity seem be of greater concern in Ghana compared with thinness. The mean BMI for women age 15-49 in Ghana is 24.8 kg/m^2. The mean BMI generally increases with age, with the lowest value (21.3 kg/m^2) being observed in the youngest women age 15-19 and the highest value (27.2 kg/m^2) being observed for women age 40-45. The mean BMI is positively associated with women's education and household wealth.

Overall, 25 percent of women in Ghana are overweight, and 15 percent are obese. The proportion of overweight/obese women is positively correlated with women's age; this proportion increases from 9 percent among women age 15-19 to 56 percent for women age 40-49. Urban women are substantially more likely to be overweight/obese than their rural counterparts (49 percent versus 28 percent). Marked regional differences are notable, with women in Greater Accra being more than four times as likely to be overweight/obese as those in Northern (57 percent versus 12 percent). As expected, the proportion of overweight/obese women correlates positively with household wealth: this percentage increases steadily from 13 percent in the lowest wealth quintile to 60 percent in the highest wealth quintile. Similarly, the proportion of overweight/obese women increases with education, affecting 27 percent of women with no education and 49 percent of those with a secondary or higher education.

Table 11.10.1 Nutritional status of women

Among women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Ghana 2014

	Height		Mean body mass index (BMI)	Normal	Thin			Overweight/obese			
Background characteristic	Percentage below 145 cm	Number of women		18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17 (moderately and severely thin)	≥25.0 (total overweight or obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Age											
15-19	0.9	811	21.3	76.9	14.4	10.4	4.0	8.7	7.7	0.9	778
20-29	0.9	1,588	24.2	58.7	5.4	4.2	1.1	36.0	26.6	9.4	1,390
30-39	1.0	1,368	26.1	42.5	4.3	3.5	0.8	53.2	31.3	21.9	1,197
40-49	0.3	927	27.2	41.1	2.7	2.4	0.3	56.2	28.2	28.0	903
Residence											
Urban	0.7	2,541	25.9	45.8	5.2	4.1	1.1	49.0	28.2	20.7	2,340
Rural	1.0	2,154	23.5	63.3	7.4	5.6	1.8	29.3	20.7	8.7	1,929
Region											
Western	0.6	548	25.0	51.8	5.1	4.1	1.0	43.1	30.1	12.9	501
Central	1.2	471	25.1	55.8	3.5	2.5	1.1	40.7	25.0	15.7	431
Greater Accra	0.8	955	27.0	38.2	4.5	3.8	0.7	57.3	28.8	28.5	877
Volta	1.8	355	24.0	61.6	7.2	5.5	1.7	31.1	21.8	9.3	323
Eastern	0.7	420	24.8	54.4	7.1	5.0	2.1	38.5	22.0	16.5	373
Ashanti	0.7	848	25.2	48.5	6.1	4.3	1.8	45.4	28.7	16.7	781
Brong Ahafo	0.4	390	23.7	59.0	6.4	5.2	1.2	34.6	28.3	6.3	349
Northern	0.4	417	21.8	76.4	11.2	9.1	2.1	12.4	8.7	3.7	371
Upper East	0.9	182	22.4	71.6	9.3	6.8	2.5	19.1	15.0	4.2	165
Upper West	1.9	109	22.8	72.3	7.0	6.4	0.6	20.6	15.6	5.1	98
Education											
No education	1.4	909	23.6	66.9	6.2	5.4	0.8	26.9	18.1	8.8	807
Primary	0.8	848	24.5	54.3	8.1	6.2	1.9	37.6	22.6	15.0	778
Middle/JSS/JHS	0.7	1,928	25.2	51.9	5.6	3.9	1.7	42.5	25.0	17.5	1,753
Secondary+	0.7	1,010	25.4	45.4	5.6	4.5	1.0	49.0	32.0	17.0	929
Wealth quintile											
Lowest	1.1	792	21.8	76.6	10.8	8.8	2.0	12.6	10.8	1.7	708
Second	0.9	804	22.9	67.1	8.3	6.0	2.3	24.6	19.1	5.5	727
Middle	1.0	979	24.7	56.4	4.7	3.3	1.4	38.9	25.5	13.4	888
Fourth	0.8	1,035	26.3	42.8	4.9	3.7	1.2	52.3	32.0	20.4	955
Highest	0.4	1,085	27.2	35.8	3.9	3.3	0.6	60.3	31.5	28.8	991
Total	0.8	4,695	24.8	53.7	6.2	4.8	1.4	40.1	24.8	15.3	4,268

Note: The body mass index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m2).
[1] Excludes pregnant women and women with a birth in the preceding two months

The proportion of overweight/obesity among Ghanaian women has increased considerably, from 30 percent in 2008 to 40 percent in 2014 (Figure 11.7).

Figure 11.7 Trends in nutritional status among women age 15-49, Ghana 2003-2014

Percent

Undernutrition (Chronic Energy Deficiency): 2003 GDHS = 9, 2008 GDHS = 9, 2014 GDHS = 6

Overnutrition (Overweight/obese): 2003 GDHS = 25, 2008 GDHS = 30, 2014 GDHS = 40

□2003 GDHS ■2008 GDHS ■2014 GDHS
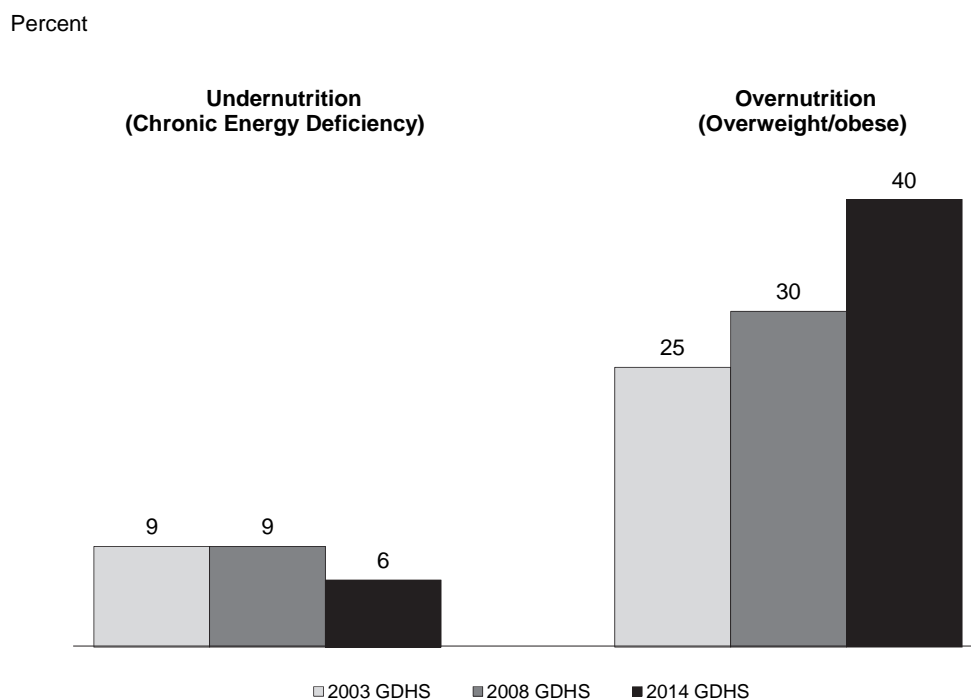
11.9.2 Nutritional Status of Men

For the first time in a Ghana DHS, anthropometric data on height and weight were collected among men age 15-59. These data are useful in BMI calculations, which can be used as a measure of chronic energy deficiency among men (BMI calculations and cutoff points are the same for men and women). In addition, BMI can be used to measure overweight and obesity, risk factors for nutrition-related chronic diseases such as diabetes mellitus and cardiovascular disease.

Table 11.10.2 shows BMI information for Ghanaian men. Overall, 74 percent of men age 15-49 have a BMI in the normal range, 10 percent are thin, and 16 percent are overweight or obese. Men age 15-19 (27 percent) are more likely to be thin than older men. Further, men with a primary education (18 percent) are three times as likely to be thin as men with a secondary or higher education (6 percent).

Overall, the prevalence of overweight/obesity among men is strikingly lower than the prevalence among women (16 percent versus 40 percent). The percentage of men who are overweight/obese is higher in urban than rural areas (23 percent versus 8 percent), and it is highest among men residing in Greater Accra (30 percent). Similar to women, the proportion of overweight/obese men increases with wealth.

Table 11.10.2 Nutritional status of men

Among men age 15-49, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Ghana 2014

Background characteristic	Mean body mass index (BMI)	Normal 18.5-24.9 (total normal)	Thin <18.5 (total thin)	Thin 17.0-18.4 (mildly thin)	Thin <17 (moderately and severely thin)	Overweight/obese ≥25.0 (total overweight or obese)	Overweight/obese 25.0-29.9 (overweight)	Overweight/obese ≥30.0 (obese)	Number of men
Age									
15-19	19.8	71.0	27.2	19.4	7.8	1.7	1.7	0.0	834
20-29	21.9	84.5	5.3	4.9	0.4	10.2	8.7	1.5	1,157
30-39	23.1	71.5	4.0	3.3	0.7	24.5	18.8	5.7	994
40-49	23.2	65.8	6.7	5.0	1.7	27.5	22.7	4.8	790
Residence									
Urban	22.6	68.3	9.2	7.2	2.0	22.5	18.1	4.4	1,989
Rural	21.3	80.8	11.1	8.3	2.8	8.1	6.8	1.3	1,786
Region									
Western	21.6	77.1	10.8	8.0	2.9	12.1	11.1	1.0	432
Central	21.9	77.2	8.9	6.1	2.8	13.9	10.5	3.4	373
Greater Accra	23.5	63.4	6.7	5.7	1.1	29.9	22.5	7.3	805
Volta	21.6	77.2	12.6	8.9	3.6	10.2	9.9	0.3	290
Eastern	21.3	77.2	15.7	11.6	4.1	7.1	5.5	1.6	359
Ashanti	22.0	73.4	8.9	8.2	0.7	17.7	15.2	2.5	657
Brong Ahafo	21.5	78.6	10.6	7.0	3.6	10.8	9.1	1.7	314
Northern	21.3	82.2	10.3	7.8	2.4	7.5	5.9	1.6	312
Upper East	21.0	76.9	15.8	10.4	5.4	7.2	5.7	1.6	144
Upper West	21.6	80.9	8.6	6.3	2.2	10.5	10.0	0.5	89
Education									
No education	21.7	80.9	8.5	7.3	1.2	10.6	8.4	2.2	357
Primary	20.9	75.7	17.8	11.0	6.8	6.5	6.0	0.5	523
Middle/JSS/JHS	21.8	75.2	11.3	8.9	2.5	13.5	10.9	2.6	1,587
Secondary+	22.9	70.5	6.0	5.1	0.8	23.5	18.9	4.6	1,308
Wealth quintile									
Lowest	20.8	82.4	13.7	9.7	4.0	3.9	3.0	0.9	631
Second	21.0	78.4	16.1	12.7	3.5	5.5	5.3	0.2	633
Middle	21.5	81.6	9.5	6.7	2.8	8.9	7.3	1.6	751
Fourth	22.3	76.7	7.0	5.6	1.3	16.4	13.9	2.5	827
Highest	23.8	57.7	6.8	5.7	1.1	35.5	27.7	7.7	933
Total 15-49	22.0	74.2	10.1	7.7	2.4	15.7	12.7	3.0	3,775
50-59	22.8	64.9	10.1	7.5	2.7	25.0	20.1	4.9	508
Total 15-59	22.1	73.1	10.1	7.7	2.4	16.8	13.6	3.2	4,283

Note: The body mass index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m2).

11.10 PREVALENCE OF ANAEMIA IN WOMEN

Anaemia is the result of one of the most prevalent micronutrient deficiencies in women. Consequences include impaired health and well- being and increased risk of maternal and neonatal adverse outcomes. The 2014 GDHS collected data on the prevalence of anaemia in women age 15-49 using the same equipment and procedures used to measure anaemia in children. Table 11.11 shows the prevalence of anaemia in women age 15-49 by background characteristics.

Overall, 42 percent of women in Ghana are anaemic, 32 percent are mildly anaemic, 10 percent are moderately anaemic, and less than 1 percent are severely anaemic. Generally, anaemia is less prevalent among women than among children.

Table 11.11 Prevalence of anaemia in women

Percentage of women age 15-49 with anaemia, by background characteristics, Ghana 2014

Background characteristic		Anaemia status by haemoglobin level				Number of women
		Any	Mild	Moderate	Severe	
	Not pregnant	<12.0 g/dl	10.0-11.9 g/dl	7.0-9.9 g/dl	<7.0 g/dl	
	Pregnant	<11.0 g/dl	10.0-10.9 g/dl	7.0-9.9 g/dl	< 7.0 g/dl	
Age						
15-19		47.7	36.4	11.0	0.3	803
20-29		43.3	32.1	10.9	0.3	1,574
30-39		38.8	30.6	8.2	0.1	1,350
40-49		41.2	31.0	9.1	1.2	917
Number of children ever born						
0		45.0	33.5	11.0	0.5	1,423
1		40.9	30.1	10.3	0.5	647
2-3		40.3	31.1	8.9	0.3	1,235
4-5		40.9	31.3	9.5	0.1	797
6+		43.9	34.9	8.5	0.4	542
Maternity status						
Pregnant		44.6	20.1	24.0	0.5	341
Breastfeeding		45.0	36.9	8.1	0.1	1,041
Neither		41.3	32.0	8.8	0.5	3,262
Using IUD						
Yes		*	*	*	*	23
No		42.3	32.1	9.8	0.4	4,621
Smoking status						
Smokes cigarettes/tobacco		*	*	*	*	17
Does not smoke		42.4	32.3	9.8	0.4	4,627
Residence						
Urban		41.8	32.1	9.3	0.4	2,505
Rural		43.0	32.3	10.3	0.4	2,139
Region						
Western		42.6	35.3	7.2	0.2	542
Central		46.7	35.3	11.2	0.1	461
Greater Accra		42.4	31.4	10.5	0.5	939
Volta		48.7	37.4	10.8	0.5	352
Eastern		38.9	27.9	10.7	0.3	413
Ashanti		40.5	31.0	9.2	0.3	843
Brong Ahafo		36.4	27.9	8.0	0.4	386
Northern		47.5	34.6	11.9	1.0	417
Upper East		39.6	31.2	8.3	0.0	181
Upper West		35.6	27.2	8.3	0.0	110
Education						
No education		45.5	34.3	10.9	0.3	905
Primary		44.6	32.4	11.8	0.5	844
Middle/JSS/JHS		40.9	31.9	8.5	0.4	1,909
Secondary+		40.4	30.6	9.4	0.4	986
Wealth quintile						
Lowest		43.6	33.1	10.0	0.4	791
Second		50.5	36.0	14.3	0.2	798
Middle		45.2	34.7	9.8	0.7	970
Fourth		37.2	29.2	7.7	0.3	1,028
Highest		37.7	29.2	8.3	0.2	1,057
Total		42.4	32.2	9.8	0.4	4,644

Note: Prevalence is adjusted for altitude and for smoking status if known using formulas in CDC, 1998. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

The highest prevalence of anaemia is among the youngest women age 15-19 (48 percent), and the prevalence is lowest among women age 30-39 (39 percent). Anaemia prevalence among pregnant women is similar to that among lactating women (45 percent), but slightly higher than the prevalence among women who are neither pregnant nor breastfeeding (41 percent). Place of residence does not make a major difference on the prevalence of anaemia among women. Anaemia prevalence ranges from 36 percent among women in Upper West and Brong Ahafo to 49 percent of women in Volta. Prevalence of any anaemia is lowest among women with a secondary or higher education (40 percent) and among women in the highest two wealth quintiles (37-38 percent).

Trends data indicate that anaemia prevalence among women 15-49 in Ghana increased from 45 percent in 2003 to 59 percent in 2008, and then it decreased to 42 percent in 2014. The prevalence of moderate anaemia shows similar trends, with the most noticeable reduction occurring in the last six years (Figure 11.8).

Figure 11.8 Trends in anaemia status among women age 15-49, Ghana 2003-2014

Percentage
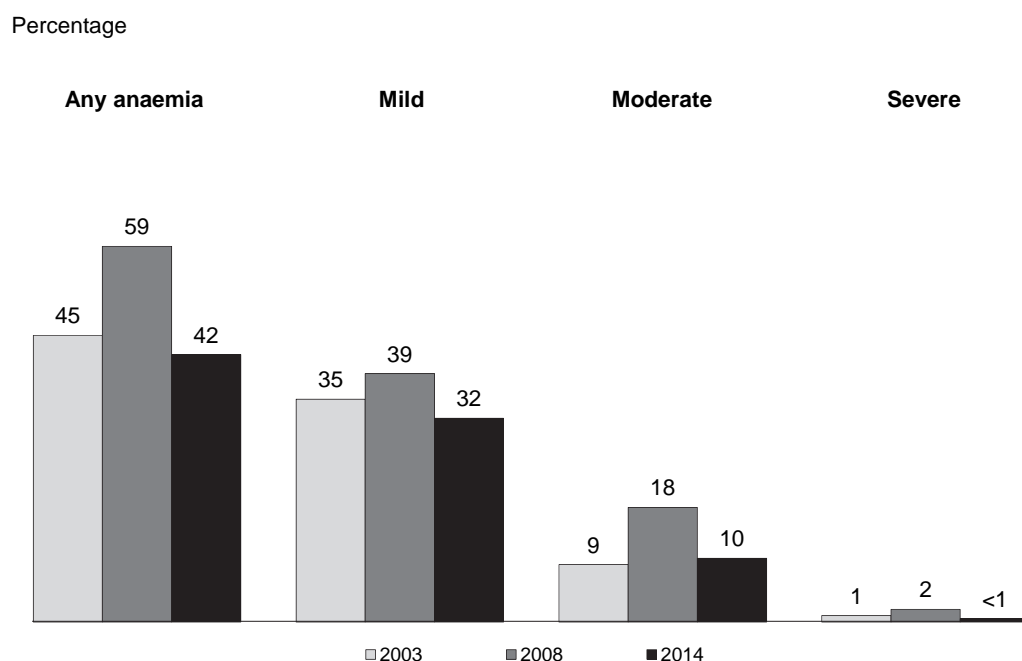
11.11 MICRONUTRIENT INTAKE AMONG MOTHERS

Adequate micronutrient intake has important benefits for both women and their children. Breastfeeding children benefit from micronutrient supplementation that mothers receive, especially vitamin A. Iron supplementation of women during pregnancy protects the mother and infant against anaemia, which is considered a major cause of perinatal and maternal mortality. As indicated in the previous section, anaemia can also result in a premature or a low birth weight delivery. Finally, iodine deficiency is related to a number of adverse pregnancy outcomes including abortion, foetal brain damage and congenital malformation, stillbirth, and prenatal death.

The 2014 GDHS collected data on consumption of vitamin A and iron-folic acid supplements among women age 15-49 with a child born in the past five years. Also assessed were deworming medication during the last pregnancy and the percentage of women living in households with iodised salt.

Table 11.12 shows that 68 percent of women received vitamin A capsules during the postpartum period. Women in urban areas (73 percent) have a greater likelihood of receiving a postpartum vitamin A than their rural counterparts (64 percent). The coverage of postpartum vitamin A supplementation ranges from 62 percent in Eastern region to 72 percent in Greater Accra, Ashanti, and Upper West regions.

Women with secondary or higher education are most likely to receive Vitamin A supplements within two months of childbirth compared with women with no education (76 percent versus 61 percent). Similarly, postpartum vitamin A supplementation increases with wealth, from 59 percent of women in the lowest wealth quintile to 80 percent of those in the highest quintile.

Table 11.12 also shows the number of days that women took iron tablets or syrup during the pregnancy of their last birth in the past five years. Fifty-nine percent of women took iron tablets daily for 90 or more days during their last pregnancy, 9 percent for 60 to 89 days, and 21 percent for fewer than 60 days. Overall, 8 percent of pregnant women did not take any iron supplements at all.

The proportion of women who took daily iron supplements for 90 or more days during their last pregnancy, which is the recommended dose, is substantially higher in urban than rural areas (67 percent

versus 53 percent). Women in the Upper West region are most likely to take iron supplements daily for 90 or more days (83 percent) and those in the Eastern region are the least likely to do so (32 percent). The proportion of women who took iron supplements daily for 90 or more days is related to education and wealth. Women with a secondary or higher education are more likely to take iron tablets for 90 or more days (73 percent) than women with no education 55 percent). Similarly, women in the highest wealth quintile are notably more likely to take iron tablets for 90 or more days during pregnancy (77 percent) than those in the lowest wealth quintile (50 percent).

Helminthes (intestinal parasites) infections are one of the factors contributing to anaemia among pregnant women. Deworming during pregnancy is a cost-effective intervention against intestinal worms that allows better absorption of nutrients and iron, thus reducing the prevalence of anaemia. Table 11.12 shows that only 4 in 10 women (39 percent) took deworming medication during their last pregnancy. Rural women are more likely to take deworming medication (42 percent) than those living in urban areas (36 percent). There are wide regional variations, with the lowest proportion of women who took deworming tablets during their last pregnancy being in Ashanti (25 percent) and the highest being in Upper East (70 percent). This proportion is higher among women with no education (42 percent) than among those with a secondary or higher education (34 percent). The coverage of deworming supplementation is highest among women in the lowest wealth quintile (43 percent) and lowest among those in the wealthiest households (29 percent).

Iodine deficiency has adverse effects on all population groups, but women of reproductive age are often the most affected. As mentioned, iodine deficiency is related to adverse pregnancy outcomes such as abortion, foetal brain damage and congenital malformation, stillbirth, and perinatal death. As a result, use of iodised salt by women of reproductive age is emphasised. Table 11.12 shows that 63 percent of women with a child born in the five years preceding the survey live in households with iodised salt. Women in urban areas are more likely to live in households that use iodised salt (71 percent) than women in rural areas (58 percent). At the regional level, Western has the highest proportion of women living in households with iodised salt (82 percent), while Volta has the lowest proportion (41 percent). The percentage of women living in households that use iodised salt is positively related to women's educational level and wealth status.

Table 11.12 Micronutrient intake among mothers

Among women age 15-49 with a child born in the past five years, the percentage who received a vitamin A dose in the first two months after the birth of the last child, the percent distribution by number of days they took iron tablets or syrup during the pregnancy of the last child, and the percentage who took deworming medication during the pregnancy of the last child; and among women age 15-49 with a child born in the past five years and who live in households that were tested for iodised salt, the percentage who live in households with iodised salt, by background characteristics, Ghana 2014

| | Among women with a child born in the past five years: | | | | | | | | | Among women with a child born in the last five years, who live in households that were tested for iodised salt: | |
| Background characteristic | Percentage who received vitamin A dose post-partum[1] | Number of days women took iron tablets or syrup during pregnancy of last birth | | | | | | Percentage of women who took deworming medication during pregnancy of last birth | Number of women | Percentage living in households with iodised salt[2] | Number of women |
		None	<60	60-89	90+	Don't know/ missing	Total				
Age											
15-19	63.6	10.8	23.4	9.8	54.4	1.5	100.0	37.7	184	72.0	169
20-29	65.8	7.6	22.9	9.8	55.7	4.0	100.0	38.8	1,705	62.0	1,566
30-39	70.7	6.4	18.6	8.0	64.5	2.5	100.0	39.6	1,750	64.0	1,660
40-49	67.8	9.5	22.4	7.9	55.6	4.6	100.0	41.9	503	63.3	469
Residence											
Urban	73.1	6.3	16.7	7.2	66.9	2.9	100.0	36.2	1,914	70.3	1,752
Rural	63.7	8.5	24.8	10.2	52.9	3.7	100.0	42.2	2,228	57.7	2,112
Region											
Western	68.7	5.4	31.5	5.8	56.1	1.2	100.0	60.9	427	81.6	392
Central	65.6	8.2	24.0	7.7	57.6	2.5	100.0	44.0	455	61.8	411
Greater Accra	72.2	6.1	12.1	7.5	71.3	3.0	100.0	30.7	674	69.9	615
Volta	67.9	11.5	42.4	6.7	38.9	0.6	100.0	32.2	315	40.7	294
Eastern	62.4	11.1	38.9	15.0	31.9	3.1	100.0	42.7	389	41.8	350
Ashanti	72.2	4.7	9.9	7.5	73.0	4.9	100.0	25.4	738	68.8	699
Brong Ahafo	66.2	4.8	11.1	6.4	71.2	6.6	100.0	34.2	374	62.8	349
Northern	62.5	11.5	17.5	17.7	52.8	0.5	100.0	47.9	480	56.4	473
Upper East	67.7	10.2	31.1	2.2	43.8	12.7	100.0	69.6	178	76.5	174
Upper West	72.4	2.5	6.7	5.5	83.4	1.9	100.0	26.5	111	76.2	108
Education											
No education	61.0	10.6	21.1	10.0	54.8	3.5	100.0	42.3	1,079	58.0	1,048
Primary	65.2	9.0	26.0	9.9	51.2	3.9	100.0	43.4	812	58.7	749
Middle/JSS/JHS	71.0	5.6	21.1	8.4	61.5	3.5	100.0	37.5	1,640	63.8	1,492
Secondary+	76.3	5.0	14.0	6.4	72.7	1.9	100.0	34.3	611	78.4	575
Wealth quintile											
Lowest	58.8	10.4	23.6	11.7	49.5	4.9	100.0	42.7	869	53.8	851
Second	65.1	8.5	26.6	9.9	51.9	3.1	100.0	42.0	840	54.0	793
Middle	64.8	8.5	26.4	8.7	52.9	3.6	100.0	42.7	827	58.6	736
Fourth	72.9	5.8	16.2	7.5	67.3	3.2	100.0	39.8	814	69.9	747
Highest	79.6	3.9	11.6	5.9	76.8	1.8	100.0	29.3	791	83.0	736
Total	68.0	7.5	21.0	8.8	59.4	3.3	100.0	39.4	4,142	63.4	3,864

[1] In the first two months after delivery of last birth
[2] Excludes women in households where salt was not tested

MALARIA

Malaria is one of the leading causes of death in sub-Saharan Africa. Although preventable and curable, the disease remains a public health problem in Ghana. Malaria occurs every year and transmission intensity varies throughout the year. The disease affects all ages but children under 5 and pregnant women are the most vulnerable groups. The malaria burden is felt not only in the health sector but also in other sectors such as social and economic ones.

This chapter presents data that are useful for assessing the implementation of malaria control strategies. These strategies include indoor residual spraying of dwellings with insecticides, increased availability and use of mosquito nets, prophylactic and therapeutic use of antimalarial medicines, and the collection of diagnostic tests (blood sample) from children with fever.

12.1 OWNERSHIP OF MOSQUITO NETS

Use of long-lasting insecticide-treated nets (LLINs) is a form of personal protection that reduces illness, severe disease, and death in endemic regions. LLINs are promoted by WHO and Roll Back Malaria partners as a cost-effective and sustainable method for protection against malaria. LLINs are nets treated in the factory with an insecticide incorporated into the net fabric. The insecticide lasts three to five years, or

at least 20 washes, after which the net should be replaced. With LLINs, therefore, the time-consuming method of retreating old nets is no longer necessary. Promoting LLINs is a primary health intervention designed to reduce malaria transmission in Ghana.

In Ghana, the Ministry of Health (MoH) recommends household use of LLINs as they greatly reduce the cost and the operational difficulties associated with retreatment of nets. Most mosquito nets are provided free of charge by the MoH and the Ghana Health Service (GHS) through several channels, such as mass distribution campaigns and targeted distributions through schools, child welfare clinics, and antenatal clinics. In an effort to make mosquito nets more affordable and accessible, as of 2002, the government of Ghana had waived taxes on the importation of nets into the country, while development partners have contributed by procuring LLINs and supporting their distribution.

For this survey, an insecticide-treated mosquito net (ITN) is a factory-treated net that does not require any further treatment, or a pretreated net obtained in the past 12 months, or a net that has been soaked with insecticide within the past 12 months. LLINs are factory-treated mosquito nets made with netting material that has insecticide incorporated within or bound around the fibres.

All households in the 2014 GDHS were asked whether they owned mosquito nets and, if so, how many. Table 12.1 shows household ownership of nets by type (any mosquito net, ITN, or LLIN) and average number of nets per household, by background characteristics. Overall, 70 percent of households in Ghana own at least one net, regardless of type. Sixty-eight percent of households own at least one net that meets one of the ITN criteria (i.e., a factory-treated net that does not require retreatment, a pretreated net obtained within the previous 12 months, or a net soaked in insecticide at some time within the 12 months prior to the survey). The majority of these ITNs are long-lasting insecticidal nets (64 percent).

Ownership of an ITN differs markedly by residence; 60 percent of urban households own at least one ITN, as compared with 78 percent of rural households. Households in the Greater Accra region are least likely to own an ITN (53 percent), while households in Brong Ahafo are most likely to own one (81 percent). The percentage of households that own at least one ITN decreases substantially with increasing wealth, from 80 percent of households in the lowest quintile to 58 percent of households in the highest quintile. There has been an increase in the household ownership of any type of mosquito net and of any ITN since 2008 from 45 percent to 70 percent and from 42 percent to 68 percent, respectively.

The average number of ITNs per household in Ghana is 1.3.

Although mosquito net ownership is a key indicator of the success of malaria control measures, universal net coverage can be measured by assuming that each net is shared by two people in a household. Table 12.1 shows the percentage of households with at least one mosquito net for every two persons who stayed in the household the night before the interview. Forty-five percent of households in Ghana have at least one ITN for every two persons who stayed in the household the night before the survey. This percentage is highest among rural households (50 percent), households in Brong Ahafo (59 percent), and households in the second wealth quintile (51 percent).

Table 12.1 Household possession of mosquito nets

Percentage of households with at least one mosquito net (treated or untreated), insecticide-treated net (ITN), and long-lasting insecticidal net (LLIN); average number of nets, ITNs, and LLINs per household; and percentage of households with at least one net, ITN, and LLIN per two persons who stayed in the household last night, by background characteristics, Ghana 2014

Background characteristic	Percentage of households with at least one mosquito net			Average number of nets per household			Number of households	Percentage of households with at least one net for every two persons who stayed in the household last night[1]			Number of households with at least one person who stayed in the household last night
	Any mosquito net	Insecticide-treated mosquito net (ITN)[2]	Long-lasting insecticidal net (LLIN)	Any mosquito net	Insecticide-treated mosquito net (ITN)[2]	Long-lasting insecticidal net (LLIN)		Any mosquito net	Insecticide-treated mosquito net (ITN)[2]	Long-lasting insecticidal net (LLIN)	
Residence											
Urban	61.2	60.1	55.9	1.1	1.1	1.0	6,503	42.4	41.3	37.4	6,444
Rural	79.8	78.4	72.7	1.6	1.6	1.4	5,332	51.5	50.0	45.0	5,299
Region											
Western	67.7	67.4	63.2	1.3	1.2	1.1	1,298	45.2	44.8	40.9	1,293
Central	71.1	69.7	64.0	1.3	1.3	1.1	1,180	46.0	44.4	40.8	1,167
Greater Accra	53.9	52.8	48.4	1.0	1.0	0.9	2,457	35.9	35.1	31.3	2,431
Volta	80.1	76.3	75.3	1.7	1.6	1.6	1,015	59.8	55.2	54.0	1,008
Eastern	76.1	73.1	67.2	1.5	1.4	1.2	1,255	54.8	52.0	45.8	1,249
Ashanti	71.0	70.3	62.7	1.4	1.3	1.1	2,216	47.4	46.7	40.0	2,194
Brong Ahafo	81.7	80.8	75.4	1.6	1.6	1.5	1,028	59.9	59.0	53.9	1,021
Northern	71.5	71.3	68.9	1.7	1.7	1.6	742	37.8	37.5	33.8	740
Upper East	73.2	72.8	71.0	1.5	1.5	1.4	378	37.0	36.5	35.4	376
Upper West	77.9	77.4	73.8	1.6	1.5	1.4	265	43.2	42.6	38.3	263
Wealth quintile											
Lowest	81.2	79.6	75.9	1.9	1.8	1.7	1,600	44.7	42.6	38.3	1,599
Second	79.6	77.9	70.7	1.6	1.6	1.4	2,211	52.7	50.9	44.9	2,197
Middle	71.1	69.7	64.8	1.3	1.3	1.2	2,647	49.7	48.7	44.1	2,622
Fourth	63.8	62.9	58.4	1.2	1.1	1.0	2,686	44.0	42.9	39.3	2,661
Highest	58.7	57.9	53.9	1.1	1.1	1.0	2,690	42.0	41.1	37.3	2,665
Total	69.6	68.3	63.5	1.4	1.3	1.2	11,835	46.5	45.2	40.8	11,743

[1] De facto household members
[2] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months

12.2 ACCESS TO AN INSECTICIDE-TREATED NET

The 2014 GDHS collected data on the proportion of the household population that could sleep under an ITN if each ITN in the household were used by up to two people. This population is referred to as having access to an ITN. Coupled with mosquito net usage, ITN access can provide useful information on the magnitude of the gap between ITN ownership and use (in other words, the population with access to an ITN but not using it). If the difference between these indicators is substantial, the programme may need to focus on behaviour change and how to identify the main drivers of and barriers to ITN use in order to design an appropriate intervention. Such an analysis would help ITN programme managers to determine whether they need to achieve higher ITN coverage, promote ITN use, or both.

Table 12.2 shows the percent distribution of the de facto household population by the number of ITNs owned by the household, according to the number of persons who stayed in the household the night before the survey. One in four households in Ghana (26 percent) have no ITN, one in five have one or three ITNs (21 percent and 20 percent, respectively), and one in four have two ITNs (26 percent).

Nationally, 59 percent of the household population in Ghana has access to an ITN. Access to an ITN fluctuates with household size; it is lowest among households with eight or more persons (48 percent) and highest among households with two or four persons (64 percent each).

Table 12.2 Access to an insecticide-treated net (ITN)

Percent distribution of the de facto household population by number of ITNs the household owns, according to number of persons who stayed in the household the night before the survey, Ghana 2014

| Number of ITNs | Number of persons who stayed in the household the night before the survey | | | | | | | | Total |
	1	2	3	4	5	6	7	8+	
0	46.6	36.0	26.7	24.3	23.1	19.3	19.1	20.7	25.5
1	41.5	33.6	29.7	22.7	14.5	15.3	17.9	8.6	21.1
2	9.6	22.2	27.9	32.6	31.6	31.3	21.1	20.2	26.0
3	1.9	7.8	13.9	16.6	22.7	25.2	32.1	29.7	19.9
4	0.2	0.3	1.2	2.2	3.8	5.1	5.1	6.9	3.4
5	0.2	0.1	0.3	0.8	2.6	2.8	3.5	5.1	2.1
6	0.0	0.0	0.2	0.5	0.9	0.8	1.0	5.6	1.3
7+	0.0	0.0	0.1	0.2	0.8	0.3	0.3	3.1	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3,142	3,760	5,246	6,097	6,713	5,656	3,642	6,081	40,337
Percent with access to an ITN[1]	53.4	64.0	63.4	64.3	61.9	60.1	54.5	48.4	59.0

[1] Percentage of the de facto household population who could sleep under an ITN if each ITN in the household were used by up to two people

Figure 12.1 shows the percentage of the household population with access to an ITN, by selected background characteristics. A higher percentage of rural than urban households have access to an ITN (64 percent and 54 percent, respectively). By region, this percentage is highest in Volta and Brong Ahafo regions (70 percent each) and lowest in Greater Accra (49 percent). The percentage of the household population with access to an ITN tends to decrease with increasing wealth, although the pattern is not linear.

Figure 12.1 Percentage of the de facto population with access to an ITN in the household

	Percent
TOTAL	59
RESIDENCE	
Urban	54
Rural	64
REGION	
Western	59
Central	58
Greater Accra	49
Volta	70
Eastern	64
Ashanti	60
Brong Ahafo	70
Northern	55
Upper East	56
Upper West	61
WEALTH QUINTILE	
Lowest	60
Second	64
Middle	61
Fourth	56
Highest	54
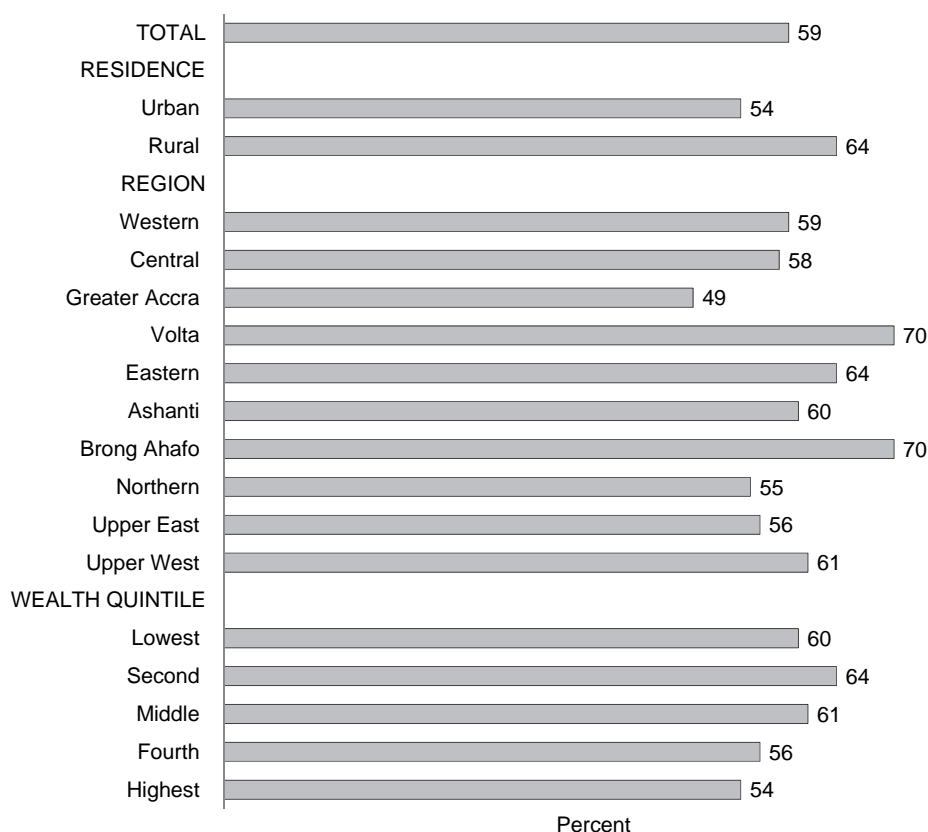
GDHS 2014

12.3 USE OF MOSQUITO NETS

Community-level protection against malaria helps reduce the spread of the disease and offers an additional level of protection for those most vulnerable: children under age 5 and pregnant women. This section describes use of mosquito nets among all persons in the household, among children under age 5, and among pregnant women.

12.3.1 Use of Mosquito Nets by Persons in the Household

Mosquito net coverage of the entire population is necessary to accomplish large reductions in the malaria burden. Although vulnerable groups (e.g., children under age 5 and pregnant women) should still be prioritised, the communal benefits of wide-scale ITN use by older children and adults should be promoted and evaluated by national malaria control programmes (Killeen et al. 2007).

Table 12.3 shows that, overall, only 37 percent of the household population slept under a net the night before the survey; 36 percent slept under an ITN, nearly all of which (33 percent) are LLINs. Children under age 5 are most likely to sleep under ITNs (47 percent). The population in rural areas is substantially more likely than urban population to sleep under an ITN (47 percent versus 24 percent). Notable differences are observed by region, with Volta having the highest percentage of household members who slept under an ITN the night before the survey (54 percent) and Greater Accra having the lowest percentage (16 percent). The percentage of the household population who slept under a net tends to decrease with wealth, from 46-50 percent of the population in the lowest two wealth quintiles to 18 percent of the population in the highest wealth quintile.

Forty-four percent of the household population slept either under an ITN the night before the survey or in a dwelling with indoor residual spraying (IRS) during the 12 months preceding the survey.

The proportion of the household population who slept under an ITN the night before the survey or slept in a dwelling that was sprayed during the 12 months preceding the survey is higher among children under age 5 (54 percent) when compared with other age groups, and it is twice as high in rural as in urban areas (58 percent versus 29 percent). The Upper East region has the highest percentage of the household population who slept under an ITN the night before the survey or slept in a dwelling that was sprayed during the 12 months preceding the survey (85 percent), and Greater Accra has the lowest percentage (18 percent).

In households that own at least one ITN, 48 percent of household members slept under an ITN the night before the survey. Those most likely to sleep under an ITN were children under age 5 (59 percent), household members living in rural areas (58 percent), those living in Volta (65 percent), and the population living in the second poorest households (61 percent).

Table 12.3 Use of mosquito nets by persons in the household

Percentage of the de facto household population who slept the night before the survey under a mosquito net (treated or untreated), under an insecticide-treated net (ITN), under a long-lasting insecticidal net (LLIN), and 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 the de facto household population in households with at least one ITN, the percentage who slept under an ITN the night before the survey, by background characteristics, Ghana 2014

Background characteristic	Household population					Household population in households with at least one ITN[1]	
	Percentage who slept under any net last night	Percentage who slept under an ITN[1] last night	Percentage who slept under an LLIN last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number	Percentage who slept under an ITN[1] last night	Number
Age (in years)							
<5	47.8	46.6	43.0	53.8	5,801	58.8	4,602
5-14	35.2	34.4	31.6	43.2	10,921	44.5	8,448
15-34	31.4	30.5	27.9	38.4	11,870	43.2	8,395
35-39	37.8	36.8	33.0	43.7	5,948	49.7	4,410
50+	37.8	36.4	33.4	44.6	5,790	50.3	4,183
Sex							
Male	35.6	34.7	31.7	43.4	19,302	47.0	14,251
Female	37.6	36.5	33.4	43.8	21,035	48.7	15,789
Residence							
Urban	24.4	23.7	21.9	28.7	19,905	35.5	13,261
Rural	48.6	47.3	43.0	58.1	20,432	57.6	16,779
Region							
Western	38.6	38.1	34.0	45.2	4,094	51.8	3,009
Central	43.1	42.5	38.7	47.7	3,927	56.1	2,972
Greater Accra	16.3	15.8	14.6	17.5	7,393	25.7	4,543
Volta	57.3	53.7	52.7	53.9	3,380	64.9	2,794
Eastern	40.2	38.0	34.2	38.7	3,934	48.5	3,089
Ashanti	34.7	34.1	29.2	38.6	7,378	44.8	5,610
Brong Ahafo	52.9	51.8	47.4	52.9	3,464	61.5	2,917
Northern	36.4	36.0	33.9	62.5	3,940	49.0	2,895
Upper East	31.3	31.2	30.1	85.0	1,697	40.9	1,296
Upper West	37.9	37.6	34.7	56.0	1,130	46.4	915
Wealth quintile							
Lowest	48.0	46.3	43.1	65.7	8,069	57.1	6,540
Second	51.4	49.8	44.7	56.9	8,104	61.1	6,611
Middle	39.4	38.5	35.1	43.5	8,079	51.5	6,050
Fourth	26.0	25.4	23.5	29.0	8,079	36.6	5,603
Highest	18.3	18.1	16.6	22.7	8,007	27.6	5,236
Total	36.7	35.7	32.6	43.6	40,337	47.9	30,040

Note: Total includes nine cases for whom information on age is missing.
[1] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN), or (2) a pretreated net obtained within the past 12 months, or (3) a net that has been soaked with insecticide within the past 12 months.
[2] Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or nongovernmental organisation

Figure 12.2 presents data on ownership and coverage of, access to, and use of ITNs in Ghana. About 7 in 10 households (68 percent) own at least one ITN. However, only 45 percent of households have enough ITNs to cover their entire household population (assuming that one ITN is used by two persons).

Fifty-nine percent of household members have access to an ITN, and 36 percent slept under an ITN the night before the survey. The difference between the percentage of households owning an ITN and the percentage of households with at least one ITN for every two persons who stayed in the household the night before the survey indicates that households in Ghana do not have sufficient number of ITNs to cover the households population. Similarly, the difference between the percentage of household population with access to an ITN within their household and the percentage who slept under an ITN the night before the survey indicates that ITN use is much lower than ITN access among the household population.

Figure 12.2 Ownership of, access to, and use of ITNs

Percent

| | Percent of households with at least one ITN | Percent of households with at least one ITN for every two persons who stayed in the household last night | Percent of the household population with access to an ITN within their household | Percent of the household population who slept under an ITN last night |
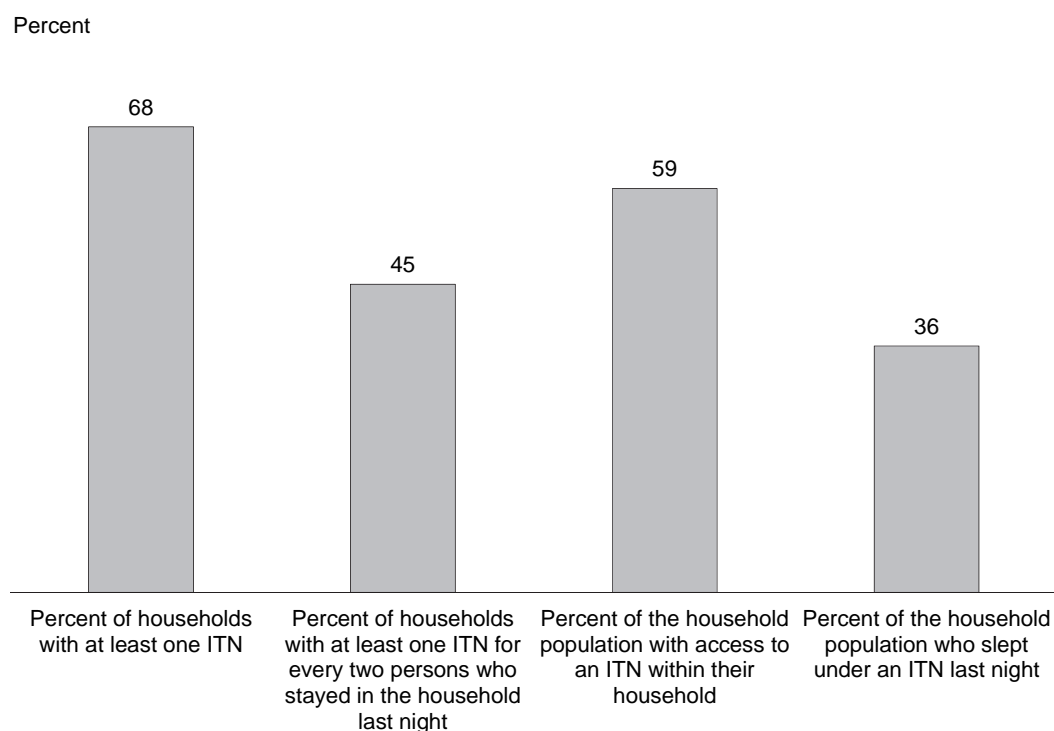
GDHS 2014

12 3.2 Use of Existing Mosquito Nets

Table 12.4 presents data on use of existing ITNs. Overall, 49 percent of ITNs were used by someone in the household the night before the survey, 59 percent in rural areas and 36 percent in urban areas. By region, Northern has the highest proportion of ITN usage (61 percent), while Greater Accra has the lowest proportion (26 percent). Use of existing ITNs decreases steadily with wealth, declining from 65 percent among the poorest households to 27 percent among the wealthiest ones.

Table 12.4 Use of existing ITNs

Percentage of insecticide-treated nets (ITNs) that were used by anyone the night before the survey, by background characteristics, Ghana 2014

Background characteristic	Percentage of existing ITNs[1] used last night	Number of ITNs[1]
Residence		
Urban	35.7	7,232
Rural	59.4	8,538
Region		
Western	50.3	1,607
Central	59.2	1,486
Greater Accra	25.9	2,436
Volta	60.2	1,638
Eastern	46.1	1,768
Ashanti	43.7	2,963
Brong Ahafo	57.2	1,659
Northern	60.7	1,256
Upper East	53.1	550
Upper West	58.2	408
Wealth quintile		
Lowest	65.1	2,901
Second	62.0	3,459
Middle	49.6	3,395
Fourth	37.2	3,042
Highest	27.3	2,973
Total	48.6	15,770

[1] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN), or (2) a pretreated net obtained within the past 12 months, or (3) a net that has been soaked with insecticide within the past 12 months

12.3.3 Use of Mosquito Nets by Children under Age 5

Malaria is endemic in all regions of Ghana. Those living in areas of high malaria transmission acquire immunity to the disease over time (Doolan et al. 2009). Acquired immunity is not the same as sterile immunity; that is, acquired immunity does not prevent infection but rather protects against severe disease and death. Age is an important factor in determining levels of acquired immunity to malaria. For about six months following birth, antibodies acquired from the mother during pregnancy protect children born in areas of endemic malaria. This immunity gradually disappears, and children start to develop their own immunity. The pace at which immunity develops depends on the level of exposure to malarial infection; in highly malaria-endemic areas, children are thought to attain a high level of immunity by their fifth birthday. Such children may experience episodes of illness but usually do not suffer from severe, life-threatening malaria. Immunity in areas of low malaria transmission is acquired more slowly. Malaria affects all age groups of the population in Ghana.

Table 12.5 shows the use of mosquito nets by children under age 5. Data show that nearly half of children (48 percent) slept under a mosquito net the night before the survey; 47 percent slept under an ITN (nearly all of which – 43 percent – are LLINs). Additionally, 54 percent of children under age 5 either slept under an ITN the night before the survey or slept in a dwelling sprayed with IRS in the past 12 months. Among households with at least one ITN, 59 percent of children under age 5 slept under an ITN the night before the survey.

The percentage of children under age 5 in all the households who slept under an ITN the night before the survey decreases with their age from 52 percent of children under 12 months to 41 percent of those 48-59 months. This percentage is higher in rural than in urban areas (55 percent versus 36 percent). There are variations by region, with Volta having the highest percentage of children under age 5 who slept under an ITN (66 percent) and Greater Accra region having the lowest percentage (26 percent). The percentage of children under age 5 who slept under an ITN the night before the survey tends to decrease with household wealth.

It is notable that while only one-third of children under age 5 in the Upper East region slept under an ITN the night before the survey (37 percent), when the recent IRS is taken into consideration, the proportion of protected children is the highest in country: 86 percent of children under age 5 in Upper East slept under an ITN the night before the survey or in a dwelling sprayed with IRS in the past year, compared with 26-69 percent of children in the other regions.

Table 12.5 Use of mosquito nets by children

Percentage of children under age 5 who, the night before the survey, slept under a mosquito net (treated or untreated), under an insecticide-treated net (ITN), under a long-lasting insecticidal net (LLIN), and 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 age 5 fin households with at least one ITN, the percentage who slept under an ITN the night before the survey, by background characteristics, Ghana 2014

Background characteristic	Children under age 5 in all households					Children under age 5 in households with at least one ITN[1]	
	Percentage who slept under any net last night	Percentage who slept under an ITN[1] last night	Percentage who slept under an LLIN last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of children	Percentage who slept under an ITN[1] last night	Number of children
Age (in months)							
<12	53.3	51.9	48.4	59.3	1,173	65.5	929
12-23	48.8	47.4	43.8	54.0	1,156	59.3	924
24-35	47.7	46.7	41.9	52.9	1,143	58.4	913
36-47	46.8	46.0	42.4	54.6	1,149	57.4	919
48-59	42.3	41.2	38.6	48.4	1,181	53.1	916
Sex							
Male	48.5	47.5	44.0	54.9	3,048	60.5	2,392
Female	47.0	45.6	42.0	52.6	2,754	56.8	2,210
Residence							
Urban	37.2	36.1	33.7	40.5	2,639	49.2	1,938
Rural	56.6	55.4	50.8	64.9	3,163	65.7	2,664
Region							
Western	49.1	48.0	43.7	52.8	583	60.8	461
Central	52.6	51.2	46.4	56.0	621	64.0	497
Greater Accra	26.6	25.9	25.0	26.3	906	37.2	630
Volta	69.6	66.3	65.4	66.3	464	75.1	410
Eastern	51.2	49.0	43.3	49.3	559	58.7	466
Ashanti	48.3	47.2	41.1	51.1	1,043	58.1	847
Brong Ahafo	61.5	60.8	56.4	61.6	524	71.8	444
Northern	43.5	43.2	41.3	67.5	709	57.6	531
Upper East	37.4	37.4	35.6	86.1	238	48.5	183
Upper West	55.2	54.5	51.9	69.1	154	63.2	133
Wealth quintile							
Lowest	56.6	55.3	52.2	71.5	1,306	67.4	1,071
Second	61.0	59.5	53.6	66.6	1,219	70.1	1,034
Middle	49.3	48.1	43.3	52.8	1,145	60.7	907
Fourth	36.6	35.2	32.9	38.7	1,108	48.1	810
Highest	31.3	30.9	29.5	33.7	1,024	40.5	780
Total	47.8	46.6	43.0	53.8	5,801	58.8	4,602

Note: Table is based on children who stayed in the household the night before the interview.
[1] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN), or (2) a pretreated net obtained within the past 12 months, or (3) a net that has been soaked with insecticide within the past 12 months.
[2] Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or nongovernmental organisation.

12.3.4 Use of Mosquito Nets by Pregnant Women

In malaria-endemic areas, adults usually acquire some degree of immunity to severe, life-threatening malaria. However, pregnancy leads to suppression of the immune system; thus, pregnant women, especially those in their first pregnancy, have a high risk of malarial infection. Moreover, malaria among pregnant women may be asymptomatic. Malaria during pregnancy is a major contributor to low birth weight, maternal anaemia, infant mortality, spontaneous abortion, and stillbirth. Pregnant women can reduce the risk of these adverse effects of malaria by sleeping under insecticide-treated mosquito nets.

Table 12.6 shows the use of mosquito nets by pregnant women by background characteristics. Overall, 45 percent of pregnant women age 15-49 slept under any net the night before the survey, 43 percent slept under an ITN (the majority of which—39 percent—were LLINs). In addition, half of pregnant women either slept under an ITN the night before the survey or slept in a dwelling that had been sprayed in the past 12 months. Among households with at least one ITN, more than half of pregnant women (54 percent) slept under an ITN the night before the survey.

ITN use by pregnant women in all households is higher in rural than in urban areas (55 percent versus 31 percent). ITN use is lowest among pregnant women living in Greater Accra (18 percent), among women with a secondary or higher education (30 percent), and among those in the highest two wealth quintiles (25-28 percent).

Similar to children under age 5, although only one-third of pregnant women in the Upper East region slept under an ITN the night before the survey (34 percent), the proportion of pregnant women who are protected is the highest in country. During the night before the survey, 83 percent of pregnant women in Upper East slept under an ITN or in a dwelling sprayed with IRS in the past 12 months, compared with 19-69 percent of pregnant women in the other regions.

Table 12.6 Use of mosquito nets by pregnant women

Percentages of pregnant women age 15-49 who, the night before the survey, slept under a mosquito net (treated or untreated), under an insecticide-treated net (ITN), under a long-lasting insecticidal net (LLIN), and 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 pregnant women age 15-49 in households with at least one ITN, the percentage who slept under an ITN the night before the survey, by background characteristics, Ghana 2014

Background characteristic	Among pregnant women age 15-49 in all households					Among pregnant women age 15-49 in households with at least one ITN[1]	
	Percentage who slept under any net last night	Percentage who slept under an ITN[1] last night	Percentage who slept under an LLIN last night	Percentage who slept under an ITN[1] last night or in a dwelling sprayed with IRS[2] in the past 12 months	Number of women	Percentage who slept under an ITN[1] last night	Number of women
Residence							
Urban	31.7	31.2	27.4	35.1	323	41.2	244
Rural	57.6	55.1	49.3	63.9	331	65.8	277
Region							
Western	43.5	41.9	32.4	46.6	71	55.0	54
Central	52.8	44.7	39.1	48.7	73	61.8	53
Greater Accra	17.8	17.8	15.0	18.9	125	(26.8)	84
Volta	(72.6)	(68.6)	(68.6)	(68.6)	43	(72.4)	41
Eastern	51.9	50.2	44.0	50.8	68	62.1	55
Ashanti	44.2	44.2	37.2	50.1	103	49.5	92
Brong Ahafo	67.8	67.8	63.7	67.8	59	74.6	53
Northern	49.6	49.6	45.1	65.6	69	60.7	56
Upper East	34.1	34.1	34.1	83.2	28	44.0	22
Upper West	(35.8)	(35.8)	(35.8)	(55.9)	14	(47.0)	11
Education							
No education	49.6	48.0	43.1	62.9	156	60.0	125
Primary	56.7	56.0	51.5	59.5	109	66.8	91
Middle/JSS/JHS	43.5	41.2	36.0	44.8	266	52.1	210
Secondary+	31.2	30.4	26.5	34.7	124	39.6	95
Wealth quintile							
Lowest	57.8	57.1	53.3	73.1	118	66.5	101
Second	56.5	54.6	47.7	59.2	123	64.0	105
Middle	54.4	54.4	47.5	59.5	136	70.7	105
Fourth	30.6	24.8	24.0	28.8	118	33.3	88
Highest	28.4	28.4	23.4	31.9	159	37.0	122
Total	44.8	43.3	38.5	49.6	654	54.3	521

Note: Table is based on women who stayed in the household the night before the interview. Figures in parentheses are based on 25-49 unweighted cases.
[1] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN), or (2) a pretreated net obtained within the past 12 months, or (3) a net that has been soaked with insecticide within the past 12 months.
[2] Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or nongovernmental organisation.

12.3.5 Trends in Use of Mosquito Nets by Children under Age 5 and Pregnant Women

Figure 12.3 shows that the proportion of children under age 5, in all households, who slept under an ITN the night before the survey, has increased steadily and substantially in the last decade from 4 percent in 2003, to 39 percent in 2008, and further to 47 percent in 2014. Similarly, among pregnant women in all the households, the percentage who slept under an ITN the night before the survey has increased from 3 percent in 2003, to 27 percent in 2008, and to 43 percent in 2014.

Figure 12.3 **Trends in ITN use**

Percent

■2003 GDHS   ■2008 GDHS   ■2014 GDHS
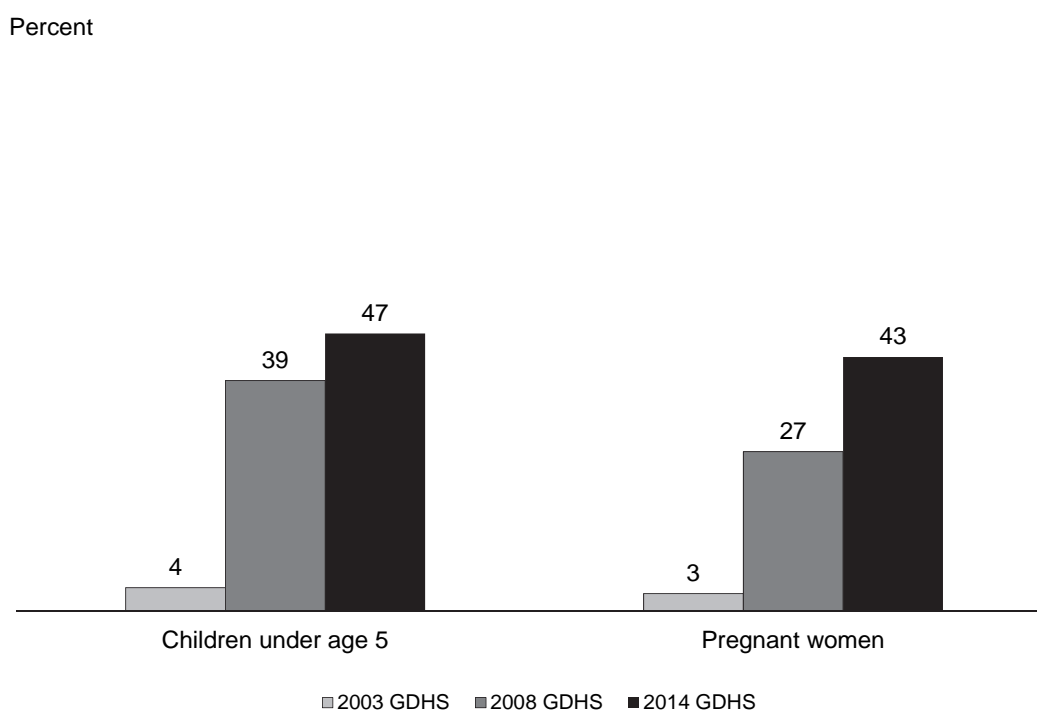
12.3.6 Source and Cost of Nets

Since Ghana's introduction to the Roll Back Malaria initiative in 1998, the mosquito nets have been provided by different public and private sources, during a continuous distribution process or through mass distribution campaigns. According to the National Malarial Control Programme (NMCP), most nets in the country are distributed free of charge (NMCP 2013). To complement net distribution points in the public sector, a private sector E-coupon program was piloted in the Eastern region with the overall objective of stimulating retail markets and offering consumers a choice of product. Marketing strategies created demand and targeted both retailers and consumers. E-coupon issuing points were established close to participating retailers where consumers redeemed their coupons for a discounted net (USAID 2014). E-coupons worth 50 percent of the retail purchase price of a net which was about 17-18 Ghana cedis[1] (GHS) depending on type were issued at participating private clinics, workplaces, pharmacies and other retailers.

The 2014 GDHS household respondents were asked about the source of the mosquito nets in their households and their cost. Table 12.7 shows that 81 percent of the nets in Ghana come from the public sector, while only 2 percent come from the private sector. The data further show that most nets (85 percent) are acquired for free; only one in seven nets (15 percent) is purchased. Rural households are more likely to acquire nets for free when compared with urban households (87 percent versus 83 percent). By region, the percentage of households acquiring free nets is remarkably high in the Upper East and Northern

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[1] Ghanaian cedi (GHS) = approximately 0.32 US Dollars (as of December 2014)

regions (94-95 percent) and falls below 80 percent in Greater Accra (79 percent). This percentage decreases with increasing wealth, from 89 percent of the poorest households to 80 percent of the wealthiest ones.

The mean cost of the purchased nets is 7.2 Ghana cedis.

Table 12.7 Source and cost of nets

Percent distribution of mosquito nets by source and mean cost of mosquito nets in Ghana cedis, according to background characteristics, Ghana, 2014

| | All nets | | | | | | | | Purchased nets | |
| | Source of net | | | | Acquired for free or purchased | | | | | |
Background characteristic	Public sector	Private sector	Other/ Don't know/ Missing	Total	Acquired for free	Purchased	Total	Number of mosquito nets	Mean cost in Ghana cedis	Number of purchased nets
Residence										
Urban	80.0	3.3	16.7	100.0	82.9	17.1	100.0	7,410	8.6	1,270
Rural	82.1	0.8	17.0	100.0	87.4	12.6	100.0	8,761	5.8	1,104
Region										
Western	77.9	1.4	20.7	100.0	89.2	10.8	100.0	1,623	4.6	175
Central	78.5	2.0	19.5	100.0	85.3	14.7	100.0	1,518	6.9	223
Greater Accra	76.8	4.0	19.2	100.0	79.0	21.0	100.0	2,489	8.3	524
Volta	81.8	0.8	17.4	100.0	82.6	17.4	100.0	1,740	9.5	302
Eastern	77.2	1.8	21.0	100.0	84.0	16.0	100.0	1,881	5.5	301
Ashanti	82.3	1.9	15.8	100.0	86.2	13.8	100.0	2,999	8.6	415
Brong Ahafo	86.9	3.1	10.0	100.0	82.2	17.8	100.0	1,687	5.4	300
Northern	90.5	0.5	9.0	100.0	94.9	5.1	100.0	1,266	6.3	65
Upper East	78.7	0.3	21.0	100.0	94.0	6.0	100.0	554	6.3	33
Upper West	87.1	0.3	12.6	100.0	90.9	9.1	100.0	412	4.8	38
Wealth quintile										
Lowest	84.6	0.4	14.9	100.0	88.9	11.1	100.0	2,993	6.5	333
Second	82.2	0.6	17.2	100.0	85.9	14.1	100.0	3,581	5.4	506
Middle	82.4	1.3	16.3	100.0	86.3	13.7	100.0	3,472	6.3	475
Fourth	80.8	2.3	16.9	100.0	85.3	14.7	100.0	3,099	6.8	455
Highest	75.2	5.6	19.2	100.0	80.0	20.0	100.0	3,026	10.6	605
Total	81.1	2.0	16.9	100.0	85.3	14.7	100.0	16,171	7.2	2,375

Note: 1 Ghana cedi = approximately 0.32 USD

12.3.7 Disposal of Nets

A substantial number of mosquito nets are being distributed in Ghana as part of the country's efforts towards universal net coverage. Disposal of the used or expired nets, especially insecticide-treated nets, introduces waste into the environment. Concerns arise over the potential environmental and human health harm associated with the disposal of used, treated nets and their non-biodegradable packaging materials The NMCP, in consultation with the Malaria Vector Control Oversight Committee and Ghana's Environmental Protection Agency, has considered recycling the used nets and their packaging materials. The process is supported by various manufacturers and donor agencies. The ITN and LLIN manufacturers are especially receptive to the idea of more environmentally friendly practices, including recycling the used nets and switching to biodegradable packaging materials.

The 2014 GDHS household respondents were asked if they disposed of any treated nets in the past 12 months and, if so, what was the mode of disposal, length of use prior to net disposal, and main reason for the disposal. Tables 12.8 and 12.9 present the findings. Overall, one in six households (17 percent) disposed of a treated net during the past 12 months. This proportion is highest among households in rural areas (21 percent), in the Northern region (24 percent), and in the lowest wealth quintile (25 percent).

Table 12.8 Household disposal of mosquito nets

Percentage of households with at least one mosquito net (treated or untreated) that disposed of any treated nets during the past 12 months, by background characteristics, Ghana 2014

Background characteristic	Percentage that disposed of at least one treated net in the past 12 months	Number of households with at least one mosquito net
Residence		
Urban	11.9	3,983
Rural	21.3	4,253
Region		
Western	18.5	878
Central	22.1	839
Greater Accra	9.4	1,324
Volta	13.5	814
Eastern	18.5	955
Ashanti	14.8	1,573
Brong Ahafo	19.8	840
Northern	23.6	530
Upper East	20.9	277
Upper West	20.7	206
Wealth quintile		
Lowest	24.9	1,300
Second	20.2	1,761
Middle	16.6	1,882
Fourth	12.7	1,714
Highest	11.1	1,579
Total	16.8	8,236

Table 12.9 shows that the most common method of disposal of the treated nets is by throwing them into the garbage or refuse dump (66 percent). In addition, 17 percent of households burned their nets and 14 percent used them for another purpose. Urban households are more likely than rural households to throw their used nets into the garbage or refuse dumps (70 percent versus 63 percent), while rural households are more likely than urban households to reuse their nets for another purpose (18 percent versus 6 percent).

Table 12.9 Mosquito net disposal

Percent distribution of households that disposed of any treated net in the 12 months preceding the survey, by method of disposal, length of use prior to disposal, and main reason for disposal of the last disposed treated net, according to residence, Ghana 2014

| Method of disposal/Length of use prior to disposal/Main reason for disposal | Residence | | |
	Urban	Rural	Total
Method of disposal of last treated net disposed			
Burned	19.2	16.4	17.4
Buried	1.8	1.3	1.5
Garbage or refuse dump	70.2	63.0	65.5
Reused for other purpose	6.4	17.6	13.7
Other/Don't know	2.4	1.7	2.0
Total	100.0	100.0	100.0
Length of use prior to disposal of last treated net			
Less than 2 years	66.2	48.7	54.7
2-4 years	28.0	45.5	39.5
More than 4 years	4.5	5.0	4.8
Don't know	1.0	0.8	0.9
Total	100.0	100.0	100.0
Main reason for disposal of last treated net			
Torn	77.8	85.6	82.9
Could not repel mosquitos anymore	10.5	7.3	8.4
Got a new one	9.3	6.1	7.2
Other/Don't know	2.0	0.9	1.3
Total	100.0	100.0	100.0
Number of households that disposed of a treated net in the past 12 months	476	908	1,383

Note: Totals may not add up to 100 percent because households with missing information are not shown separately.

Fifty-five percent of households disposed of their treated nets after using them for less than two years. According to WHO, the current generation of LLINs lasts for three to five years (WHO/Global Malaria Programme 2007). In Ghana, 40 percent of households disposed of their treated nets after using them for two to four years. Data show that the main reason for disposing of the treated nets is that they are torn (83 percent), indicating that nets in the country are not lasting as long as expected.

12.4 INDOOR RESIDUAL SPRAYING

Indoor residual spraying (IRS), a key component of malaria prevention, is part of the integrated vector management strategy in Ghana. IRS has a significant impact on the mosquito population and, therefore, can lead to rapid reductions in malaria transmission and subsequent mortality. IRS involves spraying of the interior walls with insecticide with the goal of killing mosquitoes when they rest on the sprayed walls. In addition to reducing the mosquito population and, in turn, human-vector contact, IRS decreases the population of other insects of public health importance, thus reducing overall morbidity and saving costs. IRS is implemented as a vector control strategy in selected districts based on the burden and technical feasibility. The IRS programme targets 63 districts in six of the ten regions in Ghana. However, as of 2013, it had covered only 33 districts in the targeted six regions. AngloGold Ashanti, a private mining company, and the USAID-President's Malaria Initiative (PMI) have been the main implementers of IRS.

To obtain information on the prevalence of indoor residual spraying, all households interviewed in the 2014 GDHS survey were asked whether the interior walls of their dwelling had been sprayed to protect against mosquitoes during the 12-month period before the survey and, if so, who had sprayed the dwelling. Table 12.10 shows that only 10 percent of households had been sprayed in the 12 months preceding the survey. There is a difference in IRS by residence, with rural households being three times as likely as urban households to have been sprayed in the past 12 months (15 percent versus 5 percent). Regionally, only 2 percent or less of households in Greater Accra, Volta, Eastern, and Brong Ahafo had their dwelling sprayed, as compared with 79 percent of households in Upper East, 37 percent of households in Northern, and 32 percent of households in Upper West, all malaria-endemic regions. Households in the lowest wealth quintile (29 percent) are much more likely to have been sprayed when compared with households in the other wealth quintiles (5-9 percent).

The combination of IRS and use of an ITN offers the greatest protection against malaria. Overall, 71 percent of households are protected by owning at least one ITN and/or by having received IRS in the past 12 months. Variations by residence, region, and wealth are similar to the ones observed for IRS in the past 12 months. Rural households are more likely than urban households to have at least one ITN and/or to have been sprayed against mosquitoes in the preceding 12 months (58 percent versus 44 percent). This proportion is highest among households in Upper East (93 percent) and those in the bottom wealth quintile (86 percent).

ITNs must be available in sufficient quantities for use by household members. Only half of the households in Ghana have at least one ITN for every two persons and/or have been sprayed in the past 12 months.

Fifty-three percent of households had their dwelling sprayed by government workers or programmes, 18 percent were sprayed by nongovernmental organisations, and 15 percent were sprayed by private sector companies (data not shown).

Table 12.10 Indoor residual spraying against mosquitoes

Percentage of households in which someone has come into the dwelling to spray the interior walls against mosquitoes (IRS) in the past 12 months, the percentage of households with at least one ITN and/or IRS in the past 12 months, and the percentage of households with at least one ITN for every two persons and/or IRS in the past 12 months, by background characteristics, Ghana 2014

Background characteristic	Percentage of households with IRS[1] in the past 12 months	Percentage of households with at least one ITN[2] and/or IRS in the past 12 months	Percentage of households with at least one ITN[2] for every two persons and/or IRS in the past 12 months	Number of households
Residence				
Urban	5.4	62.2	44.1	6,503
Rural	15.0	81.6	58.2	5,332
Region				
Western	9.4	70.4	50.1	1,298
Central	9.8	72.2	48.8	1,180
Greater Accra	2.3	53.9	35.9	2,457
Volta	1.1	76.5	55.1	1,015
Eastern	1.3	73.6	52.4	1,255
Ashanti	7.1	72.1	49.9	2,216
Brong Ahafo	1.6	81.0	59.3	1,028
Northern	36.8	81.4	59.6	742
Upper East	79.0	92.5	86.9	378
Upper West	31.6	83.0	59.0	265
Wealth quintile				
Lowest	29.2	86.0	61.0	1,600
Second	8.7	80.1	55.2	2,211
Middle	8.1	71.8	52.5	2,647
Fourth	4.7	64.3	44.9	2,686
Highest	5.5	60.2	43.7	2,690
Total	9.7	70.9	50.4	11,835

[1] Indoor residual spraying (IRS) is limited to spraying conducted by a government, private, or nongovernmental organisation.
[2] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN), or (2) a pretreated net obtained within the past 12 months, or (3) a net that has been soaked with insecticide within the past 12 months.

12.5   USE OF INTERMITTENT PREVENTIVE TREATMENT OF MALARIA DURING PREGNANCY

In areas of high malaria transmission, by the time an individual reaches adulthood, he or she has acquired immunity that protects against severe disease. However, pregnant women—especially those pregnant for the first time—frequently regain their susceptibility to malaria. Although malaria in pregnant women may not manifest itself as either febrile illness or severe disease, it is frequently the cause of mild to severe anaemia. In addition, malaria during pregnancy can interfere with the maternal-foetal exchange that occurs at the placenta, leading to the delivery of low birth weight infants, miscarriage, foetal death, or still birth.

Policies on malaria during pregnancy are well articulated in Ghana. Intermittent preventive treatment of malaria during pregnancy (IPTp) is provided as part of the antenatal care (ANC) package. The recommended medicine, sulphadoxine-pyrimethamine (SP), is administered free to pregnant women as a directly observed therapy in both public and private ANC delivery points across the country (MoH 2014).

Women in the 2014 GDHS who had a live birth in the two years preceding the survey were asked whether they took any antimalarial medications during the pregnancy leading to their most recent birth and, if so, which types of medication. Women were also asked whether the medicines they took were received during a prenatal care visit. It should be noted that obtaining information about medicines can be difficult because some respondents may not know or remember the name or the type of medicines that they received.

Table 12.11 shows that 83 percent of women with a live birth in the two years preceding the survey reported taking at least one dose of SP/Fansidar during an ANC visit; 68 percent reported taking two or more doses of SP/Fansidar, and 39 percent reported taking three or more doses of SP/Fansidar, at

least one of which was received during an ANC visit. A higher proportion of women in urban than in rural areas received three or more doses of SP/Fansidar, at least one of which was received during an ANC visit (42 percent and 36 percent, respectively). This proportion is highest among women in the Brong Ahafo region (52 percent) and lowest among women in Upper East (31 percent). When compared with other subgroups, women with a secondary or higher education and those in the wealthiest households (51 percent each) are the most likely to have received three or more doses of SP/Fansidar, with at least one dose received during an ANC visit.

Table 12.11 Use of intermittent preventive treatment (IPTp) by women during pregnancy

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 any SP/Fansidar during an ANC visit, and who took at least two doses of SP/Fansidar and received at least one dose during an ANC visit, and who took at least three doses of SP/Fansidar and received one dose during an ANC visit, by background characteristics, Ghana 2014

Background characteristic	Percentage who received any SP/Fansidar during an ANC visit	Percentage who took 2+ doses of SP/Fansidar and received at least one during ANC visit	Percentage who took 3+ doses of SP/Fansidar and received at least one during ANC visit	Number of women with a live birth in the two years preceding the survey
Residence				
Urban	82.7	68.2	41.9	1,009
Rural	82.3	66.9	35.8	1,255
Region				
Western	86.9	67.3	43.9	217
Central	85.9	68.9	31.9	258
Greater Accra	78.2	59.3	35.3	332
Volta	80.0	65.1	32.1	177
Eastern	78.5	64.2	42.0	206
Ashanti	82.2	73.2	40.0	397
Brong Ahafo	93.3	80.7	51.5	214
Northern	75.9	60.7	36.4	304
Upper East	84.1	67.7	30.6	95
Upper West	90.4	73.8	38.8	64
Education				
No education	78.0	63.0	34.5	606
Primary	81.7	66.5	33.9	431
Middle/JSS/JHS	85.4	69.6	38.9	903
Secondary+	83.7	71.4	51.0	324
Wealth quintile				
Lowest	78.2	64.7	36.6	519
Second	83.4	70.8	36.1	474
Middle	85.1	64.1	36.1	433
Fourth	80.6	63.2	34.9	444
Highest	86.2	75.6	50.6	393
Total	82.5	67.5	38.5	2,264

The 2014 GDHS interviewers asked women with a live birth in the two years preceding the survey to show the ANC cards for the most recent pregnancy that resulted in a live birth. The interviewers recorded the number of doses of SP/Fansidar given to women during their last pregnancy as documented on the ANC cards that were seen. To compare the number of doses of SP/Fansidar received based on the mother's self-reporting with the number of doses recorded on the ANC cards, self-reported IPTp was recalculated on the subsample of women with a live birth in the two years preceding the survey *with an ANC card seen* for the most recent pregnancy. Among this subsample of women, 86 percent reported taking one dose of SP/Fansidar during an ANC visit, compared with 83 percent as recorded on the ANC cards; 69 percent reported taking two or more doses at least one of which was received during an ANC visit, compared with 70 percent as recorded on the ANC cards; and 40 percent reported taking three or more doses of SP/Fansidar, at least one of which was received during an ANC visit, compared with 41 percent as recorded on the ANC cards (data not shown). These percentages are similar to those shown in Table 12.11 that are based on self-reported IPTp among all women with a live birth in the two years preceding the survey.

Data from the 2014 GDHS shows marked improvement in IPTp coverage since the 2008 GDHS, when the MoH and the Ghana National Malaria Control Programme recommended that pregnant women receive at least two doses of SP/Fansidar during pregnancy as IPTp against malaria. In the 2008 GDHS,

only 44 percent of women reported receiving two or more doses, at least one of which was during an ANC visit compared with 68 percent in 2014 GDHS.

12.6 PREVALENCE, DIAGNOSIS, AND PROMPT TREATMENT OF CHILDREN WITH FEVER

In 2010, the Ghana policy of presumptive diagnosis was revised to require testing for malaria before any treatment. This led to the introduction of the rapid diagnostic test (RDT) kits. The diagnosis of malaria in Ghana is based on detection of parasites in the blood using malaria rapid diagnostic tests (MRDT), which are widely available in all public and private health facilities, as well as using microscopy in all public and private hospitals and clinics. Prompt and effective treatment of malaria treatment is essential to prevent the disease from progressing to a severe stage, thus becoming more dangerous. Fever is a major manifestation of malaria in young children, although it also accompanies other illnesses. In malaria endemic areas, it is important that children experiencing fever receive prompt testing for malaria parasites, either by rapid diagnostic test or by microscopy to confirm the disease before any malaria medicine is administered.

Guided by the WHO criteria and recommendations, artemisinin-based combination therapy (ACT) remains the medicine of choice for treatment of uncomplicated malaria in Ghana. In 2007, the anti-malaria drug policy was reviewed by the MoH and the GHS to include artemether–lumefantrine (AL) and dihidroartemisinin–piperaquine (DHAP) as additional options to artesunate–amodiaquine. These changes have since addressed the identified lapses, such as adverse reactions of varying degrees of severity reported across the country. AL and DHAP, however, target mostly individuals who are hypersensitive to artes-unate–amodiaquine (MoH 2014).

As a primary manifestation of malaria, fever occurs year round but malaria is most prevalent during the rainy season. Therefore, temporal factors must be taken into consideration when interpreting the occurrence of fever as an indicator of malaria prevalence. Malaria case management, one of the most fundamental strategic areas of malaria control, is the identification, diagnosis, and prompt treatment of all malaria cases with appropriate and effective antimalarial medicines. As almost all treatment of malarial fevers occurs at home, caregivers are often trained in providing prompt and effective management to prevent malaria from becoming severe, thus preventing malaria-related morbidity and mortality.

In the 2014 GDHS, mothers were asked if their children under age 5 had experienced an episode of fever in the two weeks preceding the survey and, if so, whether treatment and advice were sought. Information was also collected on the type and timing of the treatment given. Table 12.12 shows the percentage of children under age 5 who had a fever in the two weeks preceding the survey and, among those with a fever, (1) the percentage for whom advice or treatment was sought from a health facility, provider, or pharmacy; (2) the percentage who had a drop of blood taken from a finger or heel (presumably for a malaria test); (3) the percentage who took artemisinin-based combination therapy or any antimalarial medicine; and (4) the percentage who took medicines on the same or next day.

Fourteen percent of children under age 5 had fever in the two weeks preceding the survey. The prevalence of fever is highest among children age 12-35 months (17 percent). It is slightly higher among male than female children (15 percent versus 13 percent), and among children living in rural than in urban areas (15 percent versus 12 percent). Furthermore, the percentage of children with fever in the two weeks before the survey is highest in Upper West (25 percent), among children whose mothers have no education (16 percent), and among those in the lowest two wealth quintiles (16-17 percent).

Among children who had fever in the last two weeks, advice or treatment was sought for 77 percent, and 34 percent had blood taken from a finger or heel for testing. Thirty-eight percent of children who had a fever took ACT, and 26 percent took ACT the same or the next day. Thirty-four percent of children with a fever took antimalarial medicines the same or next day.

There are slight variations in the percentage of children with fever for whom advice or treatment was sought by background characteristics. The percentage of children for whom advice or treatment was sought for their fever is highest in the 12-23 month age group (82 percent), among female children (80 percent), among those living in the Western region (91 percent), among children of mothers with a secondary or higher education (84 percent), and among those in the fourth wealth quintile (83 percent).

Table 12.12 Prevalence, diagnosis, and prompt treatment of children with fever

Percentage of children under age 5 with fever in the two weeks preceding the survey; and among children under age 5 with fever, the percentage for whom advice or treatment was sought, the percentage who had blood taken from a finger or heel, the percentage who took any artemisinin-based combination therapy (ACT), the percentage who took ACT the same or next day following the onset of fever, the percentage who took antimalarial medicines, and the percentage who took antimalarial medicines the same or next day following the onset of fever, by background characteristics, Ghana 2014

| | Among children under age 5: | | Among children under age 5 with fever: | | | | | | |
Background characteristic	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage for whom advice or treatment was sought[1]	Percentage who had blood taken from a finger or heel for testing	Percentage who took any ACT	Percentage who took any ACT same or next day	Percentage who took antimalarial medicines	Percentage who took antimalarial medicines same or next day	Number of children
Age (in months)									
<12	9.2	1,163	77.0	29.7	28.3	12.0	30.3	13.2	107
12-23	16.8	1,113	82.3	37.7	38.6	27.4	51.5	34.2	188
24-35	16.9	1,090	76.9	33.1	40.2	31.1	52.4	42.0	185
36-47	13.3	1,060	73.6	41.0	35.9	24.3	47.0	31.5	141
48-59	13.1	1,004	72.7	27.9	43.8	31.4	55.4	39.2	131
Sex									
Male	14.5	2,822	74.5	32.6	36.3	23.4	46.8	28.8	409
Female	13.1	2,608	79.8	36.4	39.9	29.6	50.6	39.1	342
Residence									
Urban	12.4	2,450	77.6	28.9	34.7	26.7	47.3	35.1	304
Rural	15.0	2,981	76.5	38.0	40.1	25.9	49.3	32.4	448
Region									
Western	10.9	557	91.0	56.7	68.6	59.9	80.0	68.1	61
Central	10.9	588	82.1	47.3	40.7	32.7	65.1	55.4	64
Greater Accra	10.7	858	(76.3)	(21.6)	(27.7)	(19.8)	(31.3)	(19.8)	91
Volta	13.8	417	72.1	37.6	37.6	29.1	45.5	33.8	58
Eastern	17.8	506	71.9	40.1	35.6	25.9	44.7	32.6	90
Ashanti	15.3	995	70.0	15.9	37.0	23.7	48.0	30.4	152
Brong Ahafo	13.9	478	76.4	36.1	47.4	27.1	54.6	33.5	67
Northern	15.8	670	81.2	26.2	19.0	9.7	33.1	17.9	106
Upper East	12.7	219	81.3	67.1	36.8	33.4	47.0	43.6	28
Upper West	24.9	143	80.4	60.0	56.6	22.4	62.0	24.1	36
Mother's education									
No education	16.0	1,473	79.6	34.5	34.0	18.6	45.4	24.8	236
Primary	14.1	1,084	76.8	35.9	37.7	28.4	46.9	34.5	153
Middle/JSS/JHS	12.9	2,124	72.3	34.1	36.2	27.6	48.9	37.7	273
Secondary+	12.0	748	84.0	32.2	54.0	38.4	58.3	42.1	90
Wealth quintile									
Lowest	15.5	1,198	72.9	35.9	30.9	17.3	41.4	23.9	186
Second	16.6	1,137	74.7	29.8	39.0	25.4	46.4	29.5	189
Middle	14.2	1,065	79.1	46.2	42.1	35.3	54.6	43.3	151
Fourth	10.8	1,025	82.7	26.7	38.0	22.7	51.4	35.7	110
Highest	11.5	1,006	78.6	30.9	41.9	33.3	52.8	40.6	116
Total	13.8	5,431	76.9	34.3	37.9	26.2	48.5	33.5	752

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes market and traditional practitioner

Among children under age 5 with fever in the past two weeks who took antimalarial medicines, 78 percent took ACT, 9 percent took SP/Fansidar, 7 percent took quinine, 3 percent took chloroquine, 2 percent took artemisinin, and 4 percent took other antimalarial medicines (data not shown due to the small numbers of children who had a fever and who took antimalarials).

Table 12.13 shows the sources of advice or treatment for children with fever in the two weeks preceding the survey. The public sector is the principal source for advice or treatment (60 percent). For about 4 in 10 children with fever (38 percent), advice or treatment was sought from the private sector. The government health centres (30 percent) and government hospitals (24 percent) are the main public sources, while the pharmacy/chemical/drug stores (27 percent) are the main private sector sources of advice or treatment.

Table 12.13 Source of advice or treatment for children with fever

Percentage of children under age five with fever in the two weeks preceding the survey for whom advice or treatment was sought from specific sources; and among children under age five with fever in the two weeks preceding the survey for whom advice or treatment was sought, the percentage for whom advice or treatment was sought from specific sources, by background characteristics, Ghana 2014

Background characteristic	Percentage for whom advice or treatment was sought from each source:	
	Among children with fever	Among children with fever for whom advice or treatment was sought
Any public sector source	47.5	59.5
Government hospital	19.0	23.8
Government health centre	23.6	29.6
Government health post	5.2	6.5
Mobile clinic	0.1	0.1
Fieldworker	0.1	0.2
Any private sector source	30.6	38.3
Private hospital/clinic	8.0	10.0
Pharmacy/chemical/drug store	21.7	27.2
Private doctor	0.1	0.1
Mobile clinic	0.2	0.3
Fieldworker	0.1	0.1
Maternity home	0.4	0.4
Other private medical sector	0.1	0.2
Any other source	**2.9**	**3.7**
Shop/market	0.3	0.4
Traditional practitioner	1.4	1.8
Drug peddler	0.4	0.5
Other	0.8	1.0
Number of children	752	600

12.7   PREVALENCE OF LOW HAEMOGLOBIN IN CHILDREN

The 2014 GHDS also assessed the prevalence of anaemia among children age 6-59 months (see also Chapter 11 in this report). Poor dietary intake of iron is only one of numerous causes of anaemia; malaria infection can also result in a person becoming anaemic. A haemoglobin concentration of less than 8.0 g/dl is considered low and may indicate an individual has malaria (Korenromp et al. 2004).

Overall, 8 percent of children age 6-59 months have a haemoglobin level less than 8.0 g/dl (Table 12.14). Children 12-17 months (17 percent), those living in rural areas (12 percent) and in the Northern and Upper West regions (18 percent and 17 percent, respectively), and children in the lowest wealth quintile (16 percent) are the most likely to have low haemoglobin levels.

Table 12.14 Haemoglobin <8.0 g/dl in children

Percentage of children age 6-59 months with haemoglobin lower than 8.0 g/dl, by background characteristics, Ghana 2014

Background characteristic	Haemoglobin <8.0 g/dl	Number of children
Age (in months)		
6-8	9.9	117
9-11	9.3	143
12-17	16.6	301
18-23	11.2	285
24-35	7.3	573
36-47	8.5	570
48-59	2.9	578
Sex		
Male	7.8	1,355
Female	8.9	1,213
Mother's interview status		
Interviewed	8.5	2,272
Not interviewed but in household	10.0	56
Not interviewed, and not in the household[1]	5.8	239
Residence		
Urban	4.4	1,180
Rural	11.6	1,388
Region		
Western	8.0	273
Central	10.7	304
Greater Accra	4.2	389
Volta	8.4	189
Eastern	5.8	238
Ashanti	5.0	432
Brong Ahafo	6.4	260
Northern	18.2	313
Upper East	6.7	105
Upper West	16.5	66
Mother's education[2]		
No education	12.0	688
Primary	12.2	457
Middle/JSS/JHS	5.2	1,182
Secondary+	*	2
Wealth quintile		
Lowest	15.8	588
Second	12.6	530
Middle	7.1	523
Fourth	3.2	483
Highest	0.3	445
Total	8.3	2,568

Notes: Table is based on children who stayed in the household the night before the interview. Prevalence of anaemia is based on haemoglobin levels and is adjusted for altitude using CDC formulas (CDC, 1998). Haemoglobin is measured in grams per decilitre (g/dl). An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes children whose mothers are deceased
[2] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

12.8 PREVALENCE OF MALARIA IN CHILDREN

Another objective of the 2014 GHDS was to test children age 6-59 months for malaria. Field health technicians collected capillary blood samples from children in this age group in half of the households surveyed. Testing for malaria was done in the field using a rapid diagnostic test (RDT). The SD Bioline Malaria Ag P.f/Pan is a high-sensitivity and high-specificity test that detects malaria antigens from capillary blood samples. Thick blood smear samples were prepared and sent to the National Public Health and Reference Laboratory to be examined microscopically to determine the presence of malaria parasites.

Overall, 97 percent of the 2,781 eligible children age 6-59 months had their blood tested for malaria with RDT and microscopy.

Table 12.15 shows that the prevalence of malaria in children age 6-59 months is 36 percent as measured by RDT and 27 percent as measured by analysis of blood smears via microscopy. A possible reason for the higher malaria prevalence based on RDT than on microscopy is that the antigens may still be present in the child's blood after the parasites have disappeared. Malaria prevalence based on microscopy results is much higher among children living in rural than in urban areas (38 percent versus 14 percent). By region, it ranges from 11 percent in Greater Accra to 40 percent in Northern. Malaria prevalence according to microscopy decreases from 42 percent among children living in the poorest households to 8 percent among those living in the richest households.

A comparison of the 2014 GDHS results with those from the 2011 Ghana MICS survey shows that the prevalence of malaria among children as measured by RDT[2] has decreased from 48 percent to 36 percent. The prevalence as measured by analysis of blood smears via microscopy has not changed since 2011 (28 percent in 2011 and 27 percent in 2014) (GSS 2011).

Table 12.15 Prevalence of malaria in children

Percentage of de facto children age 6-59 months classified as having malaria, according to RDT and according to microscopy, by background characteristics, Ghana 2014

Background characteristic	Malaria prevalence according to RDT		Malaria prevalence according to microscopy	
	RDT positive	Number of children	Microscopy positive	Number of children
Residence				
Urban	16.9	1,173	13.5	1,175
Rural	52.9	1,384	37.9	1,384
Region				
Western	42.6	270	38.9	272
Central	48.7	303	37.9	304
Greater Accra	11.8	385	11.2	383
Volta	36.6	189	25.2	189
Eastern	40.3	238	29.5	237
Ashanti	20.6	432	16.6	432
Brong Ahafo	44.1	257	26.5	259
Northern	60.6	313	40.0	313
Upper East	22.7	105	11.7	105
Upper West	62.3	65	37.8	66
Wealth quintile				
Lowest	60.0	586	42.1	586
Second	55.4	529	39.5	529
Middle	38.2	522	24.6	520
Fourth	12.3	480	13.9	481
Highest	6.0	439	7.5	443
Total	36.4	2,556	26.7	2,558

12.9 EXPOSURE TO MESSAGES ON MALARIA

Behavioural communication change (BCC) strengthens all strategic components of malaria control and prevention programmes by supporting interventions like case management improvement, integrated vector management, and programme management. The MoH and the NMCP have adopted BCC as a key strategy to ensure that the Ghanaian people are exposed to messages that increase knowledge and promote positive behavioural changes. These lead to malaria prevention and proper management, such as use of LLINs and seeking proper diagnosis and prompt and effective treatment within 24 hours of diagnosis. BCC involves dissemination of malaria prevention and treatment messages through various media sources, such as TV, radio, newspapers and magazines, posters, leaflets and brochures, and through health workers and community volunteers.

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[2] The 2011 Ghana MICS used the Care Start Combo rapid diagnostic test.

The 2014 GDHS incorporated a series of questions for the household respondents on recent exposure (in the past six months) to malaria messages through various sources. Findings are shown in Table 12.16.

Table 12.16 Exposure to messages on malaria by media source

Percentage of household questionnaire respondents who saw or heard a message on malaria through various sources in the past 6 months, according to background characteristics, Ghana, 2014

Background characteristic	Sources of exposure to malaria messages in the past 6 months								No exposure to malaria messages through various media sources in the past 6 months	Number of household respondents
	TV	Radio	Newspaper/ magazine	Poster	Leaflets/ brochure	Health worker	Community volunteer	Other		
Residence										
Urban	77.3	80.3	15.7	31.2	8.2	27.7	9.0	4.2	6.5	6,503
Rural	46.9	78.4	7.4	22.3	6.9	38.2	17.7	5.1	9.5	5,332
Region										
Western	69.9	80.7	9.2	28.8	9.3	34.1	10.5	7.8	6.6	1,298
Central	65.0	82.7	10.3	22.1	5.5	38.0	13.6	3.2	5.6	1,180
Greater Accra	84.1	78.4	19.8	38.6	8.8	18.7	4.8	5.9	7.6	2,457
Volta	47.4	67.9	9.1	15.9	5.1	40.5	13.9	4.2	16.9	1,015
Eastern	56.1	79.6	14.6	27.5	6.0	37.5	13.5	2.6	8.4	1,255
Ashanti	72.8	85.7	11.1	31.1	10.5	28.4	10.1	5.6	5.8	2,216
Brong Ahafo	45.0	81.8	9.7	17.5	7.9	37.6	14.4	2.9	7.3	1,028
Northern	42.5	77.3	5.8	18.8	3.8	42.7	32.9	2.7	6.8	742
Upper East	29.6	69.4	4.6	16.4	2.4	38.7	12.6	1.2	13.4	378
Upper West	36.6	70.7	4.5	22.7	9.7	48.2	51.8	2.9	4.3	265
Wealth quintile										
Lowest	19.2	72.1	3.8	13.5	4.3	40.4	25.9	3.0	13.1	1,600
Second	37.2	75.9	6.0	18.2	5.6	35.0	16.8	4.7	12.9	2,211
Middle	62.2	77.9	7.7	24.1	6.8	33.6	12.0	4.8	9.3	2,647
Fourth	85.3	83.0	13.4	30.7	8.2	28.5	9.4	5.2	3.8	2,686
Highest	91.5	84.6	24.7	42.2	11.6	28.4	6.4	4.6	3.2	2,690
Total	63.6	79.4	12.0	27.2	7.6	32.4	12.9	4.6	7.9	11,835

Not surprisingly, large proportions of household respondents said they had heard or seen malaria messages on the radio (79 percent) and TV (64 percent) in the past six months. Twenty-seven percent of respondents had read or seen malaria messages on a poster, 12 percent in a newspaper or magazine, and 8 percent on leaflets or brochures. Data further show that 32 percent of household respondents had heard malaria messages from a health worker and 13 percent had heard them from a community volunteer. This is a decline from the 2008 GDHS figures of 42 percent and 22 percent, respectively.

Exposure to malaria messages through the various media sources is more common in urban than in urban areas. Regionally, Greater Accra has the highest percentage of respondents who are exposed to malaria messages through the TV (84 percent), newspaper/magazine (20 percent), or posters (39 percent). Ashanti has the highest exposure to malaria messages through the radio (86 percent) and via leaflets/brochures (11 percent). There are also large differences by wealth quintile; exposure to malaria messages through the various media increases steadily with increasing wealth.

Rural respondents are more likely than their urban counterparts to have received malaria messages from a health worker (38 percent and 28 percent, respectively) or from a community volunteer (18 percent and 9 percent, respectively). Exposure to malaria messages through a health worker or a community volunteer is lowest in Greater Accra (19 percent and 5 percent, respectively) and highest in Upper West (48 percent and 52 percent, respectively). These percentages are also highest among the poorest respondents and decrease notably with wealth.

Overall, 8 percent of the household respondents have not had any exposure to malaria messages through the various specified sources in the past 6 months. This percentage is highest among respondents living in rural areas (10 percent) and those living in Volta (17 percent), and among respondents in the lowest two wealth quintiles (13 percent each).

12.9.1 Exposure to Specific Messages on Malaria

Mass media messages on malaria in Ghana are many and they vary. Some of these messages can be misleading or confusing. This is especially true for radio commercials about local herbal preparations that supposedly treat malaria or for commercials about mosquito coils that are claimed to repel or kill mosquitoes and protect against malaria.

To gauge exposure to accurate malaria messages that are approved by the Ministry of Health and the Ghana Health Service, household respondents were asked about exposure to these specific messages in the past 6 months. Table 12.17 shows that 93 percent of household respondents had heard messages that families should sleep under an ITN to protect them from malaria, especially pregnant women and children under age 5. About three-quarters of the household respondents had heard each of the messages that: treatment should be sought from health facilities within 24 hours of the onset of childhood fever, especially for children under age 5; that GHS recommends ACT as medicine for malaria; that the full course of ACT should be completed; and that pregnant women should attend antenatal clinics and take three doses of SP/Fansidar during pregnancy to prevent malaria. Exposure to any of the specified messages on malaria is higher among respondents in urban than in rural areas, and it increases steadily with wealth.

Only 4 percent of respondents had not heard any of the specified malaria messages. This percentage is highest among respondents in Volta (11 percent) and those in the poorest households (8 percent).

Table 12.17 Exposure to specific messages on malaria

Percentage of household questionnaire respondents who heard or saw a specific messages on malaria in the past 6 months, according to background characteristics, Ghana, 2014

	Specific messages on malaria in the past 6 months						
Background characteristic	Treatment should be sought from health facilities within 24hours of onset of fever, especially for children under age 5	The Ghana Health Service recommends ACT as medicine for malaria	The full course of the malaria medicine, ACT, should be completed	Pregnant women should attend ANC and take 3 doses of SP/Fansidar during pregnancy to prevent malaria	Families should sleep under insecticide treated nets (ITNs) to protect them from malaria, especially pregnant women and children under age 5	No exposure to any of the specified malaria messages	Number of household respondents
Residence							
Urban	78.5	77.5	80.4	77.6	93.9	3.6	6,503
Rural	67.9	74.5	70.2	74.9	92.3	5.0	5,332
Region							
Western	75.4	81.4	77.1	77.5	91.2	3.4	1,298
Central	78.2	85.0	82.2	84.2	95.4	2.8	1,180
Greater Accra	77.1	69.8	79.6	76.1	92.1	4.9	2,457
Volta	62.2	66.0	66.4	73.6	87.6	11.3	1,015
Eastern	69.0	74.0	71.8	69.5	96.6	1.4	1,255
Ashanti	82.3	83.6	82.5	80.0	95.4	1.9	2,216
Brong Ahafo	67.7	77.4	69.1	72.0	92.0	5.5	1,028
Northern	78.2	80.5	77.1	81.0	95.1	4.4	742
Upper East	50.4	60.5	54.5	65.8	88.1	9.7	378
Upper West	52.5	61.6	57.8	72.7	95.5	3.1	265
Wealth quintile							
Lowest	57.5	68.8	58.9	68.8	90.1	8.4	1,600
Second	61.8	71.1	65.9	71.1	89.9	6.8	2,211
Middle	71.0	74.6	74.0	75.6	92.8	4.6	2,647
Fourth	80.2	81.2	82.6	79.0	95.1	2.2	2,686
Highest	89.4	81.1	88.9	83.5	96.1	1.5	2,690
Total	73.7	76.1	75.8	76.4	93.2	4.3	11,835

ACT = Artemisinin-based combination therapy

Contrary to the moderate level of ITN usage, 93 percent of household respondents have heard messages that families should sleep under an ITN to protect them from mosquito bites and hence malaria. Seventy-six percent have heard that pregnant women should attend antenatal clinics and take three doses of SP/Fansidar for IPT.

More than three-quarters of household respondents (76 percent) have heard that the GHS recommends ACTs for treatment of malaria; and the same proportion (76 percent) are aware that the full treatment course of ACTs should be completed. Seventy-four percent have heard that treatment should be sought from health facilities within 24 hours of the onset of childhood fever for children under 5 years.

The proportion of respondents who have heard the messages about malaria in Table 12.18 appears to increase with household wealth and it is generally higher among urban respondents, although the degree of urban-rural difference varies from the message to message. The Central, Ashanti, Northern and Western regions are more likely to have heard messages on the recommended treatment for malaria and the need to seek prompt care. Respondents in the Upper East region are least likely to have heard messages on the recommended treatment for malaria, and the need to seek prompt care, and to complete the full course of treatment. More than half of respondents in the Upper East region (66 percent) heard that pregnant women should go to the antenatal clinic for IPT, compared with 84 percent of respondents in the Central region.

The 2014 GDHS results on the malaria messages heard or seen by household respondents, point to an interesting behavioural pattern if viewed against the results of ITN use, IPT uptake, and the management of fever in children under age 5. These findings reflect a gap between the level of exposure of the Ghanaian population to messages about malaria and the actual malaria-related practices in the household. For instance, even though 93 percent of household respondents have heard or seen messages that "families should sleep under insecticide treated nets to protect them from malaria, especially pregnant women and children under age 5", only 47 percent of children under age 5 and 43 percent of pregnant women in all the surveyed households had actually slept under an ITN the night before the survey (Tables 12.5 and 12.6).

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOUR

13

> **Key Findings:**
>
> - Knowledge of HIV and AIDS in Ghana is universal; almost all women and men age 15-49 have heard of AIDS.
> - Overall, for respondents age 15-49, women are less likely than men to have comprehensive knowledge about HIV and AIDS (18 percent of women versus 30 percent of men).
> - Women (61 percent) are more aware than men (52 percent) that HIV can be transmitted through breastfeeding and that this risk can be reduced by taking special drugs.
> - Eight percent of women and 14 percent of men age 15-49 have expressed accepting attitudes towards people living with HIV (PLHIV).
> - Fifty-three percent of women and 58 percent of men age 15-49 agree that children age 12-14 years should be taught about using a condom to avoid AIDS.
> - Fifty-two percent of women and 78 percent of men age 15-49 have never been tested for HIV.
> - Male circumcision is almost universal in Ghana.
> - Forty-seven percent of women and 32 percent of men age 18-24 reported having sexual intercourse before age 18.

Acquired immune deficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV). This virus weakens the immune system and makes the body susceptible to and unable to recover from other opportunistic diseases. To estimate the distribution of new infections and to identify those populations at highest risk for HIV infection in Ghana, a Modes of Transmission (MOT) study applying the UNAIDS model was conducted in 2014 and its findings indicate that the majority of infections (73 percent) occur among stable heterosexual couples and persons involved in casual heterosexual sex together with their regular partners (GAC 2014).

Ghana's national response to HIV has made significant progress towards achieving Universal Access to HIV services through the implementation of robust and a vibrant National HIV and AIDS Strategic Framework (NSF). NSF 1 covered the period 2001-2005, and NSF II covered the period 2006-2010. In line with efforts to continue and sustain this progress, The Ghana AIDS Commission (GAC), in collaboration with key partners and stakeholders, developed and is implementing a National Strategic Plan on HIV and AIDS 2011-2015 (NSP 2011-2015) which is directing the implementation of the national HIV and AIDS response (GAC 2011). Ghana is in the fifth year of implementing this strategy which takes into account the unique challenges that it faces in addressing the HIV epidemic. Although Ghana is among countries with a low HIV prevalence, efforts for responding to the epidemic need to be sustained and scaled up to maintain and even lower the prevalence. It is for this reason that the NSP set ambitious targets which aim at achieving universal access as well as the Millennium Development Goals (MDGs). Overall, the focus of the 2011-2015 strategy is to reduce by half the new HIV infections by the end of its fifth year of implementation; with a virtual elimination of mother to child transmission of HIV, as well as sustaining and scaling up the proportion of people living with HIV (PLHIV) who are on treatment, leveraging treatment as a prevention strategy (GAC 2011).

The National HIV Prevalence and AIDS Estimates Reports show the national HIV response is making modest progress. In 2012, about 236,000 people were living with HIV. The number of new HIV infections reduced from 12,077 in 2011 to 7,991 in 2012; adults contributed 89 percent, children

contributed 11 percent, and young people 15-24 years of age contributed 28 percent (2,236 of 7,991) of new HIV infections in 2012. The proportion of new HIV infections occurring in the 15-24 age group in 2012 is notably lower than the 37 percent (4,438 of 12,077) reported in 2011. The National AIDS Control Programme (NACP) data indicate that 70 percent of HIV positive pregnant women received ARV prophylaxis to prevent mother to child transmission of HIV against the NSP target of 70 percent in 2012 and 61 percent of eligible PLHIV are receiving ART against the NSP target of 80 percent in 2013. Stock outs of HIV test kits and ARVs have significantly hampered optimal access to HIV counseling and testing (HCT), PMTCT, and ART services (GHS 2014).

To address these problems GAC has re-strategised and refocused by filling and bridging relevant gaps in the national response to ensure HIV interventions are evidence based and results oriented to enable effective HIV service delivery. The thrust and direction of this current strategy of investing in evidence-based, high-impact HIV and AIDS priority interventions when followed through in association with critical social and programmatic enablers would ensure synergy with development sectors be maintained and strengthened. The key high impact program interventions areas in this new direction are targeted behaviour change communication (BCC) interventions, condom promotion and distribution, interventions for key populations, PMTCT programmes, and treatment and care. The critical social and programmatic enablers include political commitment and advocacy; community mobilisation, and stigma reduction, community capacity enhancement, program communication, management and incentives, research and innovations. Synergies with development sector intervention areas include social protection and poverty reduction, education, legal reforms, gender equality, and sexual and gender based violence, health and community systems strengthening, and employer practices (GAC 2013).

Despite the gains made by the national response, HIV and AIDS-related stigma and discrimination is still a pervasive problem, and PLHIV in Ghana, as elsewhere, face stigma and discrimination in a variety of contexts and places, such as the household, community, workplace, and health care settings. A PLHIV Stigma Index study conducted in 2014 shows PLHIV avoided all the forms of social exclusion and other forms of discrimination through non-disclosure of their HIV status to individuals and groups outside the health care delivery system. Furthermore, the results indicate there were also higher levels of stigma against HIV-positive members of key populations than other PLHIV (GAC 2014).

The 2014 GDHS questionnaire asked a series of questions that asks about respondents' knowledge of HIV prevention, misconceptions about HIV transmission, and knowledge of mother to child transmission (MTCT) if HIV and means to prevent it. The survey also included questions relating to HIV testing and counselling (HTC) such as where to test and whether respondent had ever been tested for HIV and received results. Respondents were also asked their experiences with regards to symptoms of sexually transmitted infections (STIs) and their health seeking behaviours relating to STIs. The last set of questions in this module sought the opinions of both women and men on a wife's justification in refusing her husband sex. The chapter also highlights HIV and AIDS knowledge and patterns of sexual behaviour among young people, since young adults are more likely to be in the process of establishing patterns of sexual behaviours and hence are the primary target of many prevention strategies.

13.1 HIV/AIDS KNOWLEDGE, TRANSMISSION, AND PREVENTION METHODS

Women and men respondents in the 2014 GDHS were asked whether they have heard of an illness called AIDS. Respondents who reported having heard about the illness AIDS were asked other questions about how to avoid the disease. These series of questions also sought information on respondents' knowledge regarding use of condoms to prevent STI.

13.1.1 Knowledge of AIDS

Table 13.1 shows the percentage distribution of women and men age 15-49 who have heard of AIDS by background characteristics in Ghana. According to the findings presented in this table, knowledge of AIDS is almost universal among respondents age 15-49 (98 and 99 percent for women and

men respectively). This is consistent with the 2003 and 2008 GDHS findings. Knowledge of AIDS does not vary much by most background characteristics, except by region, education, and wealth quintile. As can be seen from Table 13.1, awareness of AIDS is lowest among women and men in the Northern region (same as in the 2008 GDHS). Awareness of AIDS increases with level of education. Nearly all women and men with at least middle/JSS/JHS education have heard about AIDS, compared with 92 percent of women and 95 percent of men who have no education. Similarly, women and men in the higher wealth quintiles are more likely to have heard of AIDS than those in the lowest wealth quintile.

Table 13.1 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS, by background characteristics, Ghana 2014

Background characteristic	Women		Men	
	Have heard of AIDS	Number of women	Have heard of AIDS	Number of men
Age				
15-24	97.1	3,238	97.9	1,443
15-19	96.5	1,625	97.4	855
20-24	97.7	1,613	98.6	588
25-29	97.6	1,604	98.8	589
30-39	97.7	2,667	99.7	1,026
40-49	98.0	1,887	99.4	811
Marital status				
Never married	97.6	3,094	98.2	1,851
Ever had sex	98.6	1,904	99.4	1,036
Never had sex	95.9	1,190	96.6	814
Married/living together	97.4	5,321	99.4	1,846
Divorced/separated/widowed	98.4	981	99.1	172
Residence				
Urban	99.2	5,051	99.6	2,050
Rural	95.6	4,345	97.9	1,819
Region				
Western	97.8	1,038	99.2	447
Central	99.7	937	99.4	380
Greater Accra	99.7	1,898	100.0	831
Volta	94.0	720	98.2	295
Eastern	98.6	878	99.8	362
Ashanti	99.6	1,798	99.8	680
Brong Ahafo	97.3	769	97.4	320
Northern	87.1	786	94.4	316
Upper East	96.9	358	95.8	146
Upper West	98.4	215	99.7	91
Education				
No education	92.0	1,792	95.4	362
Primary	96.9	1,672	96.4	543
Middle/JSS/JHS	99.1	3,862	99.5	1,626
Secondary+	100.0	2,070	99.9	1,336
Wealth quintile				
Lowest	90.8	1,511	96.1	639
Second	97.3	1,636	98.0	648
Middle	98.8	1,938	99.3	770
Fourth	99.1	2,117	99.6	848
Highest	99.8	2,194	100.0	963
Total 15-49	97.5	9,396	98.8	3,869
50-59	na	na	98.5	519
Total 15-59	na	na	98.8	4,388

na = Not applicable

13.1.2 Knowledge of HIV Prevention methods

In Ghana, HIV is transmitted among adults primarily through heterosexual contact between an infected partner and a non-infected partner. Consequently, HIV prevention programmes focus messages and efforts on promoting the following specific behaviours: use of condoms, limiting the number of sexual partners to one uninfected partner or staying faithful to one uninfected sexual partner and, for young people, delaying their first sexual intercourse (sexual debut).

To assess whether interventions have effectively communicated messages relating to condom use, reduction of sexual partners and delayed sexual debut, respondents were asked if people can reduce their chances of getting the virus that causes AIDS by using a condom every time they have sex, by having just one uninfected sexual partner who has no other sexual partners, and by not having sexual intercourse at all. Table 13.2 shows that 77 percent of women and 86 percent of men age 15-49 know that consistent use of condoms is a means of preventing the spread of HIV. Eighty-four percent of women and 92 percent of men know that limiting sexual intercourse to one uninfected partner can reduce the chances of contracting HIV. The proportion who said that people can reduce the chances of getting the AIDS virus by using condoms and limiting sex to one uninfected partner is higher among men (82 percent) than among women (70 percent). Among women, Central region (83 percent) has the highest knowledge of HIV prevention methods whereas Northern region has the lowest (45 percent). The proportion of women and men with knowledge of HIV prevention methods increases with increasing education. For example, knowledge of both prevention methods rises from 56 percent among women with no education to 79 percent among those with a secondary or higher education. Similarly, knowledge of HIV prevention methods increases with increasing wealth. These findings indicate that HIV prevention education could be strengthened further in certain groups of individuals, particularly those who are young, those who have little or no education, and those in the lowest wealth quintile. On the whole HIV prevention knowledge has increased compared with the results of the 2008 GDHS.

Table 13.2 Knowledge of HIV prevention methods

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

	Women				Men			
	Percentage who say HIV can be prevented by:				Percentage who say HIV can be prevented by:			
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of men
Age								
15-24	74.9	82.0	67.7	3,238	82.2	88.4	76.8	1,443
15-19	71.9	80.9	64.6	1,625	80.3	85.3	73.8	855
20-24	78.0	83.1	70.8	1,613	85.0	92.9	81.2	588
25-29	78.6	84.9	71.9	1,604	86.9	92.4	82.7	589
30-39	78.0	85.9	72.7	2,667	87.3	95.4	83.9	1,026
40-49	75.7	84.0	68.7	1,887	89.4	94.7	87.1	811
Marital status								
Never married	76.9	83.5	69.7	3,094	83.1	89.6	78.2	1,851
Ever had sex	82.3	86.0	75.4	1,904	86.8	93.4	82.6	1,036
Never had sex	68.1	79.5	60.6	1,190	78.4	84.7	72.6	814
Married/living together	76.1	84.4	70.1	5,321	88.1	94.5	84.7	1,846
Divorced/separated/widowed	78.4	83.9	70.9	981	89.8	94.9	87.7	172
Residence								
Urban	80.1	86.5	73.1	5,051	86.2	94.0	82.6	2,050
Rural	72.5	81.2	66.4	4,345	85.3	90.1	80.8	1,819
Region								
Western	72.6	85.1	67.9	1,038	91.2	92.7	87.1	447
Central	86.9	91.0	82.8	937	91.8	94.3	88.1	380
Greater Accra	84.6	88.5	79.2	1,898	94.1	97.2	92.1	831
Volta	76.4	81.9	67.4	720	84.6	90.0	80.3	295
Eastern	71.5	85.3	66.7	878	86.5	94.7	83.7	362
Ashanti	78.8	79.8	65.9	1,798	74.9	93.7	72.2	680
Brong Ahafo	84.6	92.4	81.4	769	84.2	80.4	72.6	320
Northern	48.7	66.9	44.6	786	83.2	90.7	81.5	316
Upper East	75.7	87.9	72.1	358	72.3	78.7	60.5	146
Upper West	56.9	73.0	50.5	215	75.8	88.6	69.8	91
Education								
No education	61.0	74.8	55.6	1,792	79.0	85.5	73.9	362
Primary	75.5	83.0	69.3	1,672	79.6	83.7	72.5	543
Middle/JSS/JHS	79.6	85.5	72.1	3,862	86.0	93.3	82.0	1,626
Secondary+	85.3	89.9	79.2	2,070	89.8	96.0	87.3	1,336
Wealth quintile								
Lowest	59.9	73.3	54.4	1,511	78.3	83.7	71.3	639
Second	74.5	82.6	67.5	1,636	85.8	89.8	80.9	648
Middle	78.8	85.6	72.2	1,938	89.6	93.3	85.5	770
Fourth	81.6	86.7	74.6	2,117	85.4	93.7	81.7	848
Highest	82.9	88.5	76.4	2,194	88.0	97.1	86.3	963
Total 15-49	76.6	84.0	70.0	9,396	85.8	92.2	81.7	3,869
50-59	na	na	na	na	82.6	93.7	78.9	519
Total 15-59	na	na	na	na	85.4	92.4	81.4	4,388

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

13.1.3 Comprehensive Knowledge about HIV/AIDS

In addition to knowing effective ways to avoid contracting HIV, it is useful to be able to identify incorrect beliefs about HIV transmission. Common misconceptions about HIV and AIDS include the following: a healthy-looking person cannot have HIV, HIV can be transmitted by mosquito bites, HIV can be transmitted by supernatural means, and a person can become infected by sharing food with a person who has HIV. Respondents were asked about these misconceptions and whether they have heard about anti-retroviral drugs. The findings are presented in Tables 13.3.1 and 13.3.2 for women and men, respectively.

Eighty-two percent of women and 85 percent of men age 15-49 agreed that a healthy-looking person can have HIV. In terms of different misconceptions about HIV transmission, 60 percent of women and 63 percent of men said that HIV cannot be transmitted by mosquito bites; 35 of percent of women and 52 percent of men know that HIV cannot be transmitted by supernatural means; and 68 percent of women and 71 percent of men said that a person cannot become infected by sharing food with a person who has AIDS.

The questions asked in the 2014 GDHS allow an assessment of comprehensive knowledge about HIV and AIDS among respondents. Comprehensive knowledge is defined as 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 HIV transmission (that HIV can be transmitted by mosquito bites and that HIV can be transmitted by supernatural means).

Twenty-three percent of women and 34 percent of men indicated that a healthy looking person can have HIV and rejected the two most common misconceptions. Overall, women are less likely than men to have comprehensive knowledge about AIDS (18 percent of women versus 30 percent of men age 15-49). Comprehensive knowledge about HIV and AIDS has decreased somewhat since the 2008 GDHS, which reported that 25 percent of women and 37 percent of men age 15-49 had comprehensive knowledge.

Women age 20-24, those who have never married, and women living in urban areas are more likely than other women to have comprehensive knowledge of HIV and AIDS. Among men, those age 25-29 and men who have never been married but have ever had sex are most likely to have comprehensive knowledge of HIV and AIDS. By region, comprehensive knowledge is highest among women and men in the Central and Greater Accra regions and lowest among women in the Upper West region and among men in the Volta region. Comprehensive knowledge of HIV and AIDS increases steadily with increasing education and wealth quintile for both women and men.

Antiretroviral therapy (ART) is used to treat HIV. These drugs do not kill or cure HIV; however, they can postpone or prevent progression of HIV infection to AIDS. In the 2014 GDHS both women and men respondents were asked if they have heard about special antiretroviral drugs, or ARVs, such as nevirapine, zidovudine and lamivudine that people living with HIV can get from a doctor or a nurse to help them live longer. Overall, 63 percent of women and 76 percent of men age 15-49 said they have heard about antiretroviral medicine. However, less than half of women in Western, Volta and Northern regions have heard about ARV drugs. Only 25 percent of men in the Northern region have heard about ARVs, compared with 93 percent of men in Greater Accra. The likelihood of have heard about ARVs increases with level of education and wealth quintile for both men and women.

Table 13.3.1 Comprehensive knowledge about AIDS: Women

Percentage of women age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about transmission or prevention of the AIDS virus, the percentage with a comprehensive knowledge about AIDS, and the percentage who have heard of antiretroviral medications, by background characteristics, Ghana 2014

Background characteristic	Percentage of women who say that:				Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local miscon-ceptions[1]	Percentage with a compre-hensive knowledge about AIDS[2]	Heard about antiretroviral medicine	Number of women
	A healthy-looking person can have the AIDS virus	The AIDS virus cannot be transmitted by mosquito bites	The AIDS virus cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS				
Age								
15-24	77.9	65.3	42.6	66.7	26.4	19.9	57.2	3,238
15-19	74.1	65.2	43.2	63.7	25.2	18.1	48.9	1,625
20-24	81.8	65.4	42.1	69.7	27.6	21.8	65.5	1,613
25-29	83.8	64.4	33.6	70.9	23.4	18.6	69.6	1,604
30-39	84.0	60.2	31.5	68.8	22.3	17.9	68.3	2,667
40-49	83.1	47.8	27.1	65.9	16.5	12.7	61.7	1,887
Marital status								
Never married	80.2	70.1	44.3	72.5	29.4	22.6	61.3	3,094
Ever had sex	83.5	69.5	40.4	74.9	27.8	22.6	67.1	1,904
Never had sex	74.8	71.2	50.4	68.6	32.0	22.6	52.1	1,190
Married/living together	82.0	55.1	31.3	64.4	20.2	15.8	64.2	5,321
Divorced/separated/widowed	85.1	56.6	23.8	71.9	15.5	12.2	65.3	981
Residence								
Urban	85.8	67.4	37.8	76.5	26.6	20.7	69.6	5,051
Rural	76.9	51.8	31.3	57.8	18.2	14.1	56.2	4,345
Region								
Western	82.1	65.0	27.9	66.3	16.9	11.4	38.3	1,038
Central	85.4	66.8	38.0	72.1	28.9	26.9	71.4	937
Greater Accra	88.5	69.4	43.3	81.5	33.3	28.8	74.7	1,898
Volta	79.8	50.8	38.4	61.6	22.1	16.0	48.3	720
Eastern	82.9	61.7	33.5	69.4	20.5	15.0	55.8	878
Ashanti	87.3	65.4	27.4	73.8	19.6	11.8	71.2	1,798
Brong Ahafo	87.8	50.9	23.9	66.1	15.4	13.8	67.2	769
Northern	53.5	38.4	41.8	33.9	18.5	12.5	46.1	786
Upper East	70.2	45.9	40.2	59.0	17.7	16.1	86.4	358
Upper West	58.8	45.2	37.9	47.7	18.6	11.2	75.3	215
Education								
No education	68.5	36.4	24.9	44.3	10.7	7.7	50.9	1,792
Primary	79.6	48.0	22.9	54.2	11.9	9.4	52.7	1,672
Middle/JSS/JHS	83.8	64.4	33.7	74.2	21.4	15.8	64.4	3,862
Secondary+	90.9	82.9	55.0	87.5	44.4	36.4	80.9	2,070
Wealth quintile								
Lowest	61.9	36.8	30.9	41.9	12.0	8.6	52.0	1,511
Second	79.8	52.2	29.5	58.2	16.4	12.7	51.8	1,636
Middle	83.5	59.2	31.3	67.7	20.5	15.2	58.2	1,938
Fourth	86.0	67.6	33.6	79.2	23.7	18.2	68.6	2,117
Highest	91.0	76.1	45.7	82.1	35.8	29.3	79.2	2,194
Total 15-49	81.7	60.2	34.8	67.9	22.7	17.7	63.4	9,396

[1] Two most common local misconceptions: that the AIDS virus can be transmitted by mosquito bites and that the AIDS virus can be transmitted by supernatural means

[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

Table 13.3.2 Comprehensive knowledge about AIDS: Men

Percentage of men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about transmission or prevention of the AIDS virus, the percentage with a comprehensive knowledge about AIDS by background characteristics, Ghana 2014

| Background characteristic | Percentage of men who say that: | | | | Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1] | Percentage with a compre-hensive knowledge about AIDS[2] | Heard about antiretroviral medicine | Number of men |
	A healthy-looking person can have the AIDS virus	The AIDS virus cannot be transmitted by mosquito bites	The AIDS virus cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS				
Age								
15-24	80.8	61.3	52.8	65.5	31.4	27.2	68.2	1,443
15-19	76.6	60.2	50.9	61.6	28.5	24.5	61.3	855
20-24	86.9	62.9	55.6	71.1	35.6	31.1	78.0	588
25-29	86.2	70.7	55.7	74.0	41.2	36.3	77.2	589
30-39	86.9	62.5	47.8	75.4	33.2	28.1	81.2	1,026
40-49	87.6	59.4	52.6	70.5	35.0	32.4	81.6	811
Marital status								
Never married	82.0	66.1	55.4	68.6	36.0	31.4	72.3	1,851
Ever had sex	87.1	67.3	55.9	71.7	38.7	34.1	80.4	1,036
Never had sex	75.5	64.6	54.7	64.6	32.6	28.0	62.0	814
Married/living together	86.7	59.9	48.9	72.2	32.8	28.7	79.4	1,846
Divorced/separated/widowed	90.9	55.0	46.1	71.7	28.8	27.6	75.6	172
Residence								
Urban	86.2	70.2	58.4	77.6	40.5	35.4	84.2	2,050
Rural	82.9	54.2	44.5	62.4	27.0	23.8	66.4	1,819
Region								
Western	82.2	62.3	50.1	69.4	32.3	29.7	89.0	447
Central	92.8	70.9	44.8	62.3	36.9	33.6	81.7	380
Greater Accra	89.6	72.1	59.7	83.7	43.3	40.3	93.3	831
Volta	77.0	50.6	48.2	65.7	25.9	22.2	82.2	295
Eastern	91.2	61.9	48.3	74.9	32.9	29.0	71.7	362
Ashanti	86.9	64.7	49.0	70.0	30.9	22.7	72.6	680
Brong Ahafo	82.7	50.8	44.1	70.8	27.2	24.1	69.7	320
Northern	71.8	52.3	58.2	47.6	30.7	29.3	25.4	316
Upper East	76.9	59.5	60.9	75.2	37.9	28.4	56.9	146
Upper West	63.3	52.9	57.2	60.1	33.8	29.4	73.1	91
Education								
No education	69.8	42.0	40.4	45.6	16.5	14.7	37.8	362
Primary	74.6	36.5	33.7	50.3	14.0	12.6	61.1	543
Middle/JSS/JHS	86.1	61.0	45.7	70.6	28.1	24.0	77.3	1,626
Secondary+	91.0	80.9	69.9	85.2	54.5	48.3	90.3	1,336
Wealth quintile								
Lowest	72.0	46.6	44.9	53.0	21.1	17.8	45.4	639
Second	81.9	48.1	41.5	62.1	21.3	19.1	65.2	648
Middle	86.5	58.7	47.1	69.3	30.8	28.5	79.4	770
Fourth	89.3	69.9	52.1	73.4	37.8	31.8	84.0	848
Highest	89.4	79.8	67.1	86.1	50.8	44.8	93.1	963
Total 15-49	84.7	62.6	51.9	70.5	34.1	29.9	75.8	3,869
50-59	85.6	58.4	48.9	67.3	32.5	26.6	77.7	519
Total 15-59	84.8	62.1	51.5	70.1	33.9	29.6	76.0	4,388

[1] Two most common local misconceptions: that the AIDS virus can be transmitted by mosquito bites and that the AIDS virus can be transmitted by supernatural means
[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

13.2 KNOWLEDGE ABOUT MOTHER-TO-CHILD TRANSMISSION

Ghana is working seriously towards zero new infections. In view of this, the country recognises the need to implement effective and efficient interventions towards achieving this goal. In this regard, the country in collaboration with its partners are rolling out prevention of mother to child transmission of HIV services by encouraging pregnant women to know their HIV sero-status in order to reduce the risk of

transmission of the virus from mother to child. This intervention is a key component of prevention of mother-to-child transmission (PMTCT) service delivery and acts as the entry point of care for mothers.

In the survey, to assess PMTCT knowledge, respondents were asked whether HIV can be transmitted from a mother to a child through breastfeeding and whether a mother with HIV can reduce the risk of transmission to her baby by taking certain medications during pregnancy.

Table 13.4 shows that in the 2014 GDHS, over three-quarters of respondents age 15-49, are aware that HIV can be transmitted through breastfeeding (78 percent of women and 76 percent of men). Sixty-four percent of women and 61 percent of men know that the risk of mother-to-child transmission (MTCT) can be reduced by taking special medication. Overall, 61 percent of women and 52 percent of men age 15-49 are aware that HIV can be transmitted through breastfeeding and that this risk can be reduced by taking special medication.

Table 13.4 Knowledge of prevention of mother-to-child transmission of HIV

Percentage of women and men age 15-49 who know that HIV can be transmitted from mother to child by breastfeeding and that the risk of mother to child transmission (MTCT) of HIV can be reduced by the mother taking special drugs during pregnancy, by background characteristics, Ghana 2014

	Women				Men			
	Percentage who know that:				Percentage who know that:			
Background characteristic	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special medicines during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special medicines during pregnancy	Number of women	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special medicines during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special medicines during pregnancy	Number of men
Age								
15-24	76.0	58.2	55.1	3,238	75.4	55.8	47.5	1,443
15-19	73.8	51.1	47.4	1,625	76.0	51.1	44.2	855
20-24	78.3	65.3	62.9	1,613	74.3	62.6	52.3	588
25-29	79.7	69.6	66.5	1,604	73.6	62.1	52.2	589
30-39	78.5	67.2	64.5	2,667	75.9	65.5	54.3	1,026
40-49	80.3	64.0	61.3	1,887	79.6	65.9	56.4	811
Marital status								
Never married	76.2	60.1	56.7	3,094	74.9	58.4	49.7	1,851
Ever had sex	78.9	65.2	62.2	1,904	77.0	64.9	56.7	1,036
Never had sex	72.0	51.8	47.9	1,190	72.2	50.3	40.7	814
Married/living together	78.9	65.5	62.7	5,321	76.7	64.8	53.8	1,846
Divorced/separated/widowed	80.5	67.1	64.6	981	82.7	57.3	55.0	172
Currently pregnant								
Pregnant	79.7	67.5	63.6	663	na	na	na	na
Not pregnant or not sure	78.1	63.6	60.7	8,733	na	na	na	na
Residence								
Urban	78.5	67.9	64.5	5,051	75.3	67.8	57.1	2,050
Rural	77.9	59.2	56.8	4,345	77.1	54.3	46.0	1,819
Region								
Western	81.5	69.8	67.9	1,038	80.5	70.4	62.3	447
Central	85.9	69.8	66.8	937	84.3	56.1	50.7	380
Greater Accra	77.0	67.1	64.3	1,898	73.4	66.9	57.4	831
Volta	80.8	56.6	54.9	720	77.6	45.9	41.2	295
Eastern	80.3	63.7	59.6	878	85.1	66.5	60.9	362
Ashanti	78.0	69.2	65.7	1,798	74.1	68.6	54.0	680
Brong Ahafo	81.3	61.2	60.0	769	77.2	55.4	49.2	320
Northern	69.6	44.4	40.2	786	61.2	49.1	27.3	316
Upper East	66.9	53.7	51.8	358	76.6	50.9	46.6	146
Upper West	63.9	58.3	52.9	215	67.2	47.6	41.1	91
Education								
No education	72.2	50.8	48.0	1,792	60.9	40.2	24.3	362
Primary	77.5	58.6	56.9	1,672	78.2	48.2	44.0	543
Middle/JSS/JHS	79.8	66.5	63.3	3,862	78.3	61.0	52.4	1,626
Secondary+	81.2	74.5	71.0	2,070	76.8	73.1	61.9	1,336
Wealth quintile								
Lowest	68.4	46.1	43.0	1,511	73.2	45.6	37.3	639
Second	81.3	60.2	57.8	1,636	76.8	49.2	41.2	648
Middle	81.9	65.4	62.8	1,938	78.2	61.6	53.0	770
Fourth	80.7	71.4	68.7	2,117	75.7	65.5	55.2	848
Highest	77.1	70.2	66.5	2,194	76.3	76.5	65.0	963
Total 15-49	78.2	63.9	60.9	9,396	76.1	61.4	51.9	3,869
50-59	na	na	na	na	76.2	62.7	53.3	519
Total 15-59	na	na	na	na	76.1	61.6	52.0	4,388

na = Not applicable

Knowledge of PMTCT is highest among women age 25-29 and those who are formerly married. Among men, PMTCT knowledge increases with age and it is highest for men 40-49, those who have never married but ever had sex, and men who are divorced, separated or living with a partner. There is little difference in the level of PMTCT knowledge by women's current pregnancy status. PMTCT knowledge is higher among women and men in urban areas than among women and men in rural areas, with the difference being more pronounced for men. PMTCT knowledge varies widely by region; it is lowest among women and men in the Northern region (40 percent and 27 percent, respectively) and highest among women and men in Western region (68 percent and 62 percent, respectively). Among both women and men, awareness that HIV can be transmitted through breastfeeding and that the risk of MTCT can be reduced by taking special medication during pregnancy increases with increasing education and, in general, increasing wealth quintile.

13.3   ATTITUDES TOWARDS PEOPLE LIVING WITH HIV/AIDS

Widespread stigma and discrimination against people living with HIV/AIDS (PLHIV) can adversely affect people's well-being and constitutes a barrier to the uptake of HIV services such as testing for HIV (HTC) as well as seeking out and adhering to antiretroviral therapy (ART). There are over 235,982 persons living with HIV in Ghana (NACP 2013), and stigmatising and discriminating against them can jeopardise or endanger disclosure, confidentiality, and self-esteem.

Ghana has campaigned against stigma and discrimination against people living with HIV using the concept of 'Heart to Heart' Ambassadors whereby PLHIV who have disclosed their status publically use mass media to educate the general population on stigmatisation and discrimination (GAC 2011). Ghana places considerable emphasis on this strategy because reduction in stigma and discrimination is an important indicator of the success of programmes targeting HIV and AIDS prevention and control.

In the 2014 GDHS, respondents who had heard of AIDS were asked a number of questions to assess the level of stigma associated with HIV and AIDS. Respondents were asked about their willingness to care for a family member with AIDS in their own home, whether they would buy fresh vegetables from a shopkeeper or vendor who has HIV, and whether they agree that a female teacher who has HIV but is not sick should be allowed to continue teaching. More men (54 percent) than women (43 percent) would not want to keep it a secret that a family member has HIV. Tables 13.5.1 and 13.5.2 present the results for women and men, respectively.

Seventy percent of women and 74 percent of men age 15-49 said that they would be willing to care for a relative with AIDS in their home, and 30 percent of women and 36 percent of men agreed they would buy fresh vegetables from shopkeepers who had HIV. Slightly more than half of women (54 percent) and 6 in 10 men (63 percent) agree that a female teacher who has HIV but is not sick should be allowed to continue teaching.

Overall, only 8 percent of women and 14 percent of men age 15-49 expressed accepting attitudes on all four indicators of stigma associated with HIV/AIDS. These results are fairly similar to those in the 2003 GDHS, but slightly lower than those in the 2008 GHDS. This low level of acceptance is a concern for programme implementers. Among women, Greater Accra region has the highest percentage expressing accepting attitudes whilst Northern region has the lowest. Among men, accepting attitudes are most common in Northern region, and least common in Central and Brong Ahafo regions.

The proportion of women and men who express accepting attitudes on all four indicators is higher in urban areas than in rural areas, and increases with level of education and wealth quintile.

Table 13.5.1 Accepting attitudes towards those living with HIV/AIDS: Women

Among women age 15-49 who have heard of AIDS, percentage expressing specific accepting attitudes towards people with HIV/AIDS, by background characteristics, Ghana 2014

Background characteristic	Percentage of women who:				Percentage expressing acceptance attitudes on all four indicators	Number of women who have heard of AIDS
	Are willing to care for a family member with AIDS in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher who has the AIDS virus but is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus		
Age						
15-24	66.9	30.6	55.2	40.5	8.1	3,145
15-19	62.7	26.1	51.0	40.5	6.8	1,568
20-24	71.1	35.0	59.5	40.4	9.3	1,576
25-29	73.2	31.5	57.9	38.0	7.4	1,566
30-39	71.7	31.6	52.6	44.8	8.6	2,605
40-49	70.8	26.8	47.9	48.1	7.3	1,850
Marital status						
Never married	70.0	34.1	59.9	38.9	8.9	3,018
Ever had sex	71.8	36.2	61.3	38.0	9.0	1,877
Never had sex	67.0	30.8	57.7	40.5	8.9	1,141
Married/living together	69.5	27.8	49.7	44.7	7.4	5,182
Divorced/separated/widowed	73.9	31.4	53.7	44.6	7.9	965
Residence						
Urban	73.9	36.0	60.1	41.5	9.7	5,011
Rural	65.6	23.3	45.5	44.3	5.8	4,155
Region						
Western	64.5	30.6	59.2	46.2	5.4	1,015
Central	67.6	26.0	58.5	28.7	4.4	934
Greater Accra	74.2	41.9	62.0	51.5	16.3	1,891
Volta	61.3	29.0	45.0	65.2	9.9	677
Eastern	73.1	31.2	48.6	43.1	6.6	866
Ashanti	65.8	26.3	46.5	41.5	5.5	1,791
Brong Ahafo	79.8	31.0	55.1	26.3	5.4	748
Northern	68.4	14.8	44.7	48.9	3.6	685
Upper East	83.9	31.0	60.4	22.2	7.5	347
Upper West	72.5	22.4	45.5	22.7	5.0	211
Education						
No education	65.9	16.7	41.2	44.4	3.3	1,649
Primary	61.4	22.1	39.8	45.2	5.1	1,621
Middle/JSS/JHS	69.2	29.6	52.4	42.6	7.5	3,826
Secondary+	82.0	48.7	76.0	40.0	14.7	2,069
Wealth quintile						
Lowest	64.1	17.7	38.2	42.2	3.6	1,372
Second	61.3	19.9	41.3	45.9	5.6	1,592
Middle	68.8	27.2	51.0	43.8	6.1	1,913
Fourth	73.1	37.1	60.2	40.5	9.2	2,098
Highest	78.5	41.8	67.6	42.3	12.8	2,189
Total 15-49	70.1	30.3	53.5	42.8	8.0	9,165

Table 13.5.2 Accepting attitudes towards those living with HIV/AIDS: Men

Among men age 15-49 who have heard of HIV/AIDS, percentage expressing specific accepting attitudes towards people with HIV/AIDS, by background characteristics, Ghana 2014

	Percentage of men who:					
Background characteristic	Are willing to care for a family member with AIDS in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher who has the AIDS virus but is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing acceptance attitudes on all four indicators	Number of men who have heard of AIDS
Age						
15-24	69.5	31.3	55.6	49.2	10.4	1,412
15-19	65.8	27.8	51.3	49.7	8.3	832
20-24	74.8	36.2	61.9	48.5	13.5	580
25-29	74.6	42.4	69.6	53.1	14.7	581
30-39	77.9	35.4	66.9	54.6	16.5	1,022
40-49	74.1	39.9	65.0	60.5	16.9	807
Marital status						
Never married	72.5	35.5	62.3	48.5	12.4	1,817
Ever had sex	73.6	40.4	65.9	48.3	15.0	1,030
Never had sex	70.9	29.1	57.7	48.8	9.1	787
Married/living together	75.2	36.3	63.9	57.9	15.7	1,835
Divorced/separated/widowed	66.0	35.5	55.4	62.0	13.9	171
Residence						
Urban	76.6	38.4	69.1	48.7	14.8	2,042
Rural	70.0	33.0	55.5	59.2	13.3	1,781
Region						
Western	79.2	38.9	59.9	49.0	16.6	443
Central	43.5	40.6	54.1	64.9	8.8	378
Greater Accra	73.5	39.7	63.9	60.5	16.9	831
Volta	61.8	31.5	53.4	70.9	13.4	289
Eastern	68.6	37.3	63.3	51.2	12.9	361
Ashanti	76.9	35.0	74.3	29.7	10.1	679
Brong Ahafo	82.0	27.4	61.6	41.0	8.9	312
Northern	87.5	30.7	54.8	78.3	24.5	298
Upper East	96.5	32.6	65.9	64.0	16.4	140
Upper West	90.8	34.2	68.5	45.4	15.3	91
Education						
No education	74.5	18.1	43.4	63.1	9.3	346
Primary	63.9	18.5	45.6	59.7	6.0	524
Middle/JSS/JHS	71.8	31.5	57.7	52.5	11.9	1,618
Secondary+	79.1	52.7	80.6	50.1	21.1	1,335
Wealth quintile						
Lowest	76.9	22.7	50.6	66.4	11.6	614
Second	66.2	28.7	49.8	56.1	10.0	635
Middle	68.6	35.0	58.2	54.2	13.4	765
Fourth	73.4	40.0	65.4	49.3	16.2	845
Highest	80.2	46.2	80.4	47.2	17.1	963
Total 15-49	73.5	35.9	62.8	53.6	14.1	3,822
50-59	80.0	39.1	62.5	61.6	18.7	512
Total 15-59	74.3	36.3	62.7	54.5	14.6	4,334

13.4 ATTITUDES TOWARDS NEGOTIATING SAFER SEXUAL RELATIONS WITH HUSBANDS

Knowledge about HIV transmission and ways to prevent it is of little use if women feel powerless to negotiate safer sexual practices and men do not understand the implication of unsafe sexual practices on both their lives and the lives of their partners. The high level of sexual transmission of HIV among heterosexual adults makes negotiating safe sex indispensable for women, especially in a marital context in which women's status may be compromised by societal norms and expectations. In an effort to assess the ability of women to negotiate safer sex with a spouse who has sex with other women (who may have STIs), women and men were asked if they thought that a wife is justified in refusing to have sexual intercourse with her husband or asking that he uses condoms, if she knows he has an STI.

Table 13.6 shows that 74 percent of women and 79 percent of men age 15-49 believe that a wife is justified in refusing to have sexual intercourse with her husband if she knows he has sex with other

women. In addition, 91 percent of women and 95 percent of men believe that a woman has a right to ask her husband to use a condom if she knows that he has an STI.

The data show relatively small differences by background characteristics of the respondents. In terms of regional variation, women in the Upper East (81 percent), Greater Accra (80 percent), and Upper West (79 percent) regions are most supportive of a woman refusing to have sexual intercourse with her husband if she knows he has sex with other women. On requesting her husband to use a condom if she knows he has an STI, women in the Greater Accra (96 percent), Ashanti (93 percent), and Volta (92 percent) regions are most supportive. In terms of regional variation among men, those in Central (90 percent), Greater Accra and Brong Ahafo regions (85 percent each) are most supportive of a woman refusing to have sexual intercourse with her husband if she knows he has sex with other women. Respondents with more education and those in the highest quintile are slightly more supportive of women negotiating safer sex with their husbands.

Table 13.6 Attitudes towards negotiating safer sexual relations with husband

Percentage of women and men age 15-49 who believe that a woman is justified in refusing to have sexual intercourse with her husband if she knows that he has sexual intercourse with other women, and percentage who believe that a woman is justified in asking that they use a condom if she knows that her husband has a sexually transmitted infection (STI), by background characteristics, Ghana 2014

| | Women | | | Men | | |
| | Woman justified in: | | | Woman justified in: | | |
Background characteristic	Refusing to have sexual intercourse with her husband if she knows he has sex with other women	Asking that they use a condom if she knows that her husband has an STI	Number of women	Refusing to have sexual intercourse with her husband if she knows he has sex with other women	Asking that they use a condom if she knows that her husband has an STI	Number of men
Age						
15-24	72.3	88.6	3,238	78.3	93.0	1,443
15-19	70.5	86.3	1,625	77.4	90.7	855
20-24	74.1	90.9	1,613	79.6	96.3	588
25-29	75.6	93.1	1,604	79.3	96.2	589
30-39	74.6	92.3	2,667	79.9	96.3	1,026
40-49	73.8	89.9	1,887	80.0	94.8	811
Marital status						
Never married	74.3	89.8	3,094	79.0	93.7	1,851
Ever had sex	75.2	92.7	1,904	79.7	95.8	1,036
Never had sex	72.9	85.2	1,190	78.1	91.2	814
Married/living together	73.2	91.0	5,321	79.8	95.6	1,846
Divorced/separated/widowed	75.8	91.4	981	75.0	96.2	172
Residence						
Urban	75.6	93.4	5,051	81.1	95.8	2,050
Rural	71.7	87.5	4,345	77.1	93.5	1,819
Region						
Western	77.1	87.8	1,038	81.4	95.6	447
Central	68.6	89.9	937	89.8	92.4	380
Greater Accra	80.1	95.8	1,898	84.8	97.1	831
Volta	73.2	92.4	720	69.5	95.0	295
Eastern	63.7	90.3	878	75.4	96.1	362
Ashanti	77.2	93.0	1,798	71.5	94.7	680
Brong Ahafo	71.8	87.0	769	84.7	94.8	320
Northern	62.4	81.1	786	82.5	92.2	316
Upper East	80.5	88.4	358	62.0	88.4	146
Upper West	78.5	90.8	215	73.3	91.7	91
Education						
No education	68.9	82.9	1,792	72.6	89.8	362
Primary	71.3	87.9	1,672	75.5	89.3	543
Middle/JSS/JHS	74.9	92.7	3,862	79.4	95.0	1,626
Secondary+	78.0	95.8	2,070	82.3	98.1	1,336
Wealth quintile						
Lowest	67.0	82.1	1,511	76.5	90.3	639
Second	71.7	88.4	1,636	79.0	92.7	648
Middle	74.5	91.1	1,938	80.1	95.5	770
Fourth	75.1	93.5	2,117	78.8	96.1	848
Highest	78.2	95.1	2,194	80.9	97.2	963
Total 15-49	73.8	90.7	9,396	79.2	94.7	3,869
50-59	na	na	na	77.7	94.7	519
Total 15-59	na	na	na	79.0	94.7	4,388

na = Not applicable

Programme planners and implementers focusing on HIV/AIDS and sexually transmitted infections should take advantage of the relatively high level of acceptance of women negotiating safer sex with their husbands. This high degree of acceptance affords the opportunity to expand and strengthen messages and interventions that promote preventive practices (e.g., use of male and female condoms) and empower women to take ownership of their sexual health.

13.5 ATTITUDES TOWARDS CONDOM EDUCATION FOR YOUNG PEOPLE

Condom use is one of the most effective and efficient strategies for combating the spread of HIV. The social acceptability of condoms is key to determining the success of condoms in preventing sexual transmission of HIV and other STIs, as well as preventing unintended pregnancy. However, educating young people about condoms is sometimes considered controversial; some oppose educating young people about condoms because they think it promotes early sexual experimentation; others favour teaching only abstinence until marriage. To determine attitudes towards condom education, respondents were asked whether they agree that children age 12-14 should be taught about using a condom to avoid getting HIV. Because the focus is on adults' opinions, results are tabulated for respondents age 18-49. Table 13.7 shows that 53 percent of women and 58 percent of men age 18-49 support teaching children age 12-14 about condoms. Women age 25-29 (57 percent) and men age 20-24 (64 percent of men) are most likely to support education of children on condom use, while women and men age 30-49 are the least likely to do so (51 percent of women and 55-56 percent of men).

Table 13.7 Adult support of education about condom use to prevent AIDS

Percentage of women and men age 18-49 who agree that children age 12-14 years should be taught about using a condom to avoid AIDS, by background characteristics, Ghana 2014

Background characteristic	Women		Men	
	Percentage who agree	Number of women	Percentage who agree	Number of men
Age				
18-24	54.8	2,227	61.2	935
18-19	55.0	614	57.2	347
20-24	54.7	1,613	63.6	588
25-29	56.9	1,604	58.2	589
30-39	51.2	2,667	55.4	1,026
40-49	50.6	1,887	55.6	811
Marital status				
Never married	60.6	2,107	61.0	1,343
Married/living together	49.9	5,302	54.1	1,846
Divorced/separated/widowed	54.6	975	67.1	172
Residence				
Urban	57.1	4,569	56.7	1,804
Rural	48.3	3,816	58.5	1,557
Region				
Western	59.8	920	53.6	394
Central	49.0	846	66.8	325
Greater Accra	66.3	1,748	53.6	737
Volta	54.3	651	55.9	255
Eastern	56.9	795	67.0	310
Ashanti	37.3	1,586	58.1	593
Brong Ahafo	53.7	665	58.5	279
Northern	48.7	689	55.8	271
Upper East	51.0	302	47.2	120
Upper West	46.7	185	57.8	78
Education				
No education	41.3	1,755	44.5	350
Primary	49.0	1,402	52.9	409
Middle/JSS/JHS	53.1	3,257	56.9	1,318
Secondary+	66.6	1,972	63.2	1,283
Wealth quintile				
Lowest	41.3	1,290	52.8	521
Second	46.7	1,411	56.2	538
Middle	52.7	1,741	60.7	675
Fourth	56.3	1,927	58.7	751
Highest	62.5	2,016	57.7	875
Total 18-49	53.1	8,385	57.5	3,360
50-59	na	na	55.0	519
Total 18-59	na	na	57.2	3,880

na = Not applicable

Urban women are more likely than rural women to agree on teaching children age 12-14 about condom use to avoid HIV (57 percent and 48 percent, respectively). The urban-rural difference is small for men. By region, agreement on teaching children age 12-14 about the use of condoms ranges from 37 percent of women in Ashanti and 47 percent of men in Upper East to 66 percent of women in Greater Accra and 67 percent of men in Eastern. The proportion of respondents who support teaching children age 12-14 about condom use increases with level of education and wealth quintile. For instance, 67 percent of women with a secondary or higher education agree on instructing children 12-14 years about condoms compared with 41 percent of women with no education. Similarly, 63 percent of men with a secondary or higher education, compared with 45 percent of men with no education, agree that youth should be taught about using condoms to avoid HIV.

13.6 HIGHER-RISK SEX

Given that most HIV infections in Ghana are contracted through heterosexual contact, information on sexual behaviour is important in designing, implementing and monitoring interventions to control and manage the spread of HIV. The 2014 GDHS included questions on respondents' number of sexual partners over the 12 months preceding the survey; from this data, the mean number of lifetime sexual partners was computed. In addition, information was collected on women's and men's use of condoms during their most recent sexual intercourse. These questions are sensitive and it is recognised that some respondents may have been reluctant to provide information on recent sexual behaviour. Potentially risky sexual activities relate to men and women having multiple sexual partners and not using condoms.

Tables 13.8.1 and 13.8.2 present information on women and men who have ever had intercourse regarding the number of sexual partners they had during the 12 months before the survey and the estimated number of lifetime sexual partners. For those reporting more than one sexual partner in the past 12 months, information is presented on whether they used a condom during their most recent intercourse. The results of the survey show that women age 15-49 are much less likely than their male counterparts to have reported having multiple sexual partners in the past 12 months (1 percent versus 14 percent). These results are similar to those obtained in the 2008 GDHS, in which 1 percent of women and 11 percent of men reported two or more sexual partners in the past two weeks.

As expected, women in the age group 20-24, women who have never married, and those who are divorced, separated or widowed are somewhat more likely to have two or more sexual partners in the past 12 months when compared with other women. However, variations by background characteristics among women are minimal.

Men who are married or have ever married are most likely to have multiple sexual partners. Men in rural areas are somewhat more likely to report having two or more sexual partners. Men who live in Central region are the most likely to have had multiple sexual partners in the past 12 months. Percentage of men with multiple sexual partners is highest among those with no education (16 percent) and those with a secondary or higher education (15 percent).

The survey also assessed condom use at last sex among women and men with multiple partners in the 12 months preceding the survey. Overall, 11 percent of women and 19 percent of men age 15-49 with multiple sexual partners in the past 12 months used a condom at last sex. Due to small numbers of women with multiple sexual partners, differences by background characteristics cannot be assessed. Among men with multiple partners, those age 20-24 (35 percent), men who have never been married (43 percent), men living in urban areas (24 percent), men in Upper West (31 percent), those with a secondary or higher education (31 percent), and men in the highest wealth quintile (33 percent) are more likely than other men to report using a condom during their last sexual intercourse. The smaller proportions of women with multiple partners compared with men may accurately reflect the Ghanaian context, but is also likely to reflect a bias from some women being shy about reporting behaviour that may not be generally accepted.

Among respondents who ever had sexual intercourse, the average number of lifetime sexual partners is 2.3 for women and 7.3 for men. The 2014 GDHS findings for women (2.3 lifetime sexual partners) are similar to those reported in the 2008 GDHS (2.0 lifetime sexual partners). However, lifetime sexual partners for men increased from 5.3 in the 2008 GDHS to 7.3 in the 2014 GDHS.

There are significant variations in the number of lifetime partners by background characteristics of men. As expected, the number of lifetime sexual partners is smaller for younger men and larger for older men (2.9 for men age 15-19 compared with 9.2 for men age 40-49). Divorced, separated, and widowed men have more partners than never-married men (10.4 and 5.1 sexual partners, respectively). There are notable differences by region, from an average of 2.6 lifetime sexual partners among men in Upper West region to 9.6 in Western region. The mean number of lifetime sexual partners is highest among men with middle/JSS/JHS education and tends to increase with wealth quintile.

Table 13.8.1 Multiple sexual partners: Women

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

	All women		Among women who had 2+ partners in the past 12 months:		Among women who ever had sexual intercourse[1]:	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Number of women	Percentage who reported using a condom during last sexual intercourse	Number of women	Mean number of sexual partners in lifetime	Number of women
Age						
15-24	2.2	3,238	14.9	71	1.9	2,099
15-19	2.0	1,625	(21.6)	32	1.6	694
20-24	2.4	1,613	(9.4)	39	2.0	1,405
25-29	1.5	1,604	*	24	2.3	1,554
30-39	0.6	2,667	*	17	2.4	2,657
40-49	0.4	1,887	*	8	2.5	1,881
Marital status						
Never married	2.5	3,094	13.9	77	2.2	1,900
Married/living together	0.4	5,321	*	20	2.2	5,314
Divorced/separated/widowed	2.2	981	*	22	2.9	977
Residence						
Urban	1.5	5,051	11.0	76	2.5	4,356
Rural	1.0	4,345	(11.9)	44	2.1	3,835
Region						
Western	1.3	1,038	*	13	2.2	927
Central	1.6	937	*	15	2.3	843
Greater Accra	1.5	1,898	*	28	2.5	1,633
Volta	1.4	720	*	10	2.5	644
Eastern	0.7	878	*	6	2.4	780
Ashanti	1.4	1,798	*	26	2.4	1,530
Brong Ahafo	2.0	769	*	15	2.3	694
Northern	0.3	786	*	2	1.6	670
Upper East	0.7	358	*	3	1.6	296
Upper West	0.9	215	*	2	1.4	176
Education						
No education	0.3	1,792	*	5	1.9	1,742
Primary	1.4	1,672	*	23	2.4	1,449
Middle/JSS/JHS	1.3	3,862	(13.6)	51	2.4	3,271
Secondary+	1.9	2,070	(12.8)	39	2.3	1,729
Wealth quintile						
Lowest	0.6	1,511	*	10	1.7	1,296
Second	0.6	1,636	*	10	2.1	1,447
Middle	2.0	1,938	(7.4)	40	2.4	1,746
Fourth	1.4	2,117	*	31	2.5	1,833
Highest	1.3	2,194	(12.0)	29	2.5	1,869
Total 15-49	1.3	9,396	11.3	119	2.3	8,191

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Means are calculated excluding respondents who gave non-numeric responses.

Table 13.8.2 Multiple sexual partners: Men

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

Background characteristic	All men		Among men who had 2+ partners in the past 12 months:		Among men who ever had sexual intercourse[1]:	
	Percentage who had 2+ partners in the past 12 months	Number of men	Percentage who reported using a condom during last sexual intercourse	Number of men	Mean number of sexual partners in lifetime	Number of men
Age						
15-24	7.9	1,443	34.2	114	3.8	681
15-19	3.9	855	*	33	2.9	228
20-24	13.7	588	35.4	81	4.3	453
25-29	18.1	589	18.4	107	7.4	551
30-39	17.4	1,026	15.0	179	8.0	1,005
40-49	18.3	811	12.3	148	9.2	799
Marital status						
Never married	8.4	1,851	42.5	155	5.1	1,033
Married/living together	19.3	1,846	7.1	357	8.2	1,832
Divorced/separated/widowed	20.9	172	*	36	10.4	172
Type of union						
In polygynous union	68.3	126	2.3	86	6.8	126
In non-polygynous union	15.7	1,720	8.6	271	8.3	1,706
Not currently in union	9.4	2,023	41.0	191	5.8	1,205
Residence						
Urban	13.4	2,050	23.6	275	8.0	1,635
Rural	15.0	1,819	14.1	273	6.4	1,401
Region						
Western	20.3	447	17.3	91	9.6	358
Central	21.6	380	19.4	82	7.4	306
Greater Accra	18.6	831	28.8	155	8.5	691
Volta	13.5	295	(7.9)	40	6.1	231
Eastern	12.9	362	16.7	47	7.3	282
Ashanti	5.2	680	*	35	8.0	527
Brong Ahafo	10.9	320	(17.9)	35	6.1	255
Northern	13.3	316	2.1	42	3.0	231
Upper East	9.5	146	(18.8)	14	2.6	92
Upper West	8.2	91	(30.5)	7	4.3	64
Education						
No education	16.0	362	8.1	58	5.2	326
Primary	12.5	543	13.8	68	6.5	387
Middle/JSS/JHS	13.5	1,626	11.8	219	8.1	1,210
Secondary+	15.2	1,336	31.4	203	7.3	1,113
Wealth quintile						
Lowest	11.1	639	7.1	71	4.0	433
Second	11.9	648	19.9	77	6.2	485
Middle	15.8	770	14.9	122	7.4	634
Fourth	15.6	848	12.5	133	8.5	688
Highest	15.0	963	33.4	145	8.5	796
Total 15-49	14.2	3,869	18.9	548	7.3	3,036
50-59	17.3	519	7.7	90	10.3	510
Total 15-59	14.5	4,388	17.3	637	7.7	3,546

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Means are calculated excluding respondents who gave non-numeric responses.

13.7 POINT PREVALENCE AND CUMULATIVE PREVALENCE OF CONCURRENT SEXUAL PARTNERS

The point prevalence and cumulative prevalence of concurrent sexual partners are new concepts that were incorporated for the first time in the 2014 GDHS. The point prevalence of concurrent sexual partners is defined as the percentage of respondents who had two (or more) sexual partners concurrently at the point in time six months before the survey. The cumulative prevalence of concurrent sexual partners is defined as the percentage of respondents who had two (or more) sexual partners concurrently at any time during the 12 months preceding the survey. Table 13.9 shows the point prevalence and cumulative prevalence of concurrent sexual partners among all respondents. It also shows the percentage of

respondents who had concurrent sexual partners among those who had multiple sexual partners during the 12 months before the survey.

Among Ghanaian women age 15-49, the point prevalence and the cumulative prevalence are less than 1 percent. For women who had multiple partners during the 12 months before the survey, 44 percent had concurrent sexual partners.

Among Ghanaian men in the same age group, the point prevalence is 6 percent and the cumulative prevalence is 12 percent. Men age 50-59 have a point prevalence of 13 percent and a cumulative prevalence of 15 percent. By marital status, cumulative prevalence of concurrent sexual partners is lowest among never-married men (5 percent) and highest among men who are currently married or living together (18 percent). Among men who had multiple partners during the 12 months before the survey, 84 percent had concurrent sexual partners.

Table 13.9 Point prevalence and cumulative prevalence of concurrent sexual partners

Percentage of all women and men age 15-49 who had concurrent sexual partners 6 months before the survey (point prevalence[1]), and percentage of all women and all men age 15-49 who had any concurrent sexual partners during the 12 months before the survey (cumulative prevalence[2]), and among women and men age 15-49 who had multiple sexual partners during the 12 months before the survey, percentage who had concurrent sexual partners, by background characteristics, Ghana 2014

Background characteristic	Among all respondents:			Among all respondents who had multiple partners during the 12 months before the survey:	
	Point prevalence of concurrent sexual partners[1]	Cumulative prevalence of concurrent sexual partners[2]	Number of respondents	Percentage who had concurrent sexual partners[2]	Number of respondents
WOMEN					
Age					
15-24	0.4	1.0	3,238	44.5	71
15-19	0.2	0.9	1,625	(46.6)	32
20-24	0.6	1.0	1,613	(42.9)	39
25-29	0.3	0.7	1,604	*	24
30-39	0.1	0.2	2,667	*	17
40-49	0.2	0.2	1,887	*	8
Marital status					
Never married	0.3	1.1	3,094	42.3	77
Married/living together	0.1	0.3	5,321	*	20
Divorced/separated/widowed	0.6	0.7	981	*	22
Residence					
Urban	0.3	0.7	5,051	44.4	76
Rural	0.2	0.4	4,345	(43.2)	44
Total 15-49	0.3	0.6	9,396	44.0	119
MEN					
Age					
15-24	2.0	5.2	1,443	66.4	114
15-19	0.7	2.8	855	*	33
20-24	3.9	8.8	588	64.3	81
25-29	7.2	15.8	589	87.2	107
30-39	8.3	14.7	1,026	84.5	179
40-49	11.0	17.4	811	95.1	148
Marital status					
Never married	1.9	5.3	1,851	63.2	155
Married/living together	11.0	18.4	1,846	94.9	357
Divorced/separated/widowed	3.9	14.0	172	*	36
Type of union					
In polygynous union	56.5	68.3	126	100.0	86
In non-polygynous union	7.7	14.7	1,720	93.3	271
Not currently in union	2.1	6.0	2,023	63.9	191
Residence					
Urban	5.5	10.9	2,050	81.1	275
Rural	7.3	13.1	1,819	87.2	273
Total 15-49	6.3	11.9	3,869	84.1	548
50-59	12.9	15.4	519	89.0	90
Total 15-59	7.1	12.3	4,388	84.8	637

Note: Two sexual partners are considered to be concurrent if the date of the most recent sexual intercourse with the earlier partner is after the date of the first sexual intercourse with the later partner. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] The percentage of respondents who had two (or more) sexual partners that were concurrent at the point in time 6 months preceding the survey
[2] The percentage of respondents who had two (or more) sexual partners that were concurrent anytime during the 12 months preceding the survey

13.8 PAID SEX

The act of paying for sex introduces an uneven basis for negotiating safer sexual practices. Condom use is an important way to mitigate the risk of HIV transmission with higher-risk sexual partners such as commercial sex workers. Table 13.10 shows the percentage of men age 15-49 who paid for sexual intercourse in the past 12 months by background characteristics.

Only 6 percent of men age 15-49 reported ever paying for sex; 3 percent reported paying for sex during the 12 months preceding the survey. Men who are divorced, separated, or widowed (11 percent), and those living in the Western region (12 percent) are more likely than other men to have paid for sexual intercourse. Other variations by background characteristics are minimal.

Among men who paid for sex in the past 12 months, 42 percent reported using a condom at last paid sexual intercourse (data not shown).

Table 13.10 Payment for sexual intercourse and condom use at last paid sexual intercourse

Percentage of men age 15-49 who ever paid for sexual intercourse and percentage reporting payment for sexual intercourse in the past 12 months, according to background characteristics, Ghana 2014

| | Among all men: | | |
Background characteristic	Percentage who ever paid for sexual intercourse	Percentage who paid for sexual intercourse in the past 12 months	Number of men
Age			
15-24	2.2	1.4	1,443
15-19	0.6	0.5	855
20-24	4.4	2.8	588
25-29	8.8	3.3	589
30-39	8.6	2.9	1,026
40-49	8.9	3.1	811
Marital status			
Never married	3.3	1.7	1,851
Married/living together	8.9	2.8	1,846
Divorced/separated/widowed	10.5	7.1	172
Residence			
Urban	6.0	2.3	2,050
Rural	6.6	2.6	1,819
Region			
Western	12.4	4.7	447
Central	6.7	4.0	380
Greater Accra	7.9	2.4	831
Volta	5.4	1.8	295
Eastern	6.9	2.2	362
Ashanti	2.9	2.7	680
Brong Ahafo	3.7	0.4	320
Northern	6.4	1.5	316
Upper East	2.1	0.9	146
Upper West	0.9	0.6	91
Education			
No education	6.3	2.4	362
Primary	6.5	2.1	543
Middle/JSS/JHS	6.5	2.3	1,626
Secondary+	6.0	2.9	1,336
Wealth quintile			
Lowest	5.5	1.6	639
Second	6.7	3.2	648
Middle	6.5	2.7	770
Fourth	6.9	2.7	848
Highest	5.8	2.2	963
Total 15-49	6.3	2.5	3,869
50-59	5.8	1.0	519
Total 15-59	6.2	2.3	4,388

13.9 Coverage of HIV Testing Services

Expanding knowledge of HIV status is an important goal of the national HIV response. In the case of persons who are HIV negative, knowledge of their HIV status helps in making specific decisions that will reduce the risk of becoming HIV positive and enable them to remain HIV free. For those who are HIV positive, knowledge of their HIV status allows them to live an affirming life, protecting their sexual partners, accessing care and treatment, and planning for the future. To assess awareness and coverage of prior HIV testing behaviour, respondents were asked if they knew where to get an HIV test and whether they had ever been tested for HIV. If they said they had been tested for HIV, respondents were asked if they had received the results of their last test. Tables 13.11.1 and 13.11.2 present information on prior testing among women and men, respectively.

Table 13.11.1 shows that 79 percent of women age 15-49 know a place where they can get an HIV test. By age group, women age 15-19 (61 percent) are least likely while women age 25-29 (86 percent) are most likely to know where to obtain an HIV test. Knowledge of a place to obtain an HIV test is higher among urban than rural women, and increases from 63 percent among women with no education to 94 percent among those with a secondary or higher education. Percentage who know where to get an HIV test ranges from 52 percent of women in Northern to 92 percent of those in Greater Accra. This percentage increases substantially with wealth.

More than four in ten women age 15-49 in Ghana (43 percent) have ever been tested for HIV and received their results, and 6 percent have been tested but did not receive the test results. The percentage ever tested and who received the test results is lowest among women age 15-19 (11 percent) and highest among those age 25-39 (58 percent). Women who are married or living together (53 percent), those who reside in urban areas (50 percent), women with a secondary or higher education (56 percent), and those in the highest wealth quintile (58 percent) are most likely to have ever been tested for HIV and to have received their results. Only 6 percent of women age 15-49 were tested for HIV but did not receive the test results.

More than half of women age 15-49 (52 percent) have never been tested for HIV. Only 13 percent of women have been tested for HIV in the past 12 months and received results of their last test.

Table 13.11.2 shows that 80 percent of men know where to get an HIV test. Variations by background characteristics are similar to those observed for women. One in five men age 15-49 (20 percent) have been tested for HIV and received their test results. Coverage of HIV testing is highest among those age 30-39 and those who are currently divorced, separated or widowed (29 percent each). Men in urban areas (26 percent) are much more likely than those in rural areas (14 percent) to have ever been tested for HIV and received their results. By region, this percentage ranges from 13 percent each in Brong Ahafo and Northern regions to 29 percent in Greater Accra. The percentage of men who have been tested for HIV generally increases with level of education and wealth quintile. For example, 9 percent of men with no education have been tested for HIV and received their results, compared with 36 percent of men with a secondary or higher education.

Two percent of men have been tested for HIV but did not receive their results. Seventy-eight percent of men have never received an HIV test. Only 6 percent of men have been tested for HIV in the past 12 months and received their results.

Coverage of HIV testing, although still low, has shown a substantial increase over the years. In the 2014 GDHS, 49 percent of women and 22 percent of men have ever been tested for HIV compared with 21 percent of women and 14 percent of men in the 2008 GDHS.

Table 13.11.1 Coverage of prior HIV testing: 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, the percentage of women ever tested, and the percentage of women age 15-49 who were tested in the past 12 months and received the results of the last test, according to background characteristics, Ghana 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				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[1]	Total			
Age								
15-24	72.3	26.4	4.9	68.6	100.0	31.4	9.9	3,238
15-19	61.1	11.2	2.6	86.2	100.0	13.8	4.5	1,625
20-24	83.5	41.8	7.3	50.9	100.0	49.1	15.3	1,613
25-29	86.1	58.3	7.2	34.5	100.0	65.5	19.4	1,604
30-39	84.3	58.1	7.2	34.7	100.0	65.3	17.0	2,667
40-49	74.5	35.9	3.6	60.5	100.0	39.5	6.8	1,887
Marital status								
Never married	74.2	23.8	3.2	73.0	100.0	27.0	8.2	3,094
Ever had sex	81.1	33.8	4.6	61.6	100.0	38.4	12.3	1,904
Never had sex	63.1	7.8	0.9	91.2	100.0	8.8	1.8	1,190
Married/living together	80.7	53.4	7.4	39.2	100.0	60.8	16.4	5,321
Divorced/separated/widowed	80.1	44.6	4.6	50.8	100.0	49.2	8.6	981
Residence								
Urban	85.6	49.9	4.6	45.6	100.0	54.4	15.1	5,051
Rural	70.2	34.5	7.0	58.5	100.0	41.5	10.4	4,345
Region								
Western	73.6	41.3	4.9	53.8	100.0	46.2	12.4	1,038
Central	85.0	45.6	5.8	48.7	100.0	51.3	13.6	937
Greater Accra	92.0	52.8	4.2	43.0	100.0	57.0	14.8	1,898
Volta	77.0	39.7	3.9	56.5	100.0	43.5	13.2	720
Eastern	76.2	42.5	7.7	49.8	100.0	50.2	15.6	878
Ashanti	79.0	43.9	6.5	49.5	100.0	50.5	12.4	1,798
Brong Ahafo	77.0	44.4	4.9	50.6	100.0	49.4	12.0	769
Northern	52.2	21.2	9.0	69.9	100.0	30.1	7.8	786
Upper East	71.8	35.0	5.0	60.0	100.0	40.0	11.0	358
Upper West	78.0	37.1	5.1	57.8	100.0	42.2	12.1	215
Education								
No education	62.9	31.6	7.7	60.7	100.0	39.3	8.9	1,792
Primary	68.7	36.0	6.1	57.9	100.0	42.1	9.3	1,672
Middle/JSS/JHS	81.5	44.0	5.8	50.2	100.0	49.8	13.3	3,862
Secondary+	94.2	55.6	3.4	40.9	100.0	59.1	18.5	2,070
Wealth quintile								
Lowest	57.2	23.4	7.9	68.7	100.0	31.3	6.9	1,511
Second	70.8	33.9	8.1	58.0	100.0	42.0	10.3	1,636
Middle	77.5	40.4	5.8	53.9	100.0	46.1	12.4	1,938
Fourth	85.7	49.6	4.6	45.8	100.0	54.2	14.4	2,117
Highest	92.7	58.3	3.3	38.4	100.0	61.6	18.0	2,194
Total 15-49	78.5	42.8	5.7	51.5	100.0	48.5	12.9	9,396

[1] Includes 'Don't know/missing'

Table 13.11.2 Coverage of prior HIV testing: 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, the percentage of men ever tested, and the percentage of men age 15-49 who were tested in the past 12 months and received the results of the last test, according to background characteristics, Ghana 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				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[1]	Total			
Age								
15-24	74.0	8.6	2.0	89.4	100.0	10.6	2.5	1,443
15-19	66.9	4.3	1.4	94.3	100.0	5.7	1.3	855
20-24	84.3	14.7	2.9	82.4	100.0	17.6	4.3	588
25-29	81.6	24.8	3.2	71.9	100.0	28.1	8.3	589
30-39	84.3	28.7	2.0	69.3	100.0	30.7	9.1	1,026
40-49	83.7	27.0	2.0	71.0	100.0	29.0	6.9	811
Marital status								
Never married	75.6	14.4	2.0	83.6	100.0	16.4	4.5	1,851
Ever had sex	81.7	19.0	2.9	78.1	100.0	21.9	6.4	1,036
Never had sex	67.8	8.5	0.9	90.6	100.0	9.4	2.0	814
Married/living together	83.6	25.3	2.5	72.1	100.0	27.9	7.5	1,846
Divorced/separated/widowed	86.6	28.9	0.3	70.8	100.0	29.2	7.8	172
Residence								
Urban	84.5	25.8	2.2	72.0	100.0	28.0	7.9	2,050
Rural	74.8	14.0	2.2	83.8	100.0	16.2	4.0	1,819
Region								
Western	82.7	18.2	2.9	78.9	100.0	21.1	5.3	447
Central	85.2	18.4	4.1	77.5	100.0	22.5	4.1	380
Greater Accra	92.6	29.3	1.5	69.3	100.0	30.7	8.5	831
Volta	82.7	18.6	2.9	78.4	100.0	21.6	5.6	295
Eastern	73.5	23.7	4.3	72.0	100.0	28.0	7.8	362
Ashanti	74.7	18.1	0.9	81.0	100.0	19.0	5.5	680
Brong Ahafo	80.2	13.4	0.8	85.8	100.0	14.2	3.8	320
Northern	65.3	12.5	1.6	85.9	100.0	14.1	4.0	316
Upper East	63.2	19.0	1.8	79.2	100.0	20.8	8.9	146
Upper West	60.0	16.6	3.0	80.4	100.0	19.6	4.4	91
Education								
No education	56.4	8.6	1.6	89.8	100.0	10.2	2.7	362
Primary	64.8	10.5	1.2	88.3	100.0	11.7	3.2	543
Middle/JSS/JHS	79.6	12.8	1.8	85.4	100.0	14.6	3.4	1,626
Secondary+	92.9	36.4	3.3	60.3	100.0	39.7	11.4	1,336
Wealth quintile								
Lowest	59.7	9.8	1.4	88.8	100.0	11.2	2.3	639
Second	74.1	9.5	2.3	88.1	100.0	11.9	4.1	648
Middle	83.2	14.7	1.9	83.4	100.0	16.6	3.9	770
Fourth	82.1	21.2	3.5	75.4	100.0	24.6	7.3	848
Highest	92.6	38.0	1.7	60.3	100.0	39.7	10.4	963
Total 15-49	79.9	20.3	2.2	77.6	100.0	22.4	6.1	3,869
50-59	78.6	22.0	2.3	75.7	100.0	24.3	5.5	519
Total 15-59	79.8	20.5	2.2	77.3	100.0	22.7	6.0	4,388

[1] Includes 'Don't know/missing'

13.10 HIV TESTING DURING PREGNANCY

In Ghana, encouraging pregnant women to know their HIV sero-status in order to reduce the risk of transmission of the virus from mother to child is a key component of Prevention of Mother-To-Child Transmission (PMTCT) service delivery. It also serves as the entry point of care for HIV-positive mothers and is a key prevention intervention being provided at all PMTCT centres across the country.

Table 13.12 presents information on HIV screening during pregnancy among women who gave birth in the two years preceding the survey. Sixty-six percent of women who gave birth during the two years preceding the survey received HIV counselling during antenatal care (ANC) visits (i.e., someone talked with the respondent about all three of the following topics: (1) babies getting HIV from their mother, (2) preventing contracting HIV, and (3) getting tested for HIV). About half of women were tested

for HIV and received the test results and post-test counselling (49 percent), and an additional 12 percent were tested for HIV and received the results but did not receive post-test counselling. Further, 10 percent of women were tested for HIV during an antenatal care visit but did not receive their test results.

Table 13.12 Pregnant women counselled and tested for HIV

Among all women age 15-49 who gave birth in the two years preceding the survey, the percentage who received HIV pretest counselling, the percentage who received an HIV test during antenatal care for their most recent birth by whether they received their results and post-test counselling, and percentage who received an HIV test at the time during ANC or labour for their most recent birth by whether they received their test results, according to background characteristics, Ghana 2014

Background characteristic	Percentage who received counselling on HIV during antenatal care[1]	Percentage who were tested for HIV during antenatal care and who:			Percentage who received counselling on HIV and an HIV test during ANC, and the results	Percentage who had an HIV test during ANC or labour and who:[2]		Number of women who gave birth in the past two years[3]
		Received results and:		Did not receive results		Received results	Did not receive results	
		Received post-test counselling	Did not receive post-test counselling					
Age								
15-24	58.6	44.0	10.8	11.1	43.3	55.5	11.2	584
15-19	53.3	41.8	12.0	10.3	40.5	53.8	10.3	143
20-24	60.3	44.7	10.4	11.3	44.2	56.1	11.5	441
25-29	67.4	51.2	10.3	13.1	54.0	62.2	13.1	614
30-39	72.4	53.8	12.6	8.2	60.3	66.5	8.8	895
40-49	53.2	34.0	12.3	8.7	39.3	46.6	9.1	171
Marital status								
Never married	56.6	41.4	13.2	8.5	44.5	55.6	8.5	203
Married/living together	67.4	49.9	11.2	10.6	53.6	61.5	10.9	1,967
Divorced/separated/widowed	59.3	48.9	14.1	8.7	49.8	63.1	8.7	93
Residence								
Urban	75.3	62.9	11.0	8.0	65.1	74.5	8.0	1,009
Rural	58.6	37.9	11.8	12.2	42.6	50.2	12.7	1,255
Region								
Western	74.6	36.0	21.4	15.1	55.3	59.5	15.5	217
Central	66.1	51.8	16.4	7.8	57.2	68.5	8.1	258
Greater Accra	82.0	72.7	9.1	6.8	74.2	81.9	7.3	332
Volta	57.2	46.3	12.3	3.8	45.5	60.4	3.8	177
Eastern	63.9	48.1	9.9	11.0	50.7	58.0	11.5	206
Ashanti	62.8	52.9	12.1	14.0	52.5	65.2	14.4	397
Brong Ahafo	69.5	59.5	6.2	7.2	61.7	66.1	7.6	214
Northern	54.4	21.3	6.8	14.4	24.1	28.1	14.4	304
Upper East	66.5	51.1	9.2	7.4	54.0	60.3	7.4	95
Upper West	49.4	41.7	12.0	10.9	42.5	53.8	10.9	64
Education								
No education	55.2	33.5	8.5	13.0	37.0	42.1	13.0	606
Primary	62.3	45.9	9.1	13.0	48.9	55.9	13.9	431
Middle/JSS/JHS	69.9	55.1	11.9	10.3	57.2	67.6	10.5	903
Secondary+	80.5	65.6	19.1	1.9	73.9	84.9	1.9	324
Wealth quintile								
Lowest	53.6	30.7	6.8	13.7	32.9	37.7	13.8	519
Second	56.8	37.5	12.0	14.3	41.0	49.6	15.0	474
Middle	63.4	46.7	10.2	10.7	49.9	57.8	11.4	433
Fourth	76.7	61.6	17.0	6.8	68.5	78.8	6.8	444
Highest	84.6	75.9	12.3	4.5	77.7	88.9	4.5	393
Total 15-49	66.0	49.1	11.5	10.3	52.6	61.0	10.6	2,264

[1] In this context, "pretest counselling" means that someone talked with the respondent about all three of the following topics: 1) babies getting the AIDS virus from their mother, 2) preventing contracting the virus, and 3) getting tested for the virus
[2] Women are asked whether they received an HIV test during labour only if they were not tested for HIV during ANC
[3] Denominator for percentages includes women who did not receive antenatal care for their last birth in the past two years

Fifty-three percent of women who gave birth in the two years preceding the survey received counselling on HIV, an HIV test during ANC, and the test results. Women age 30-39 (60 percent) and those who are married or living together (54 percent) are more likely than other women to have been counselled and tested for HIV during ANC and to have received the test results. This percentage increases with increasing level of education and wealth quintile. For example, 37 percent of women with no education have been counselled and tested for HIV during ANC and received the results, compared with 74 percent of women with a secondary or higher education. The proportion of women who have been counselled and tested for HIV during ANC increases from 54 percent of women in the lowest wealth quintile to 85 percent of those in the highest quintile.

Sixty-one percent of women had an HIV test either during antenatal care or during labour for their most recent birth and received the results; an additional 11 percent were tested during antenatal care or labour but did not receive the results.

13.11 MALE CIRCUMCISION

Circumcision is widely practiced in Ghana for religious, social, and health purposes. As a result, children are circumcised a few days after birth, except for most royal lineages. Male circumcision has been associated with a lower risk of HIV transmission from women to men (Williams et al. 2006; WHO and UNAIDS 2007). To examine the practice of circumcision at the national level, men interviewed in the 2014 GDHS were asked whether they had been circumcised. The results are presented in Table 13.13.

Data show that male circumcision is almost universal in Ghana, with almost all men being circumcised (96 percent). The practice occurs in all age groups and in both urban and rural areas; however, there are a few variations according to region, ethnicity, education, and wealth quintile. Men in Upper West (72 percent) and those of Gurma ethnicity (70 percent) are the least likely to be circumcised.

Table 13.13 Male circumcision

Percentage of men age 15-49 who report having been circumcised, by background characteristics, Ghana 2014

Background characteristic	Percentage circumcised	Number of men
Age		
15-24	95.6	1,443
15-19	95.1	855
20-24	96.5	588
25-29	94.0	589
30-39	96.6	1,026
40-49	96.2	811
Residence		
Urban	98.1	2,050
Rural	93.1	1,819
Region		
Western	98.8	447
Central	98.6	380
Greater Accra	99.2	831
Volta	98.9	295
Eastern	99.1	362
Ashanti	97.3	680
Brong Ahafo	97.0	320
Northern	77.3	316
Upper East	90.3	146
Upper West	71.6	91
Religion		
Catholic	93.1	416
Anglican/Methodist/Presbyterian	98.6	504
Pentecostal/Charismatic	97.3	1,217
Other Christian	97.2	695
Muslim	97.9	680
Traditional/Spiritualist	68.8	128
No religion	90.5	227
Ethnic group		
Akan	98.6	1,905
Ga/Dangme	99.7	323
Ewe	99.0	514
Guan	93.5	79
Mole-Dagbani	92.2	568
Grusi	94.4	101
Gurma	70.2	226
Mande	91.2	47
Other	95.1	106
Total 15-49	95.8	3,869
50-59	94.1	519
Total 15-59	95.6	4,388

Note: Total includes 2 men for whom information on religion is 'Other' or 'Don't know'.

13.12 SELF-REPORTING OF SEXUALLY TRANSMITTED INFECTIONS

Sexually transmitted infections (STIs) are closely linked with HIV because they share similar risk factors. Moreover, STIs can increase the likelihood of contracting HIV. In the 2014 GDHS, respondents who had ever had sexual intercourse were asked whether they had a sexually transmitted infection or symptoms of an STI (a bad-smelling, abnormal discharge from the vagina or penis or a genital sore or ulcer) in the 12 months preceding the survey.

The results presented in Table 13.14 indicate that 25 percent of women and 10 percent of men age 15-49 had an STI or symptoms of an STI in the past 12 months. Respondents in the younger age groups are more likely to report having had an STI or STI symptoms than older age groups. Never-married women and men are more likely to report an STI or symptoms of an STI than other women and men, with the difference being more pronounced among women (35 percent of never-married women compared with 21 percent of currently married and formerly married women). Among men, those in union are least likely to have an STI or symptoms of an STI (8 percent). Women in urban areas and men in rural areas are more likely than their counterparts to report having had an STI or symptoms of an STI.

Table 13.14 Self-reported prevalence of sexually transmitted infections (STIs) and STIs symptoms

Among women and men age 15-49 who ever had sexual intercourse, the percentage who reported having an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Ghana 2014

	Women					Men				
	Percentage of women who reported having in the past 12 months:				Number of women who ever had sexual inter-course	Percentage of men who reported having in the past 12 months:				Number of men who ever had sexual inter-course
Background characteristic	STI	Bad smelling/ abnormal genital discharge	Genital sore/ulcer	STI/ genital discharge/ sore or ulcer		STI	Bad smelling/ abnormal discharge from penis	Genital sore/ulcer	STI/ abnormal discharge from penis/sore or ulcer	
Age										
15-24	7.7	32.9	14.4	35.4	2,099	8.6	9.7	5.4	14.1	683
15-19	6.6	32.9	14.4	34.4	694	6.9	10.0	4.7	13.6	228
20-24	8.3	32.8	14.4	35.8	1,405	9.4	9.5	5.8	14.4	455
25-29	4.8	24.5	10.2	26.0	1,560	9.0	9.5	4.7	14.0	552
30-39	4.4	20.1	9.0	22.0	2,658	5.0	5.7	2.5	7.5	1,012
40-49	3.6	13.3	6.9	15.3	1,887	3.1	3.5	2.0	4.9	807
Marital status										
Never married	7.4	33.3	14.3	35.4	1,904	7.0	8.1	3.7	11.4	1,036
Married/living together	4.5	19.6	8.8	21.4	5,319	5.5	5.6	3.3	8.2	1,846
Divorced/separated/widowed	4.3	18.3	9.1	21.4	981	5.9	9.1	3.4	11.8	172
Male circumcision										
Circumcised	na	na	na	na	na	6.1	6.3	3.0	9.0	2,941
Not circumcised	na	na	na	na	na	2.6	16.8	14.4	20.9	113
Residence										
Urban	5.4	24.8	10.4	27.2	4,366	5.1	5.1	2.0	7.7	1,646
Rural	4.8	20.1	9.8	21.8	3,837	7.1	8.5	5.0	11.5	1,408
Region										
Western	7.2	16.0	8.9	19.0	927	8.6	6.7	4.6	11.1	361
Central	2.8	17.6	8.7	19.2	843	4.4	4.8	2.5	7.2	307
Greater Accra	3.5	21.3	8.9	25.1	1,642	6.1	5.5	1.2	7.4	694
Volta	9.9	31.1	18.5	32.6	645	6.4	7.5	3.1	10.1	233
Eastern	4.5	14.3	5.6	16.3	781	9.5	10.2	6.6	17.3	284
Ashanti	4.3	24.4	7.7	25.6	1,530	4.3	4.6	1.6	5.8	529
Brong Ahafo	9.7	34.4	19.7	35.9	694	8.1	7.1	2.3	9.1	256
Northern	5.6	33.8	14.3	34.7	670	3.0	12.1	9.7	14.2	232
Upper East	1.6	12.1	3.8	12.1	296	3.1	3.3	1.9	3.9	94
Upper West	0.4	13.5	2.2	13.9	176	2.1	10.5	11.6	18.3	65
Education										
No education	4.1	20.1	10.2	21.7	1,746	2.4	6.0	4.8	8.9	330
Primary	5.1	20.4	10.1	22.6	1,451	6.0	8.0	5.9	10.9	390
Middle/JSS/JHS	5.3	22.1	9.8	24.2	3,273	7.8	7.5	3.6	11.0	1,219
Secondary+	6.0	28.0	10.8	30.2	1,734	5.2	5.5	2.0	7.4	1,115
Wealth quintile										
Lowest	5.0	24.1	11.7	25.1	1,297	3.8	8.4	5.8	11.1	436
Second	5.3	19.4	9.8	21.3	1,447	6.3	7.0	6.2	11.5	486
Middle	5.5	23.1	11.5	25.7	1,747	7.8	8.7	4.2	11.2	642
Fourth	5.8	24.4	11.4	26.9	1,837	8.0	7.3	1.9	10.2	690
Highest	4.1	21.9	6.8	23.7	1,876	3.8	3.4	1.1	5.3	800
Total 15-49	5.1	22.6	10.1	24.6	8,203	6.0	6.7	3.4	9.5	3,054
50-59	na	na	na	na	na	0.7	1.4	1.5	2.3	514
Total 15-59	na	na	na	na	na	5.3	5.9	3.1	8.4	3,568

na = Not applicable

Over 30 percent of women in the Brong Ahafo, Northern and Volta regions, compared with 12 percent and 14 percent, respectively, of women in Upper East and Upper West. Men in the Upper East and Eastern regions (18 percent and 17 percent, respectively) are more likely to report STI symptoms than men in other regions. There is a positive association between having an STI or symptoms of an STI and level of education among women. The pattern is not seen among men; for example, 11 percent of men with primary or middle/JSS/JHS education reported having had an STI or STI-related symptoms in the past 12 months compared with 7 percent of men with a secondary or higher education and 9 percent of men with no education.

Figure 13.1 shows that the majority of women and men who had an STI or STI symptoms sought advice or treatment from a clinic, hospital, private doctor, or other health professional (61 percent and 58 percent, respectively). Twenty-seven percent of women and 25 percent of men did not seek any treatment when they had an STI or STI symptoms, compared with 40 percent of women and 29 percent of men in 2008.

Figure 13.1 **Women and men seeking treatment for STIs**
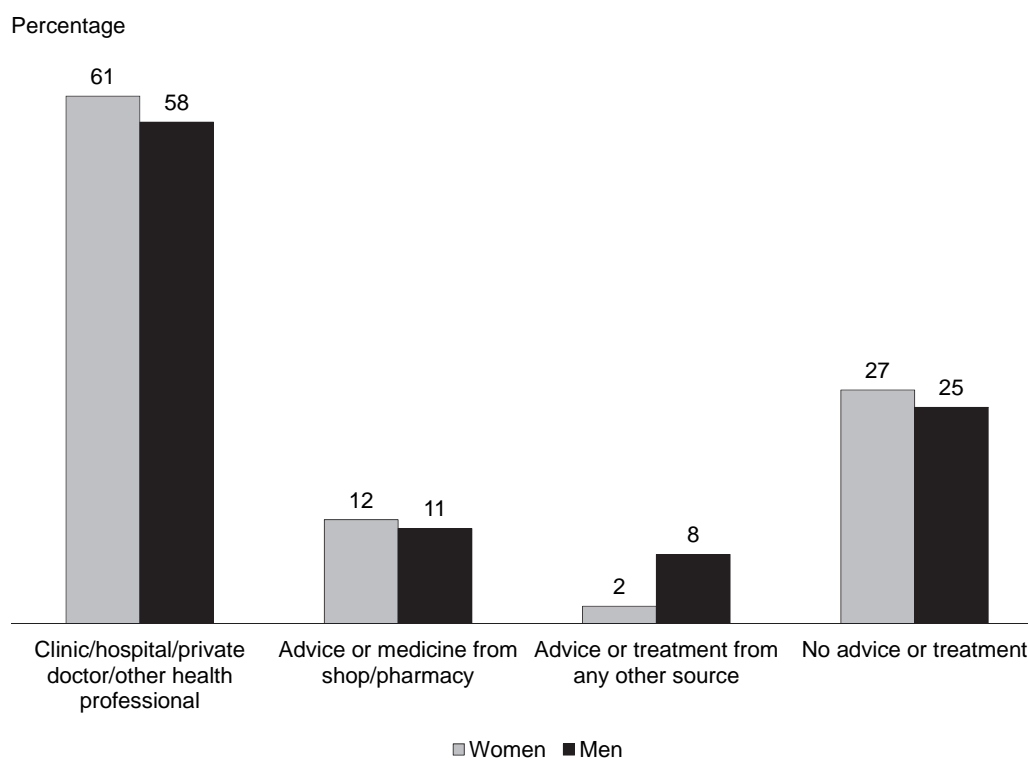
GDHS 2014

13.13 INJECTIONS

Injection practices in a health care setting that are not in line with proper infection prevention procedures can contribute to the transmission of blood-borne pathogens. To measure the potential risk of transmission of HIV associated with medical injections, 2014 GDHS respondents were asked whether they had received any injections from a health worker in the 12 months preceding the survey and, if so, whether their last injection was administered with a syringe from a new, unopened package. It should be noted that self-administered medical injections (e.g., insulin injections for diabetes) were not included in the analysis.

Table 13.15 shows the reported prevalence of injections and of safe injection practices. Thirty-two percent of women and 23 percent of men age 15-49 reported receiving a medical injection from a health worker during the 12 months preceding the survey.

The percentage of women who received medical injections is highest among those age 25-29 (39 percent). This percentage is higher among urban than rural women (34 percent versus 29 percent). By region, the proportion of women who received a medical injection in the past 12 months ranges from a high of 36 percent, each, in Ashanti and Brong Ahafo to a low of 23 percent in Northern.

Among men, there are slight variations by age. By region, the percentage who received a medical injection in the past 12 months ranges from 29 percent in the Western region to 15 percent in the Northern region.

Table 13.15 Prevalence of medical injections

Percentage of women and men age 15-49 who received at least one medical injection in the past 12 months, the average number of medical injections per person in the past 12 months, and among those who received a medical injection, the percentage of last medical injections for which the syringe and needle were taken from a new, unopened package, by background characteristics, Ghana 2014

Background characteristic	Women					Men				
	Percent-age who received a medical injection in the past 12 months	Average number of medical injections per person in the past 12 months	Number of women	For last injection, syringe and needle taken from a new, unopened package	Number of women receiving medical injections in the past 12 months	Percent-age who received a medical injection in the past 12 months	Average number of medical injections per person in the past 12 months	Number of men	For last injection, syringe and needle taken from a new, unopened package	Number of respon-dents receiving medical injections in the past 12 months
Age										
15-24	28.6	0.6	3,238	98.3	927	20.1	0.4	1,443	98.0	290
15-19	22.3	0.4	1,625	98.8	363	18.7	0.4	855	97.5	160
20-24	35.0	0.8	1,613	98.0	564	22.1	0.5	588	98.6	130
25-29	39.3	0.9	1,604	95.8	630	25.4	0.7	589	95.4	150
30-39	34.5	0.9	2,667	98.2	920	25.0	0.7	1,026	99.7	257
40-49	28.1	0.9	1,887	97.3	531	24.2	0.8	811	99.1	196
Marital status										
Never married	27.6	0.6	3,094	98.3	852	21.3	0.5	1,851	97.9	394
Ever had sex	32.7	0.7	1,904	98.2	622	22.5	0.6	1,036	98.1	233
Never had sex	19.4	0.5	1,190	98.5	231	19.7	0.4	814	97.6	161
Married/living together	35.1	0.9	5,321	97.4	1,865	25.0	0.7	1,846	98.5	461
Divorced/separated/ widowed	29.7	1.0	981	96.4	291	21.9	0.6	172	(100.0)	38
Residence										
Urban	34.4	0.9	5,051	97.2	1,737	25.5	0.7	2,050	99.2	522
Rural	29.3	0.7	4,345	98.1	1,272	20.3	0.5	1,819	97.0	370
Region										
Western	32.1	0.8	1,038	97.1	333	28.7	0.8	447	96.0	128
Central	30.7	0.7	937	99.3	288	21.1	0.6	380	95.4	80
Greater Accra	31.9	0.8	1,898	97.3	604	26.8	0.7	831	100.0	223
Volta	33.3	0.8	720	98.1	240	20.4	0.6	295	92.3	60
Eastern	31.9	0.9	878	97.6	280	23.2	0.6	362	100.0	84
Ashanti	35.7	1.1	1,798	97.2	642	23.4	0.5	680	98.9	159
Brong Ahafo	35.5	0.8	769	98.1	273	19.5	0.8	320	100.0	62
Northern	22.8	0.4	786	96.4	179	15.1	0.4	316	100.0	48
Upper East	30.2	0.8	358	99.0	108	21.4	0.4	146	100.0	31
Upper West	28.8	0.6	215	94.9	62	17.7	0.4	91	100.0	16
Education										
No education	26.3	0.7	1,792	96.6	471	14.2	0.4	362	100.0	52
Primary	27.1	0.7	1,672	97.0	453	18.6	0.6	543	99.1	101
Middle/JSS/JHS	33.1	0.8	3,862	97.7	1,279	21.7	0.5	1,626	98.6	352
Secondary+	38.9	1.0	2,070	98.3	806	29.0	0.8	1,336	97.6	387
Wealth quintile										
Lowest	24.0	0.6	1,511	96.9	363	14.2	0.3	639	99.0	91
Second	26.6	0.6	1,636	97.6	436	17.1	0.4	648	97.3	111
Middle	33.4	0.9	1,938	98.9	647	22.5	0.8	770	96.0	174
Fourth	36.6	0.9	2,117	98.0	775	26.7	0.7	848	98.0	226
Highest	36.0	1.1	2,194	96.4	789	30.2	0.8	963	100.0	291
Total 15-49	32.0	0.8	9,396	97.6	3,009	23.1	0.6	3,869	98.3	892
50-59	na	na	na	na	na	24.8	0.8	519	98.1	129
Total 15-59	na	na	na	na	na	23.3	0.6	4,388	98.3	1,021

Note: Medical injections are those given by a doctor, nurse, pharmacist, dentist or other health worker. Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable

Among both women and men, the proportion who received medical injections in the past 12 months increases with education and wealth.

Table 13.15 further shows that, on average, women received 0.8 medical injections and men received 0.6 medical injections in the preceding 12 months.

Ninety-eight percent of both women and men age 15-49 who received a medical injection in the past 12 months reported that their last injection was given with a syringe and needle taken from a new, unopened package. There are no major variations by background characteristics.

13.14 HIV/AIDS-RELATED KNOWLEDGE AND BEHAVIOUR AMONG YOUNG PEOPLE

This section addresses HIV/AIDS-related knowledge among young Ghanaians age 15-24 and assesses the extent to which young people are engaged in behaviours that may place them at risk of contracting HIV.

Table 13.16 shows the composite indicator, comprehensive knowledge about AIDS, and knowledge of a source of condoms among young people, by background characteristics. The results show that 20 percent of young women and 27 percent of young men have comprehensive knowledge of AIDS.

Among young women age 15-24, this knowledge is highest for those age 20-24 (22 percent), never-married women (22 percent), young women in urban areas (23 percent), and those with a secondary or higher education (32 percent).

Similarly, comprehensive knowledge of AIDS is highest for men age 23-24 (32 percent), never-married young men who have ever had sexual intercourse (30 percent), men in urban areas (32 percent), and men with a secondary or higher education (43 percent).

Condom use is a vital component in the prevention of STIs and HIV transmission, as well as prevention of unintended pregnancies. Young adults are often at a higher risk of contracting STIs because they are more likely to experiment with sex before marriage. Knowledge of a source of condoms helps young people to obtain and use condoms. As shown in Table 13.16, there is a gap in knowledge of a condom source between men and women age 15-24. A higher percentage of young men than young women know at least one condom source (88 percent versus 72 percent). Knowledge of a condom source generally increases with age and is highest among young respondents who are never-married but have ever had sex. For both women and men, knowledge of a condom source is highest among those living in urban areas and those with a secondary or higher education.

Table 13.16 Comprehensive knowledge about AIDS and of a source of condoms among youth

Percentage of young women and young men age 15-24 with comprehensive knowledge about AIDS and percentage with knowledge of a source of condoms, by background characteristics, Ghana 2014

	Women age 15-24			Men age 15-24		
Background characteristic	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source[1]	Number of women	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source[1]	Number of men
Age						
15-19	18.1	64.1	1,625	24.5	83.8	855
15-17	17.3	58.0	1,011	24.2	79.5	508
18-19	19.5	74.3	614	25.1	90.1	347
20-24	21.8	79.1	1,613	31.1	93.8	588
20-22	22.2	77.4	962	30.6	92.6	364
23-24	21.1	81.7	650	32.0	95.8	224
Marital status						
Never married	21.8	73.1	2,442	28.2	87.3	1,369
Ever had sex	21.9	83.2	1,304	29.9	97.5	609
Never had sex	21.6	61.5	1,138	26.9	79.1	760
Ever married	14.4	67.0	796	8.3	98.6	74
Residence						
Urban	23.2	82.2	1,655	32.4	94.2	732
Rural	16.5	60.5	1,583	21.8	81.4	711
Education						
No education	6.4	32.1	262	15.8	49.5	46
Primary	10.8	52.0	595	9.7	73.0	237
Middle/JSS/JHS	18.2	72.5	1,461	23.1	88.8	694
Secondary+	32.4	94.1	921	43.4	97.9	465
Total 15-24	19.9	71.6	3,238	27.2	87.9	1,443

[1] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention of the AIDS virus. The components of comprehensive knowledge are presented in Tables 13.2, 13.3.1 and 13.3.2.
[2] For this table, the following responses are not considered a source for condoms: friends, family members, and home.

13.15 AGE AT FIRST SEXUAL INTERCOURSE AMONG YOUNG PEOPLE

In Ghana, HIV transmission occurs primarily through sexual intercourse between an HIV-positive person and an HIV-negative person. Age at first sexual intercourse marks the beginning of the period in which young adults are most likely to be exposed to the risk of contracting HIV. Age at first sex is also an important indicator of exposure to the risk of pregnancy and sexually transmitted infections. Young people who initiate sexual intercourse at an early age are typically at higher risk of becoming pregnant or contracting an STI than those who delay the onset of sexual activity. Consistent condom use can reduce such risks.

Table 13.17 shows the percentage of young women and men who had sexual intercourse before age 15 and before age 18, by background characteristics. More women than men have had sex by age 15 and 18. Eleven percent of young women and 9 percent of young men had their first sexual intercourse before the age of 15, while 47 percent of young women and 32 percent of young men had their first sexual intercourse by age 18.

As expected, the proportion of youth age 15-24 initiating sexual intercourse by age 15 is higher among those who have ever been married than among those who were not yet married at the time of the survey. Rural women age 15-24 are more likely than their urban counterparts to have initiated sex before age 15 (13 percent and 8 percent, respectively). The reverse is seen among young men; 10 percent had sexual intercourse by age 15 in urban areas compared with 7 percent in rural areas. Young people with primary education are most likely to have sexual intercourse by age 15 (21 percent of women and 16 percent of men), and those with a secondary or higher education are least likely to have done so (4 percent of women and 6 percent of men). Similarly, among women and men age 18-24, those with primary level education are substantially more likely to have had sexual intercourse before age 18 than other young respondents (68 percent and 41 percent, respectively).

Table 13.17 Age at first sexual intercourse among young people

Percentage of young women and young men age 15-24 who had sexual intercourse before age 15 and percentage of young women and young men age 18-24 who had sexual intercourse before age 18, by background characteristics, Ghana 2014

Background characteristic	Women age 15-24		Women age 18-24		Men age 15-24		Men age 18-24	
	Percentage who had sexual intercourse before age 15	Number of women	Percentage who had sexual intercourse before age 18	Number of women	Percentage who had sexual intercourse before age 15	Number of men	Percentage who had sexual intercourse before age 18	Number of men
Age								
15-19	11.8	1,625	na	na	9.3	855	na	na
15-17	13.3	1,011	na	na	8.7	508	na	na
18-19	9.2	614	58.3	614	10.1	347	37.3	347
20-24	9.7	1,613	43.3	1,613	7.8	588	29.2	588
20-22	10.0	962	43.7	962	7.3	364	28.3	364
23-24	9.3	650	42.7	650	8.5	224	30.7	224
Marital status								
Never married	8.6	2,442	37.3	1,455	8.2	1,369	29.8	861
Ever married	17.2	796	66.5	772	16.7	74	60.7	74
Knows condom source[1]								
Yes	9.8	2,318	45.8	1,732	9.5	1,268	34.2	864
No	13.0	920	53.2	495	2.4	175	7.5	71
Residence								
Urban	8.4	1,655	40.1	1,174	10.1	732	30.3	486
Rural	13.1	1,583	55.6	1,053	7.2	711	34.3	449
Education								
No education	16.4	262	61.5	224	7.4	46	(18.8)	34
Primary	20.8	595	68.1	325	16.2	237	40.9	103
Middle/JSS/JHS	9.7	1,461	56.0	855	8.2	694	35.2	387
Secondary+	4.3	921	26.6	823	5.7	465	28.3	412
Total	10.7	3,238	47.4	2,227	8.7	1,443	32.2	935

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not available
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

Figure 13.2 shows trends in age at first sexual intercourse among young women and men in the period between 2003 and 2014. Data show that the percentage of young women 15-19 who had sexual intercourse before age 15 has increased from 7 percent in 2003 to 8 percent in 2008 and 12 percent in 2014. For young men, it has increased from 4 percent in 2003 and 2008 to 9 percent in 2014. The percentage of women age 18-19 who have had sexual intercourse by age 18 increased from 52 percent in 2003 to 58 percent in 2014, with a dip in 2008 (50 percent). For men, this percentage has increased steadily from 28 percent in 2003 to 37 percent in 2014.

Figure 13.2 Trends in age of first sexual intercourse

Percent

	Percentage of women 15-19 who had sexual intercourse before exact age 15	Percentage of men 15-19 who had sexual intercourse before exact age 15	Percentage of women 18-19 who had sexual intercourse before exact age 18	Percentage of men 18-19 who had sexual intercourse before exact age 18
GDHS 2003	7	4	52	28
GDHS 2008	8	4	50	29
GDHS 2014	12	9	58	37

□ GDHS 2003   ■ GDHS 2008   ■ GDHS 2014

13.16 PREMARITAL SEX

Age group 15-24, which typically spans a period of life including sexual debut and marriage, is a time when premarital sexual intercourse is likely to take place. The length of the interval between sexual initiation and marriage, among other factors, influences the spread of HIV.

Table 13.18 shows the percentage of never-married women and men age 15-24 that have never had sexual intercourse, the percentage who engaged in sexual intercourse in the past 12 months, and, among those who had sexual intercourse within the past 12 months, the percentage that used a condom during their most recent sexual encounter.

Overall, 47 percent of women and 56 percent of men age 15-24 have never had sexual intercourse. Young women and men age 15-17 have a relatively high level of abstinence (74 percent and 84 percent, respectively). Youth who live in urban areas and those with primary education are less likely to have ever had sexual intercourse than youth with other background characteristics.

Table 13.18 shows that, among young women age 15-24, 40 percent had sexual intercourse in the past 12 months. Of those, only 20 percent reported using a condom during their last sexual encounter. Among young men age 15-24, 32 percent had sexual intercourse in the past 12 months. Of those, 41 percent used a condom during their last sexual intercourse. The percentage of youth who had sexual intercourse in the past 12 months increases with age as expected, however there are no marked differences by age in condom use at last sexual intercourse. Condom use increases with level of education.

Table 13.18 Premarital sexual intercourse and condom use during premarital sexual intercourse among youth

Among never-married women and men age 15-24, the percentage who have never had sexual intercourse, the percentage who had sexual intercourse in the past 12 months, and, among those who had premarital sexual intercourse in the past 12 months, the percentage who used a condom at the last sexual intercourse, by background characteristics, Ghana 2014

| | Never-married women age 15-24 | | | | | Never-married men age 15-24 | | | | |
| | | | | Women who had sexual intercourse in the past 12 months | | | | | Men who had sexual intercourse in the past 12 months | |
Background characteristic	Percent-age who have never had sexual inter-course	Percent-age who had sexual inter-course in the past 12 months	Number of never-married women	Percent-age who used a condom at last sexual inter-course	Number of women	Percent-age who have never had sexual inter-course	Percent-age who had sexual inter-course in the past 12 months	Number of never-married men	Percent-age who used a condom at last sexual inter-course	Number of men
Age										
15-19	61.7	28.5	1,507	20.8	429	73.7	18.2	851	37.2	154
15-17	73.8	20.2	987	20.0	200	84.2	9.3	508	(32.9)	47
18-19	38.6	44.1	521	21.5	230	58.2	31.3	343	39.1	107
20-24	22.3	59.3	934	19.2	554	25.7	55.5	518	42.8	288
20-22	26.3	54.6	636	18.2	347	30.1	53.2	335	37.6	178
23-24	13.6	69.5	298	21.0	207	17.6	59.7	184	51.2	110
Knows condom source[1]										
Yes	39.2	46.8	1,784	21.6	836	50.3	36.2	1,196	41.6	433
No	66.6	22.5	657	10.4	148	91.3	5.2	174	*	9
Residence										
Urban	48.0	38.9	1,333	21.2	519	52.1	34.4	705	43.9	242
Rural	44.9	41.9	1,108	18.5	464	59.1	30.1	664	37.1	200
Education										
No education	47.5	40.5	86	(10.8)	35	61.4	30.8	44	*	13
Primary	53.6	35.4	407	14.0	144	66.2	28.5	226	30.0	65
Middle/JSS/JHS	51.1	37.8	1,133	17.2	429	61.2	27.0	653	40.7	177
Secondary+	36.8	46.1	815	26.1	376	41.3	42.0	446	46.5	188
Total 15-24	46.6	40.3	2,442	19.9	984	55.5	32.3	1,369	40.9	442

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

13.17 MULTIPLE SEXUAL PARTNERS AMONG YOUTH

The most common means of transmission of HIV in Ghana is through unprotected sex with an infected person. To prevent HIV transmission, it is important that young people practice safe sex. Tables 13.19.1 and 13.19.2 present data on the percentage of young people who engaged in sexual intercourse with more than one partner in the 12 months before the survey and the percentage that used a condom during their last sexual encounter.

Young men are more likely than young women to report having multiple sexual partners in the 12 months preceding the survey (8 percent versus 2 percent). In general, as expected, the percentage of young men and young women who reported having sexual intercourse with more than one partner in the past 12 months increases with age. In addition, having multiple sexual partners is more common among never-married young women and ever-married young men, and is higher among women in urban areas and men in rural areas. The percentage of young people with multiple sexual partners is lowest among those who have no education (less than 1 percent for women and 5 percent for men). More than 1 in 10 (11 percent) of young men with a secondary or higher education have multiple sexual partners.

Among young women and men who had multiple partners in the past 12 months, only 15 percent and 34 percent, respectively, reported using a condom during their last sexual intercourse.

Table 13.19.1 Multiple sexual partners in the past 12 months among young people: Women

Among all young women age 15-24, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse, by background characteristics, Ghana 2014

Background characteristic	Women age 15-24		Women age 15-24 who had 2+ partners in the past 12 months	
	Percentage who had 2+ partners in the past 12 months	Number of women	Percentage who reported using a condom at last intercourse	Number of women
Age				
15-19	2.0	1,625	(21.6)	32
15-17	1.5	1,011	*	15
18-19	2.7	614	*	17
20-24	2.4	1,613	(9.4)	39
20-22	2.0	962	*	19
23-24	3.0	650	*	20
Marital status				
Never married	2.4	2,442	15.4	58
Ever married	1.6	796	*	13
Knows condom source[1]				
Yes	2.7	2,318	15.2	63
No	0.8	920	*	8
Residence				
Urban	2.5	1,655	(15.5)	41
Rural	1.9	1,583	(14.1)	30
Education				
No education	0.3	262	*	1
Primary	2.0	595	*	12
Middle/JSS/JHS	2.6	1,461	(13.6)	38
Secondary+	2.1	921	*	20
Total 15-24	2.2	3,238	14.9	71

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

Table 13.19.2 Multiple sexual partners in the past 12 months among young people: Men

Among all young men age 15-24, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse, by background characteristics, Ghana 2014

Background characteristic	Men age 15-24		Men age 15-24 who had 2+ partners in the past 12 months	
	Percentage who had 2+ partners in the past 12 months	Number of men	Percentage who reported using a condom at last intercourse	Number of men
Age				
15-19	3.9	855	*	33
15-17	1.7	508	*	9
18-19	7.1	347	*	25
20-24	13.7	588	35.4	81
20-22	11.9	364	(32.5)	43
23-24	16.7	224	(38.7)	37
Marital status				
Never married	7.2	1,369	39.1	99
Ever married	20.8	74	*	15
Knows condom source[1]				
Yes	8.9	1,268	34.4	113
No	0.4	175	*	1
Residence				
Urban	7.3	732	(39.4)	53
Rural	8.5	711	29.5	61
Education				
No education	4.9	46	*	2
Primary	8.0	237	*	19
Middle/JSS/JHS	6.3	694	(31.2)	44
Secondary+	10.5	465	(42.8)	49
Total 15-24	7.9	1,443	34.2	114

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

13.18 AGE MIXING IN SEXUAL RELATIONSHIPS

A substantial proportion of new HIV infections occur among young women age 15-29. In many societies, young women have sexual relationships with men who are considerably older than they are. This practice can contribute to the spread of HIV and other STIs because if a younger, HIV-negative partner has sexual intercourse with an older, HIV-positive partner, this can introduce the virus into a younger, uninfected cohort.

This section examines the prevalence of sexual intercourse between partners with large age differences. Women age 15-19 who had sexual intercourse in the past 12 months were asked the age of all of their partners. In the event they did not know a partner's exact age, they were asked if the partner was older or younger than they were and, if older, whether the partner was 10 or more years older.

Table 13.20 shows that, among women age 15-19 who had sex in the 12 months preceding the survey, 8 percent had sexual intercourse with a man 10 or more years older. A higher percentage of young women in rural areas had sexual intercourse with a man 10 or more years older than themselves. The likelihood of a woman having sexual intercourse with an older man increases with age, and is higher among women who have ever been married. Sexual intercourse between women age 15-19 and men 10 or more years older appears to decrease with increasing education.

There were no reported cases among young men age 15-19 of having a sexual partner during the 12 months preceding the survey who was 10 or more years older than themselves (data not shown).

Table 13.20 Age-mixing in sexual relationships among women age 15-19

Among women age 15-19 who had sexual intercourse in the past 12 months, percentage who had sexual intercourse with a partner who was 10 or more years older than themselves, by background characteristics, Ghana 2014

Background characteristic	Women age 15-19 who had sexual intercourse in the past 12 months	
	Percentage who had sexual intercourse with a man 10+ years older	Number of women
Age		
15-17	4.4	215
18-19	9.6	311
Marital status		
Never married	5.8	429
Ever married	14.9	97
Knows condom source[1]		
Yes	6.4	397
No	10.8	129
Residence		
Urban	5.5	228
Rural	9.0	298
Education		
No education	(13.0)	22
Primary	16.2	126
Middle/JSS/JHS	4.8	287
Secondary+	2.4	90
Total 15-19	7.5	526

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

13.19 RECENT HIV TEST AMONG THE YOUTH

An individual's decision to know his or her HIV status can provide motivation to practice safer sex, to access care and treatment, and to live an affirmative life. People who learn that they do not have HIV may decide to take precautions in the future to avoid contracting the virus, and those who learn that they are carrying the virus can take actions to seek treatment and avoid transmitting the virus to others.

Table 13.21 presents information on HIV testing among sexually active youth. Among young women and men age 15-24 who have had sexual intercourse in the past 12 months, only 16 percent of women and 3 percent of men were tested for HIV and received their test results in the 12 months preceding the survey. Among young women, recent HIV testing is more common among those who are ever-married. Coverage of HIV testing is higher among women and men who know where to get a condom and those living in urban areas.

Table 13.21 Recent HIV tests among young people

Among young women and young men age 15-24 who have had sexual intercourse in the past 12 months, the percentage who were tested for HIV in the past 12 months and received the results of the last test, by background characteristics, Ghana 2014

	Women age 15-24 who have had sexual intercourse in the past 12 months:		Men age 15-24 who have had sexual intercourse in the past 12 months:	
Background characteristic	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 have been tested for HIV in the past 12 months and received the results of the last test	Number of men
Age				
15-19	11.3	526	2.5	159
15-17	9.9	215	(5.8)	47
18-19	12.2	311	1.0	111
20-24	17.9	1,167	3.8	356
20-22	14.9	638	2.3	207
23-24	21.5	529	5.9	149
Marital status				
Never married	12.3	984	3.3	442
Ever married	20.7	710	4.3	73
Knows condom source[1]				
Yes	17.8	1,331	3.2	505
No	8.6	363	*	10
Residence				
Urban	17.8	813	4.3	269
Rural	14.0	880	2.5	246
Education				
No education	12.4	183	*	16
Primary	11.2	309	3.3	75
Middle/JSS/JHS	15.8	725	1.7	218
Secondary+	20.2	477	4.9	206
Total 15-24	15.8	1,693	3.4	515

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] For this table, the following responses are not considered a source for condoms: friends, family members and home.

HIV PREVALENCE

14

Key Findings:

Key Findings:

- Only 2.0 percent of Ghanaian adults age 15-49 are HIV positive compared with 2.2 percent in the 2003 GDHS. This difference is not statistically significant.
- The HIV prevalence rate is 2.8 percent among women age 15-49 and 1.1 percent among men age 15-49.
- HIV prevalence is higher in urban areas (2.4 percent) than in rural areas (1.7 percent). Prevalence is highest in Eastern region (2.8 percent) and lowest in Northern region (0.3 percent).
- Less than 1 percent of young people age 15-24 are HIV positive, including 1.5 percent of young women and 0.2 percent of young men. Prevalence among young people is highest in Central region.
- Thirty-eight percent of women age 15-49 and 49 percent of men age 15-49 who are living with HIV had never been tested for HIV previously, down from 84 percent of women and 92 percent of men in the 2003 GHDS.
- About 1,700 cohabiting couples were tested for HIV in the 2014 GDHS. In 0.8 percent of couples, both partners were HIV positive. In 2.4 percent of couples, one partner was HIV positive and the other was HIV negative. In 96.7 percent of couples, both partners were HIV negative.

This chapter presents information on coverage of HIV testing, prevalence of HIV, and the factors associated with HIV infection among women and men. The data on HIV prevalence provide important information to plan the national response, to evaluate programme impact, and to measure progress on the Ghana HIV and AIDS National Strategic Plan: 2011-2015. Understanding the factors that influence the prevalence of HIV in the population, along with analysis of the social, biological, and behavioural factors associated with HIV, provide new insights into the HIV epidemic in Ghana that enable more precise targeting of messages and interventions.

In Ghana, as in much of sub-Saharan Africa, national HIV prevalence estimates have been derived primarily from HIV sentinel surveillance (HSS) that focuses on testing pregnant women who attend antenatal clinics. Since 1992, for 12 weeks each year, pregnant women seeking antenatal care (ANC) for the first time and patients newly diagnosed with sexually transmitted infections (STIs) attending STI clinics in the sentinel sites are tested for HIV using an anonymous, unlinked method, and the results are entered into a database, analysed, and reported by the National AIDS/STI Control Programme (GHS 2003). The latest round of sentinel surveillance was conducted between September and December 2014.

While information from the ANC surveillance system has been useful for monitoring trends in HIV levels, the inclusion of HIV testing in the GDHS offers the opportunity to better understand the magnitude and patterns of infection levels in the general reproductive-age population. The GDHS results can also be used to improve the calibration of annual sentinel surveillance data, so that trends in HIV infection can be more accurately measured in the intervals between general population surveys. In addition, the GDHS data have the added advantage of providing behavioural data linked to HIV prevalence, which can be used to guide HIV prevention programmes.

The methodology for HIV testing is described in detail in chapter 1. This chapter addresses the results of the testing and provides information on HIV testing coverage rates among eligible survey respondents. It also compares HIV prevalence estimates from the 2003 GDHS and 2014 GDHS and discusses levels and differentials in HIV prevalence among those tested.

14.1 COVERAGE RATES FOR HIV TESTING

Table 14.1 shows the percent distribution of women and men eligible for HIV testing by testing status, according to urban-rural residence and region. HIV tests were conducted for 95 percent of the 4,927 eligible women and 90 percent of the 4,609 eligible men. For both sexes combined, coverage was 93 percent, with rural residents more likely to be tested than their urban counterparts (95 percent and 91 percent, respectively). There were marked differences in HIV testing coverage by region. Coverage was highest in Northern where 96 percent of women and men were tested, and lowest in Greater Accra, where 87 percent of eligible women and men were tested. Coverage was higher among women than men in every region.

Individuals who were not tested can be categorised into four groups based on the reason for non-response. Four percent of eligible women and men refused testing when asked for informed consent by the health worker (Table 14.1). Two percent were absent for testing and 1 percent were missing test results for some other reason, such as insufficient blood volume, poor specimen quality, lost specimens, non-corresponding bar codes, etc.

Refusal is the most important reason for non-response on the HIV testing component, with men twice as likely to refuse testing as women (6 percent and 3 percent, respectively). Refusal rates are lower in the 2014 GDHS (2 percent of women and 4 percent of men) than in the 2003 GDHS (6 percent of women and 11 percent of men).

Table 14.1 Coverage of HIV testing by residence and region

Percent distribution of women age 15-49 and men age 15-59 eligible for HIV testing by testing status, according to residence and region (unweighted), Ghana 2014

| | Testing status | | | | | | | | | |
| | DBS Tested[1] | | Refused to provide blood | | Absent at time of blood collection | | Other/missing[2] | | | |
Residence and region	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Total	Number
				WOMEN 15-49						
Residence										
Urban	93.9	0.0	2.6	1.2	0.2	1.1	0.2	0.7	100.0	2,431
Rural	96.3	0.1	1.3	0.5	0.2	1.0	0.1	0.6	100.0	2,496
Region										
Western	95.4	0.0	2.0	0.7	0.0	1.4	0.4	0.2	100.0	564
Central	92.7	0.2	3.1	1.4	0.4	1.6	0.2	0.4	100.0	509
Greater Accra	91.4	0.0	3.7	2.6	0.2	1.3	0.0	0.7	100.0	538
Volta	97.5	0.0	1.0	0.0	0.0	0.3	0.3	1.0	100.0	398
Eastern	93.2	0.0	3.3	1.3	0.0	1.1	0.4	0.7	100.0	455
Ashanti	93.0	0.0	2.7	1.0	0.2	0.8	0.4	2.1	100.0	525
Brong Ahafo	97.7	0.2	1.2	0.6	0.0	0.0	0.0	0.4	100.0	519
Northern	98.0	0.0	0.4	0.0	0.0	1.3	0.0	0.4	100.0	557
Upper East	95.6	0.2	1.2	0.2	0.6	1.7	0.0	0.4	100.0	481
Upper West	97.6	0.0	0.3	0.5	0.8	0.5	0.0	0.3	100.0	381
Total 15-49	95.1	0.1	1.9	0.9	0.2	1.0	0.2	0.6	100.0	4,927
				MEN 15-59						
Residence										
Urban	87.2	0.1	6.0	2.3	0.4	3.0	0.1	1.0	100.0	2,189
Rural	93.1	0.1	2.9	0.8	0.2	2.0	0.4	0.5	100.0	2,420
Region										
Western	91.1	0.0	5.0	1.2	0.4	1.7	0.4	0.2	100.0	519
Central	86.4	0.2	5.2	3.4	0.7	3.4	0.5	0.2	100.0	441
Greater Accra	82.6	0.0	7.6	5.2	0.4	3.3	0.0	1.0	100.0	523
Volta	93.5	0.0	2.2	0.5	0.0	1.9	0.3	1.6	100.0	370
Eastern	92.8	0.0	3.7	0.7	0.0	2.2	0.2	0.4	100.0	460
Ashanti	86.3	0.0	7.1	2.1	0.0	3.3	0.2	1.0	100.0	480
Brong Ahafo	93.7	0.2	1.6	0.8	0.2	1.8	0.8	1.0	100.0	504
Northern	94.2	0.2	2.6	0.2	0.4	2.2	0.0	0.2	100.0	497
Upper East	92.9	0.2	4.2	0.0	0.4	0.9	0.4	0.9	100.0	450
Upper West	90.4	0.0	3.3	0.5	0.5	4.7	0.0	0.5	100.0	365
Total 15-49	90.2	0.1	4.4	1.5	0.3	2.5	0.3	0.7	100.0	4,426
Total 15-59	90.3	0.1	4.3	1.5	0.3	2.5	0.3	0.7	100.0	4,609
			TOTAL (WOMEN 15-49 and MEN 15-59)							
Residence										
Urban	90.7	0.1	4.2	1.7	0.3	2.0	0.2	0.8	100.0	4,620
Rural	94.7	0.1	2.1	0.7	0.2	1.5	0.2	0.5	100.0	4,916
Region										
Western	93.4	0.0	3.4	0.9	0.2	1.6	0.4	0.2	100.0	1,083
Central	89.8	0.2	4.1	2.3	0.5	2.4	0.3	0.3	100.0	950
Greater Accra	87.1	0.0	5.7	3.9	0.3	2.3	0.0	0.8	100.0	1,061
Volta	95.6	0.0	1.6	0.3	0.0	1.0	0.3	1.3	100.0	768
Eastern	93.0	0.0	3.5	1.0	0.0	1.6	0.3	0.5	100.0	915
Ashanti	89.8	0.0	4.8	1.5	0.1	2.0	0.3	1.6	100.0	1,005
Brong Ahafo	95.7	0.2	1.4	0.7	0.1	0.9	0.4	0.7	100.0	1,023
Northern	96.2	0.1	1.4	0.1	0.2	1.7	0.0	0.3	100.0	1,054
Upper East	94.3	0.2	2.7	0.1	0.5	1.3	0.2	0.6	100.0	931
Upper West	94.1	0.0	1.7	0.5	0.7	2.5	0.0	0.4	100.0	746
Total 15-59	92.8	0.1	3.1	1.2	0.3	1.7	0.2	0.7	100.0	9,536

[1] Includes all dried blood spot (DBS) samples tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes: 1) other results of blood collection (e.g., technical problem in the field), 2) lost specimens, 3) non-corresponding bar codes, and 4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

Coverage is lower in urban areas than in rural areas among both women and men. The urban-rural differential in coverage is most marked for refusal rates, which are 6 percent in urban areas compared with 3 percent in rural areas. Regional variation in coverage rates can also be explained in large part by variation in refusal rates. Refusal rates are highest in Greater Accra among both women (6 percent) and men (13 percent), followed by the Central region (5 percent of women and 9 percent of men), and Ashanti

(4 percent of women and 9 percent of men). For both women and men, absence is relatively high in Upper West, Central and Greater Accra.

Table 14.2 shows coverage of HIV testing by background characteristics. Coverage rates for HIV testing among women were 93 percent or above across all age groups. Among men, coverage rates for HIV testing by age group range from 87 percent to 94 percent.

Table 14.2 Coverage of HIV testing by selected background characteristics

Percent distribution of women age 15-49 and men age 15-59 eligible for HIV testing by testing status, according to selected background characteristics (unweighted), Ghana 2014

| | Testing status | | | | | | | | | |
| | DBS Tested[1] | | Refused to provide blood | | Absent at time of blood collection | | Other/missing[2] | | | |
Background characteristic	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Inter-viewed	Not inter-viewed	Total	Number
				WOMEN 15-49						
15-19	95.4	0.0	1.4	0.5	0.1	1.6	0.3	0.5	100.0	920
20-24	96.0	0.1	1.1	0.8	0.1	1.3	0.1	0.4	100.0	830
25-29	93.8	0.0	2.8	0.7	0.5	0.7	0.0	1.4	100.0	809
30-34	95.8	0.1	2.2	0.6	0.0	0.7	0.1	0.4	100.0	694
35-39	95.9	0.0	1.5	0.9	0.2	0.6	0.2	0.8	100.0	662
40-44	93.2	0.2	3.2	1.4	0.4	1.1	0.4	0.4	100.0	570
45-49	95.5	0.0	1.6	1.4	0.2	0.7	0.0	0.7	100.0	442
Education										
No education	95.8	0.2	0.8	0.8	0.4	0.9	0.2	0.9	100.0	1,210
Primary	95.6	0.0	1.4	1.0	0.2	0.6	0.1	1.1	100.0	929
Middle/JSS/JHS	95.7	0.1	2.1	0.5	0.1	1.0	0.2	0.3	100.0	1,832
Secondary+	92.7	0.0	3.6	1.5	0.1	1.5	0.1	0.6	100.0	956
Wealth quintile										
Lowest	97.7	0.0	0.5	0.1	0.4	0.8	0.2	0.3	100.0	1,227
Second	95.2	0.2	1.2	0.7	0.1	1.1	0.3	1.2	100.0	911
Middle	95.0	0.1	1.9	1.1	0.3	1.1	0.1	0.5	100.0	1,023
Fourth	95.1	0.0	2.8	1.0	0.1	0.4	0.0	0.6	100.0	907
Highest	91.5	0.0	4.0	1.7	0.0	1.7	0.2	0.8	100.0	859
Total	95.1	0.1	1.9	0.9	0.2	1.0	0.2	0.6	100.0	4,927
				MEN 15-59						
15-19	93.6	0.1	2.4	0.5	0.2	2.1	0.3	0.8	100.0	921
20-24	92.0	0.3	2.8	1.8	0.2	2.5	0.3	0.2	100.0	651
25-29	90.1	0.0	5.3	1.8	0.2	1.8	0.0	0.8	100.0	604
30-34	87.1	0.2	6.1	1.9	0.4	2.8	0.6	0.9	100.0	528
35-39	88.9	0.0	5.8	1.2	0.4	3.0	0.0	0.6	100.0	496
40-44	87.3	0.0	5.7	2.3	0.6	3.0	0.2	0.8	100.0	471
45-49	89.4	0.0	4.0	1.1	0.8	4.0	0.3	0.5	100.0	379
50-59	90.3	0.0	4.5	2.0	0.0	1.8	0.5	0.9	100.0	559
Education										
No education	90.6	0.3	2.4	1.4	0.4	2.9	0.1	1.9	100.0	701
Primary	91.0	0.0	4.4	1.1	0.4	2.2	0.4	0.4	100.0	723
Middle/JSS/JHS	91.6	0.1	4.0	1.3	0.2	2.2	0.3	0.3	100.0	1,795
Secondary+	88.0	0.1	5.7	2.1	0.4	2.9	0.2	0.7	100.0	1,390
Wealth quintile										
Lowest	93.9	0.2	2.5	0.2	0.4	2.1	0.3	0.4	100.0	1,188
Second	94.4	0.2	1.9	0.7	0.0	1.4	0.5	0.9	100.0	878
Middle	90.5	0.0	4.6	1.3	0.5	2.6	0.2	0.2	100.0	842
Fourth	87.6	0.0	4.7	2.9	0.2	3.2	0.5	1.0	100.0	877
Highest	83.3	0.0	8.9	3.2	0.4	3.4	0.0	1.0	100.0	824
Total	90.3	0.1	4.3	1.5	0.3	2.5	0.3	0.7	100.0	4,609

[1] Includes all dried blood spot (DBS) samples tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes: 1) other results of blood collection (e.g., technical problem in the field), 2) lost specimens, 3) non-corresponding bar codes, and 4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

By level of education, testing coverage is slightly lower among respondents with secondary school or higher than other respondents, for both women and men. Participation in HIV testing is slightly higher among women and men in households in the lower wealth quintiles than those in households in the upper wealth quintiles.

Additional tables describing the relationship between participation in HIV testing and characteristics related to HIV risk are presented in Appendix A (Tables A.7-A.10). Overall, the results in Tables A.7-A.10 do not show a systematic relationship between participation in testing and variables associated with a higher risk of HIV infection.

14.2 HIV PREVALENCE

14.2.1 HIV Prevalence by Age and Sex

Results from the 2014 GDHS indicate that 2.0 percent of Ghanaian adults are living with HIV (Table 14.3). HIV prevalence in women age 15-49 is 2.8 percent, while for men 15-59 it is 1.1 percent. The HIV gender ratio of three to one (female-to-male) is higher than that found in most population-based studies in Africa. The high female-to-male ratio implies that young women are particularly vulnerable to HIV infection compared with young men. Prevalence is consistently higher among women than among men in all age groups. At the same time, HIV prevalence shows an age pattern among women and men: prevalence generally increases with age, leveling off after age 44. The peak prevalence among women is at age 40-44 (5.4 percent), while prevalence rises gradually with age among men to peak at age 35-39 (2.7 percent).

Table 14.3 HIV prevalence by age

Among de facto women age 15-49 and men age 15-59 who were interviewed and tested, the percentage HIV positive, by age, Ghana 2014

Age	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
15-19	0.3	773	0.2	880	0.3	1,652
20-24	2.6	765	0.1	603	1.5	1,368
25-29	2.7	739	0.5	586	1.7	1,324
30-34	3.2	669	1.3	543	2.3	1,212
35-39	4.3	621	2.7	464	3.6	1,085
40-44	5.4	478	2.1	451	3.8	929
45-49	2.5	399	2.6	357	2.5	756
Total 15-49	2.8	4,444	1.1	3,883	2.0	8,326
Total 15-59	na	na	1.1	4,404	na	na

na = Not applicable

Without treatment, few HIV-positive children survive into their teenage years. As such, youth who are HIV positive may have acquired their infection recently, that is, after becoming sexually active Thus HIV prevalence among youth can serve as an indicator of trends in both prevalence and incidence. Ghana is characterised by the UNAIDS classification scheme as having a low-level generalised HIV epidemic with HIV prevalence that consistently exceeds 1 percent among pregnant women.

A comparison of the 2003 GDHS and 2014 GDHS HIV prevalence estimates indicates that HIV prevalence for all adults age 15-49 remains essentially unchanged—the small decrease from 2.2 percent in 2003 to 2.0 percent in 2014 is not statistically significant. As shown in Figure 14.1, the confidence intervals (CIs) for the 2003 and 2014 HIV prevalence estimates for all adults age 15-49 almost entirely overlap (1.8-2.5 and 1.6-2.4, respectively). Prevalence among women age 15-49 increased from 2.7 to 2.8 percent, and prevalence among men age 15-49 decreased from 1.5 percent to 1.1 percent. However, none of these differences are statistically significant. For women, the confidence interval for the 2014 estimate is 2.2-3.4, compared with 2.2-3.2 reported in 2003. For men, the confidence interval is 0.7-1.6 compared with 1.0-1.9 reported in the 2003 GDHS.

Figure 14.1 HIV prevalence among all adults age 15-49 by sex, Ghana 2003 and 2014
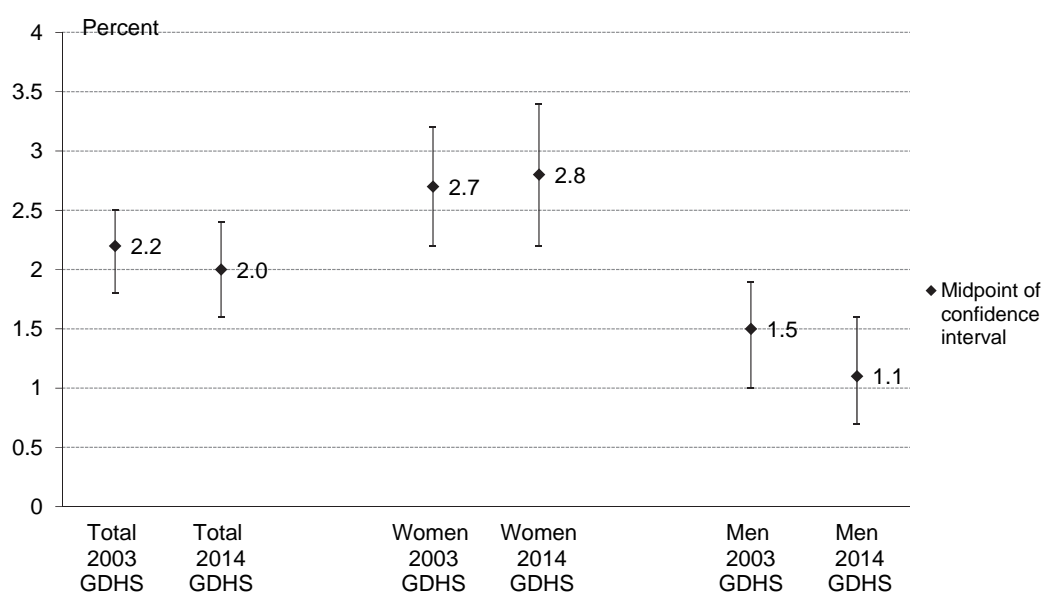
A comparison of HIV prevalence estimates for the 15-19 age group between the 2003 GDHS (0.3 percent) and the 2014 GDHS (0.3 percent) shows that HIV prevalence has remained stable for this age group. This finding is encouraging because of the prospects of achieving Millennium Development Goal (MDG) 6, which calls for halting and beginning to reverse the spread of HIV/AIDS by 2015.

14.2.2 HIV Prevalence by Socio-economic Characteristics

Table 14.4 shows the variation in HIV prevalence among women and men age 15-49 by socio-economic characteristics. Differences by socio-economic characteristics are small. Nevertheless, several observations warrant attention. As Table 14.4 shows, urban residents are only slightly more likely to be HIV positive than rural residents (2.3 percent versus 1.7 percent). Urban women are three times as likely to be HIV positive as urban men, and rural women are two times as likely to be HIV positive as rural men. However, there is no significant difference between the 2014 and 2003 estimates of HIV prevalence among Ghanaian adults in urban areas—2.4 percent in 2014 (1.8-3.0 percent) compared with 2.3 percent in 2003 (1.7-2.0 percent)—or in rural areas—1.7 percent in 2014 (1.2-2.2 percent) compared with 2.0 percent in 2003 (1.6-2.5 percent).

The HIV epidemic shows regional variation. Prevalence is relatively highest in Eastern (2.8 percent), Western (2.7 percent), and Greater Accra (2.5 percent) and lowest in Northern, Upper East and Upper West (less than 1 percent each). Gender differences are apparent in all the regions, with women having consistently higher prevalence than men.

There is no clear correlation between level of education and HIV prevalence. However, respondents with only primary education (2.8 percent) are most likely to have HIV when compared with respondents in the other education categories. Employment status is related to HIV prevalence among both women and men. Women and men who have been employed in the past 12 months are slightly more likely to have HIV than those who have not been employed in the past 12 months, although the difference is small. There is no clear correlation between household wealth status and HIV prevalence, although prevalence is higher among those living in households in the middle three wealth quintiles than among those living in households in the lowest and highest wealth quintiles, for both women and men.

The highest HIV prevalence by religion is in the Pentecostal or Charismatic religion (2.9 percent), followed by Catholic, other Christian faiths, and those with no religion (1.9-2.3 percent). Prevalence

among those in the Anglican, Methodist, Presbyterian group and among those in Islam is 1.1 percent and 1.0 percent, respectively, whilst it is only 0.2 percent among those in the Traditional or Spiritualist group.

The ethnic group with the highest HIV prevalence is Ga or Dangme (4.5 percent), followed by Guan (3.3 percent), and Ewe (2.7 percent). The Mole-Dagbanis have an HIV prevalence of 0.6 percent. HIV prevalence is higher among women than men in most ethnic groups, with the exception of Grusi, Gurma, and Mande, among whom HIV prevalence is higher for men than women.

Table 14.4 HIV prevalence by socio-economic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by socio-economic characteristics, Ghana 2014

Background characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Ethnic group						
Akan	2.7	2,247	1.1	1,907	2.0	4,153
Ga/Dangme	6.7	324	2.4	336	4.5	660
Ewe	4.4	598	0.9	522	2.7	1,120
Guan	5.5	109	<0.1	76	3.3	186
Mole-Dagbani	1.0	651	0.1	578	0.6	1,228
Grusi	1.2	122	3.1	97	2.0	219
Gurma	1.1	268	1.8	221	1.4	489
Mande	<0.1	39	4.3	47	2.3	86
Other	<0.1	85	<0.1	100	<0.1	185
Religion						
Catholic	3.4	461	0.9	411	2.2	872
Anglican/Methodist/Presbyterian	1.2	628	0.9	497	1.1	1,125
Pentecostal/Charismatic	4.0	1,779	1.3	1,235	2.9	3,014
Other Christian	3.3	687	1.3	704	2.3	1,392
Muslim	0.8	689	1.1	675	1.0	1,364
Traditional/Spiritualist	<0.1	97	0.3	131	0.2	227
No religion	4.0	100	0.9	227	1.9	327
Other	*	2	*	2	*	4
Missing	*	1	*	0	*	1
Employment (last 12 months)						
Not employed	2.3	1,041	0.3	608	1.6	1,649
Employed	3.0	3,403	1.3	3,275	2.2	6,678
Residence						
Urban	3.1	2,378	1.3	2,045	2.3	4,423
Rural	2.5	2,066	0.9	1,837	1.7	3,903
Region						
Western	3.3	524	2.1	447	2.7	971
Central	2.8	438	1.3	383	2.1	821
Greater Accra	3.8	877	1.1	826	2.5	1,703
Volta	3.2	344	0.9	296	2.1	640
Eastern	4.1	394	1.4	367	2.8	760
Ashanti	2.6	804	1.1	689	1.9	1,492
Brong Ahafo	2.9	378	1.4	321	2.2	699
Northern	0.6	404	<0.1	317	0.3	721
Upper East	0.8	175	0.4	146	0.6	321
Upper West	0.3	106	0.4	91	0.4	197
Education						
No education	2.5	875	0.6	367	1.9	1,242
Primary	3.7	813	1.5	533	2.8	1,346
Middle/JSS/JHS	2.9	1,824	1.1	1,652	2.0	3,476
Secondary+	2.3	932	1.2	1,331	1.6	2,263
Wealth quintile						
Lowest	1.2	767	0.5	647	0.9	1,413
Second	3.1	773	1.8	655	2.5	1,428
Middle	3.2	930	1.7	769	2.5	1,700
Fourth	4.0	981	1.0	872	2.5	1,854
Highest	2.5	992	0.8	939	1.7	1,932
Total 15-49	2.8	4,444	1.1	3,883	2.0	8,326
50-59	na	na	1.1	521	na	na
Total 15-59	na	na	1.1	4,404	na	na

na = Not applicable

14.2.3 HIV Prevalence by Other Socio-demographic and Health Characteristics

Marital status is related to HIV prevalence (Table 14.5). Prevalence is substantially higher among widowed women (14.9 percent), followed by divorced or separated women (3.1 percent), and women who are married or living with a man as if married (3.0). Among men, prevalence is highest among divorced or separated men (2.8 percent). Women who report they have had sex but have never been in a union are more likely to have HIV than their male counterparts. HIV infection among women and men who have never been in a union and have never had sex is 0.3 percent.

Table 14.5 HIV prevalence by demographic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by demographic characteristics, Ghana 2014

Demographic characteristic	Women Percentage HIV positive	Women Number	Men Percentage HIV positive	Men Number	Total Percentage HIV positive	Total Number
Marital status						
Never married	1.6	1,426	0.5	1,872	1.0	3,299
Ever had sexual intercourse	2.2	894	0.9	1,042	1.5	1,936
Never had sexual intercourse	0.6	532	0.1	830	0.3	1,363
Married/living together	3.0	2,552	1.6	1,837	2.4	4,389
Divorced or separated	3.1	352	2.8	160	3.0	512
Widowed	14.9	114	*	13	13.3	127
Type of union						
In polygynous union	1.3	408	0.8	124	1.2	531
In non-polygynous union	3.3	2,122	1.6	1,713	2.6	3,836
Not currently in union	2.7	1,892	0.7	2,045	1.7	3,938
Times slept away from home in past 12 months						
None	2.2	2,156	0.7	1,810	1.6	3,967
1-2	3.8	1,196	1.2	744	2.8	1,940
3-4	3.1	529	1.1	487	2.1	1,016
5+	3.0	557	2.0	829	2.4	1,386
Time away in past 12 months						
Away for more than 1 month	3.2	685	0.8	681	2.0	1,367
Away for less than 1 month	3.5	1,597	1.8	1,378	2.7	2,975
No away	2.2	2,161	0.7	1,810	1.6	3,971
Currently pregnant						
Pregnant	2.8	325	na	na	na	na
Not pregnant or not sure	2.8	4,119	na	na	na	na
ANC for last birth in the past 3 years						
ANC provided by the public sector	2.6	1,320	na	na	na	na
ANC provided by other than the public sector	2.9	165	na	na	na	na
No ANC/No birth in past 3 years	2.9	2,959	na	na	na	na
Male circumcision						
Circumcised	na	na	1.2	3,724	na	na
Not circumcised	na	na	0.2	158	na	na
Total 15-49	2.8	4,444	1.1	3,883	2.0	8,326
50-59	na	na	1.1	521	na	na
Total 15-59	na	na	1.1	4,404	na	na

Note: Total includes 20 cases for whom information on type of union is missing, 20 cases for whom information on time slept away from home in past 12 months is missing, 18 cases for whom information on time away in past 12 months is missing, and 1 case for whom information on male circumcision is missing. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

Prevalence is slightly higher among women in a non-polygynous union (3.3 percent) than among women in a polygynous union (1.3 percent) or not currently in union (2.7 percent). Among men, prevalence is also higher among those in a non-polygynous union (2.6 percent). The differential in HIV prevalence between women and men is greater among those not currently in union than those in union—among women and men not currently in union, women are four times as likely as men to have HIV.

Women who were pregnant at the time of the survey had an HIV prevalence rate comparable to that of women who were not pregnant and women who were unsure of their pregnancy status (2.8 percent each).

The survey results show that men and women who slept away from home 1-2 times in the 12 months preceding the survey have higher HIV prevalence (2.8 percent) than those who have not slept away from home (1.6 percent) or have slept away from home more often (2.1-2.4 percent). Among men, those who slept away from home five or more nights were the most likely to have HIV.

Men and women who stayed away from home less than one month during the past 12 months have a higher HIV prevalence (2.7 percent) than those who had stayed away for more than one month (2.0 percent). Those who did not stay away from home at all were least likely to have HIV (1.6 percent).

Male circumcision has been shown to reduce the risk of HIV acquisition in men. Randomised-control trials in South Africa, Kenya, and Uganda, have documented that the protective effect of male circumcision is significant (Auvert et al. 2005). Table 14.5 presents data on the relationship between HIV prevalence and male circumcision among men age 15-49 who were tested for HIV in the 2014 GDHS and who responded to the question about their circumcision status. Men who were circumcised are six times as likely to be HIV positive as men who were not circumcised (1.2 percent versus 0.2 percent). This is in contrast to the assertion above. Although male circumcision in Ghana is nearly universal (96 percent, see Table 13.13) there are sufficient cases of uncircumcised men to allow a comparison of HIV prevalence by circumcision status at the national level. It should be noted, however, that this finding is only a bivariate association, and the distribution of other risk factors such as place of residence and number of sexual partners, by circumcision status, may also play a role.

14.2.4 HIV Prevalence by Sexual Risk Behaviour

Chapter 13 (Table 13.2) has shown that knowledge and use of HIV prevention methods in the general population is relatively high (70 percent among women and 82 percent among men), yet risky behaviours, such as multiple sexual partners and a lack of consistent use of condoms, are common and therefore remain a major public health concern. Table 14.6 presents HIV prevalence by sexual behaviour characteristics among respondents who have ever had sexual intercourse. In reviewing these results, it is important to remember that responses about sexual risk behaviours may be subject to reporting bias. Also, sexual behaviour in the 12 months preceding the survey may not adequately reflect lifetime sexual risk nor is it possible to know the sequence of events (e.g., whether any reported condom use occurred before or after HIV transmission).

There is no clear relationship between age at sexual debut and HIV prevalence. Overall, HIV prevalence is lowest among men and women who were age 20 or older at the time of their first sexual intercourse. Although the difference in prevalence by age at first sex is small, especially among men, it appears that the relationship between age at first sex and HIV prevalence is different among women and men. Among women, those who initiated sexual activity before the age of 18 are more likely to have HIV than those who had first sex at age 18 or older. Among men, HIV prevalence is slightly higher among those who had first sex at older ages.

The association of HIV prevalence with multiple sexual partners and with partner concurrency was examined in the 2014 GDHS. A respondent was considered to have a concurrent partner if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. This includes men with two or more wives.

Among women, HIV prevalence is highest among those who had no sexual partners (4.9 percent) in the 12 months before the survey, followed by women with two or more partners (2.8 percent). Among men, HIV prevalence is highest among those with one sexual partner in the past 12 months (1.7 percent).

Table 14.6 HIV prevalence by sexual behaviour

Percentage HIV positive among women and men age 15-49 who ever had sex and were tested for HIV, by sexual behaviour characteristics, Ghana 2014

	Women		Men		Total	
	Percentage		Percentage		Percentage	
Sexual behaviour characteristic	HIV positive	Number	HIV positive	Number	HIV positive	Number
Age at first sexual intercourse						
<16	3.2	946	1.3	520	2.5	1,465
16-17	3.7	1,006	1.1	536	2.8	1,542
18-19	3.0	928	1.6	792	2.4	1,720
20+	2.5	891	1.5	1,183	1.9	2,074
Number of sexual partners and partner concurrency in past 12 months						
0	4.9	693	0.8	339	3.5	1,031
1	2.8	3,164	1.7	2,154	2.3	5,319
2+	3.6	53	0.8	559	1.0	612
Had concurrent partners[1]	*	10	0.5	250	0.5	260
None of the partners were concurrent	(4.5)	43	1.0	309	1.4	352
Condom use at last sexual intercourse in past 12 months						
Used condom	2.6	217	0.8	480	1.3	698
Did not use condom	2.8	2,998	1.6	2,233	2.3	5,231
No sexual intercourse in past 12 months	4.9	694	0.8	339	3.5	1,032
Number of lifetime partners						
1	1.0	1,386	0.1	559	0.8	1,945
2	3.8	1,235	0.7	463	3.0	1,698
3-4	4.4	1,033	1.9	738	3.4	1,770
5-9	6.3	222	2.4	656	3.4	878
10+	(5.6)	30	1.5	620	1.6	649
Paid for sexual intercourse in past 12 months						
Yes	na	na	2.1	88	na	na
Used condom	na	na	(3.0)	41	na	na
Did not use condom	na	na	(1.4)	47	na	na
No (No paid sexual intercourse/no sexual intercourse in past 12 months)	na	na	1.4	2,964	na	na
Total 15-49	3.1	3,911	1.4	3,052	2.4	6,963
50-59	na	na	1.1	515	na	na
Total 15-59	na	na	1.4	3,567	na	na

Note: Total includes 195 cases for whom information on age at first sexual intercourse is missing, 1 case for whom information on multiple sexual partners and partner concurrency in past 12 months is missing, 4 cases for whom information on condom use at last sexual intercourse in past 12 months is missing, and 25 cases from whom information on number of lifetime partners is missing. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. (Respondents with concurrent partners include polygynous men who had overlapping sexual partnerships with two or more wives).

Among both women and men, HIV prevalence increases with increasing number of lifetime partners from 0.8 percent among those with 1 partner to 3.4 percent among those with 5-9 partners, and then decreases, unexpectedly, to 1.6 percent among those with 10 or more lifetime partners.

Table 14.6 shows there is no clear relationship between condom use at last sexual intercourse and HIV status among women or men. HIV prevalence among women who used a condom during their most recent sexual intercourse in the 12 months preceding the survey varied little compared with those who did not use a condom during their last sexual intercourse. In contrast, men who used a condom during their most recent sexual intercourse during the same period were slightly less likely to have HIV than men who did not use a condom (0.8 percent and 1.6 percent, respectively).

The HIV prevalence estimate among men who paid for sex during the 12 months preceding the survey is 2.1 percent, compared with 1.4 percent among men who did not pay for sex during this time.

In summary, the results presented in Table 14.6 do not demonstrate a consistent relationship between sexual risk behaviour and HIV prevalence. Additional analysis may be necessary to understand these relationships because they are often confounded by other factors associated with both behavioural measures and HIV prevalence such as age, marital status, and residence. In addition, because HIV prevalence rates are low overall, even when differences in prevalence are linked to behaviour, the ultimate meaning may be difficult to interpret.

14.3   HIV PREVALENCE AMONG YOUNG PEOPLE

Table 14.7 shows that HIV prevalence among those age 15-24 is low (0.8 percent); 1.5 percent of young women and 0.2 percent of young men are HIV positive. Women contract HIV at an earlier age than men. By age 23-24, 4.7 percent of women have HIV compared with only 0.4 percent of their male counterparts.

In contrast to the population age 15-49, among young people age 15-24 those in urban areas have slightly lower HIV prevalence (0.6 percent) than those in rural areas (1.1 percent). This relationship is seen for both women and men.

HIV prevalence among Ghanaian youth is highest in Central region (2.9 percent), followed by youth in Brong Ahafo region (1.1 percent), while all other regions have a prevalence of less than 1 percent. Young women in Central region have the highest HIV prevalence (4.4 percent) while those in Western region and Brong Ahafo region have 1.5 percent each. All regions reported HIV prevalence among young men of less than 0.1 percent, except Central and Brong Ahafo regions (1.2 percent and 0.7 percent, respectively).

Percentage HIV positive among women and men age 15-24 who were tested for HIV, by background characteristics, Ghana 2014

Background characteristic	Women Percentage HIV positive	Number	Men Percentage HIV positive	Number	Total Percentage HIV positive	Number
Age						
15-19	0.3	773	0.2	880	0.3	1,652
15-17	0.3	475	<0.1	519	0.1	994
18-19	0.4	298	0.5	360	0.4	658
20-24	2.6	765	0.1	603	1.5	1,368
20-22	1.2	448	<0.1	373	0.6	821
23-24	4.7	317	0.4	229	2.9	547
Marital status						
Never married	0.9	1,139	0.2	1,405	0.5	2,544
Ever had sex	1.1	628	0.2	628	0.7	1,257
Never had sex	0.7	511	0.1	777	0.3	1,288
Married/Living together	3.1	363	<0.1	67	2.6	430
Divorced/Separated/Widowed	(3.6)	36	*	10	(2.9)	46
Currently pregnant						
Pregnant	2.0	89	na	na	na	na
Not pregnant or not sure	1.5	1,449	na	na	na	na
Residence						
Urban	1.2	774	0.1	763	0.6	1,537
Rural	1.8	764	0.3	719	1.1	1,483
Region						
Western	1.5	200	<0.1	174	0.8	374
Central	4.4	147	1.2	136	2.9	283
Greater Accra	1.4	270	<0.1	287	0.7	557
Volta	1.4	120	<0.1	116	0.7	235
Eastern	1.0	137	<0.1	161	0.5	298
Ashanti	1.2	272	<0.1	257	0.6	530
Brong Ahafo	1.5	138	0.7	130	1.1	268
Northern	0.4	137	<0.1	115	0.2	252
Upper East	<0.1	71	<0.1	66	<0.1	136
Upper West	0.8	47	<0.1	39	0.4	86
Education						
No education	1.3	128	1.8	48	1.5	176
Primary	2.3	301	<0.1	233	1.3	534
Middle/JSS/JHS	1.8	696	0.1	723	1.0	1,419
Secondary+	0.3	413	0.1	478	0.2	890
Wealth quintile						
Lowest	0.6	295	<0.1	296	0.3	591
Second	0.7	301	0.4	276	0.6	576
Middle	0.9	339	0.3	303	0.6	642
Fourth	4.8	315	<0.1	349	2.3	663
Highest	0.3	289	0.2	258	0.3	547
Total 15-24	1.5	1,538	0.2	1,482	0.8	3,020

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

Table 14.8 shows HIV prevalence among young people age 15-24 by sexual behaviour. Because of overall low HIV prevalence in this population, the variations shown in Table 14.8 are difficult to interpret. However, it does appear that young people who used a condom at the last sexual intercourse in the 12 months preceding the survey had lower HIV prevalence than those who did not use a condom (0.5 percent versus 1.6 percent).

Table 14.8 HIV prevalence among young people by sexual behaviour

Percentage HIV positive among women and men age 15-24 who have ever had sexual intercourse and were tested for HIV, by sexual behaviour, Ghana 2014

Sexual behaviour characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Multiple sexual partners and partner concurrency in past 12 months						
0	0.7	176	0.9	168	0.8	344
1	2.1	815	<0.1	417	1.4	1,232
2+	(2.4)	34	<0.1	120	0.5	154
Had concurrent partners[1]	*	6	(<0.1)	30	(<0.1)	36
None of the partners were concurrent	(3.0)	28	<0.1	90	0.7	118
Condom use at last sexual intercourse in past 12 months						
Used condom	1.3	120	<0.1	201	0.5	320
Did not use condom	2.3	729	<0.1	337	1.6	1,066
No sexual intercourse in last 12 months	0.7	177	0.9	168	0.8	345
Total 15-24	1.9	1,026	0.2	705	1.2	1,731

Note: Total includes 1 case for whom information on multiple sexual partners and partner concurrency in past 12 months is missing. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. (Respondents with concurrent partners include polygynous men who had overlapping sexual partnerships with two or more wives).

14.4 HIV PREVALENCE BY OTHER CHARACTERISTICS RELATED TO HIV RISK

Table 14.9 shows the differences in HIV prevalence by various characteristics related to HIV risk among men and women who have ever had sex. As expected, women and men with a history of sexually transmitted infection (STI) or STI symptoms have slightly higher HIV rates than those with no history of STIs or STI symptoms (2.9 percent versus 2.2 percent).

Table 14.9 HIV prevalence by other characteristics

Percentage HIV positive among women and men age 15-49 who ever had sex and were tested for HIV, by whether had an STI in the past 12 months and by prior testing for HIV, Ghana 2014

Characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Sexually transmitted infection in past 12 months						
Had STI or STI symptoms	3.1	1,021	2.5	294	2.9	1,315
No STI, no symptoms	3.2	2,885	1.3	2,757	2.2	5,642
Prior HIV testing						
Ever tested	3.7	2,137	2.9	772	3.5	2,909
Received results	4.0	1,879	2.8	692	3.6	2,572
Did not received results	1.5	257	4.2	80	2.1	337
Never tested	2.5	1,773	0.9	2,280	1.6	4,053
Total 15-49	3.1	3,911	1.4	3,052	2.4	6,963

Note: Total includes 5 cases for whom information on sexually transmitted infection in past 12 months is missing and 1 case for whom information on prior HIV testing is missing. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable

Women who have been tested for HIV in the past are more likely to be HIV positive than those who have never been tested. Among women who have ever had sex, HIV prevalence is 4.0 percent among those who have ever been tested for HIV in the past and received the results, compared with 2.5 percent among those who have never been tested. Among men who have ever had sex, HIV prevalence is higher among those who have ever been tested and did not receive their results (4.2 percent), compared with those who have never been tested (0.9 percent).

Table 14.10 provides further information about the relationship between prior HIV testing and the actual HIV status of respondents, according to the results of the 2014 GDHS blood test. The results show that more than half of individuals who are HIV positive (55 percent) have been tested previously and received the results of their last test. This represents a substantial increase from the 2003 GDHS, in which only 12 percent of HIV-positive women and 8 percent of HIV-positive men had been previously tested. However, a little less than half of HIV-positive respondents have either never been tested (41 percent) or have not received the results of their last test (4 percent) and therefore do not know that they should seek out care and treatment or that they can transmit HIV if they have unprotected sex.

Table 14.10 Prior HIV testing according to current HIV status

Percent distribution of women and men age 15-49 by prior HIV testing, according to current HIV status (HIV positive or HIV negative), Ghana 2014

	Women		Men		Total	
HIV testing prior to the survey	HIV positive	HIV negative	HIV positive	HIV negative	HIV positive	HIV negative
Previously tested						
Received result of last test	58.9	42.6	(43.8)	19.3	55.0	31.6
Did not receive result of last test	3.1	6.2	(7.6)	2.2	4.2	4.3
Not previously tested	38.0	51.2	(48.6)	78.5	40.8	64.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	126	4,318	44	3,839	170	8,156

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

Fifty-nine percent of women who tested positive for HIV in the 2014 GDHS reported that they had been tested before the survey and knew the results of their last test, compared with 43 percent of women who tested negative for HIV. This is a major increase compared with the 2003 GDHS, which reported figures of 12 percent and 7 percent, respectively. Coverage of HIV testing among HIV-positive men also appears to have increased since 2003. It should be noted that testing for HIV depends on a number of factors including access to testing facilities as well as campaigns at the community level to encourage people to learn their HIV status. It is likely that the substantial increase in the number of HIV testing sites since 2003, and nationwide public education on the need to get tested for HIV, account for this observed increase in the proportion of persons who had been tested for HIV and received their test results.

14.5 HIV PREVALENCE AMONG COUPLES

Over 1,700 cohabiting couples were tested for HIV in the 2014 GDHS. Results shown in Table 14.11 indicate that, for the vast majority of cohabiting couples (96.7 percent), both partners are HIV negative; both partners were HIV positive in only 0.8 percent of couples. In an additional 0.8 percent of couples, the woman is HIV negative and the man is HIV positive; conversely, in 1.7 percent of couples, the woman is HIV positive and the man is HIV negative.

The fact that there are more couples that are discordant for HIV than couples that are both HIV positive (2.5 percent and 0.8 percent, respectively) points to an unmet need for HIV prevention because it is likely that the majority of these couples do not mutually know their HIV status. Couple-oriented voluntary counselling and testing (CVCT) services, where partners (including those in polygynous marriages) go together and receive results together should be advocated for at all HIV testing centres in Ghana.

Couples in which the man is age 40 to 49, couples where the woman is older than the man, couples in a non-polygynous union, urban couples, couples living in Western region, couples with primary education, and couples in the second wealth quintile have slightly higher HIV prevalence than other couples.

Table 14.11 HIV prevalence among couples

Percent distribution of couples living in the same household, both of whom were tested for HIV, by HIV status, according to background characteristics, Ghana 2014

Background characteristic	Both HIV positive	Man HIV positive, woman HIV negative	Woman HIV positive, man HIV negative	Both HIV negative	Total	Number
Woman's age						
15-19	(<0.1)	(<0.1)	(1.1)	(98.9)	100.0	36
20-29	0.5	1.2	1.6	96.7	100.0	583
30-39	0.9	0.6	1.9	96.6	100.0	726
40-49	1.0	0.7	1.4	96.9	100.0	411
Man's age						
15-19	*	*	*	*	100.0	1
20-29	<0.1	0.3	2.1	97.5	100.0	238
30-39	1.1	1.1	1.0	96.9	100.0	659
40-49	1.0	1.1	2.1	95.8	100.0	590
50-59	0.3	0.1	1.9	97.7	100.0	268
Age difference between partners						
Woman older	3.0	3.8	2.3	91.0	100.0	90
Same age/man older by 0-4 years	0.5	<0.1	1.9	97.6	100.0	635
Man older by 5-9 years	0.9	0.6	1.5	96.9	100.0	626
Man older by 10-14 years	0.1	1.3	1.1	97.5	100.0	273
Man older by 15+ years	1.4	2.7	1.9	94.0	100.0	131
Type of union						
Non-polygynous	0.8	0.8	1.7	96.6	100.0	1,507
Polygynous	0.6	<0.1	1.1	98.2	100.0	238
Multiple partners in past 12 months[1]						
Both no	0.9	0.9	0.9	97.2	100.0	1,381
Man yes, woman no	0.2	0.5	4.5	94.8	100.0	366
Woman yes, man no	*	*	*	*	100.0	8
Both yes	*	*	*	*	100.0	1
Concurrent sexual partners in past 12 months[2]						
Both no	0.8	1.0	1.2	97.0	100.0	1,510
Man yes, woman no	0.4	<0.1	4.5	95.1	100.0	243
Woman yes, man no	*	*	*	*	100.0	3
Residence						
Urban	1.0	1.0	1.8	96.2	100.0	831
Rural	0.6	0.7	1.5	97.2	100.0	924
Region						
Western	1.7	1.7	3.0	93.6	100.0	180
Central	0.4	1.4	<0.1	98.2	100.0	180
Greater Accra	<0.1	1.1	3.9	95.0	100.0	351
Volta	1.1	0.3	2.3	96.3	100.0	135
Eastern	2.9	<0.1	1.1	96.0	100.0	153
Ashanti	<0.1	1.6	0.9	97.5	100.0	275
Brong Ahafo	2.6	<0.1	1.3	96.1	100.0	142
Northern	<0.1	<0.1	0.2	99.8	100.0	217
Upper East	0.3	0.6	0.2	98.9	100.0	76
Upper West	<0.1	<0.1	0.8	99.2	100.0	47
Woman's education						
No education	1.0	0.5	0.8	97.8	100.0	519
Primary	0.6	0.9	3.2	95.3	100.0	330
Middle/JSS/JHS	0.9	1.1	1.5	96.4	100.0	658
Secondary+	0.1	0.8	1.9	97.2	100.0	249
Man's education						
No education	0.2	0.2	0.6	99.0	100.0	354
Primary	1.5	<0.1	2.5	96.0	100.0	220
Middle/JSS/JHS	0.7	1.0	1.8	96.6	100.0	705
Secondary+	1.0	1.5	1.9	95.6	100.0	475
Wealth quintile						
Lowest	0.4	0.1	0.9	98.5	100.0	385
Second	2.0	0.9	1.7	95.4	100.0	312
Middle	1.1	1.2	1.3	96.3	100.0	310
Fourth	0.7	0.8	2.3	96.2	100.0	328
Highest	<0.1	1.2	2.0	96.8	100.0	420
Total couples	0.8	0.8	1.7	96.7	100.0	1,755

Note: The table is based on couples for which a valid test result (positive or negative) is available for both partners. Total includes 11 couples for whom information on type of union is missing. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] A respondent is considered to have had multiple sexual partners in the past 12 months if he or she had sexual intercourse with 2 or more people during this time period. (Respondents with multiple partners include polygynous men who had sexual intercourse with 2 or more wives.)
[2] A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. (Respondents with concurrent partners include polygynous men who had overlapping sexual partnerships with two or more wives).

ADULT HEALTH AND LIFESTYLE 15

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Key Findings:

- Among eligible respondents age 15-49, 13 percent of women and men have high blood pressure or are currently taking medicine to lower their blood pressure.
- Sixty-three percent of women and 86 percent of men are not aware that they have high blood pressure.
- Only 17 percent of women and 6 percent of men with hypertension are taking medication and have their blood pressure under control.
- Women and men with a higher-than-normal body mass index (25.0 or higher) are more likely to have high blood pressure.
- More than 8 in 10 women (83 percent) and about 9 in 10 men age 15-49 (89 percent) have heard of tuberculosis.
- Seventy-eight percent of women and 81 percent of men age 15-49 correctly know that tuberculosis is spread through the air by coughing.
- Thirty-three percent of women and 25 percent of men age 15-49 would want to keep a family member's TB status a secret.
- Less than 1 percent of women age 15-49 and 4 percent of men age 15-49 smoke cigarettes.
- More than 6 in 10 women and half of men are covered by health insurance. The National/District Health Insurance (N/DHIS) is the most common type of health insurance (62 percent of women and 48 percent of men).
- Overall, 8 in 10 women and men (79 percent and 82 percent, respectively) who are covered by N/DHIS were satisfied with the services the last time they were treated at a health facility.

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Around the world, in developed and developing countries, the rapid increase in noncommunicable diseases (NCDs) is becoming a challenge to achieving global progress in improving population health. Chronic diseases—diabetes, cardiovascular disease, cancer, and chronic respiratory disease—contribute to almost 60 percent of deaths globally, and 80 percent of these deaths occur in developing countries. With each passing day, this death toll will rise unless proper measures are taken. Based on current trends, NCDs will account for 73 percent of deaths and 60 percent of the disease burden in developing countries by 2020 (WHO 2010a). Cardiovascular health can be improved through healthier life choices, such as a healthy diet, regular physical activity, and smoking cessation.

In Ghana, the high prevalence of lifestyle-related diseases and conditions creates a dual burden, given that the country already has a high number of infectious diseases that require significant human and financial resources to control. This creates a need to influence people's knowledge, behaviours, and attitudes to enable them to make healthy lifestyle choices. More effort needs to be aimed at preventing diseases and promoting a healthy lifestyle rather than treating diseases and managing complications. These efforts would greatly benefit from research and reliable data to develop evidence-based policies and programmes for action.

This chapter provides evidence the status of adult health and lifestyle in Ghana. Information includes prevalence, treatment, and awareness of high blood pressure, household use of salt, consumption of fruits and vegetables, tobacco use, as well as knowledge on health issues such as tuberculosis (TB). It also presents information on health insurance coverage and client satisfaction with health care services.

Findings presented in this chapter will inform public health policies targeted at improving adult lifestyles and reducing NCDs in Ghana.

15.1 BLOOD PRESSURE

High blood pressure, or hypertension, is one major risk factor for cardiovascular disease. Health facility-based records indicate that hypertension is the leading cause of disability among adults in Ghana.

The 2014 GDHS is the first national survey in Ghana to include measurements of blood pressure among adults. High blood pressure can lead to fatal complications (Addo et al. 2012). Therefore, in addition to blood pressure measurements, eligible respondents were asked several questions to determine their history of hypertension and treatment.

15.1.1 History and Treatment of High Blood Pressure

As mentioned, survey respondents were asked about their history of hypertension, including whether they had ever been told by a doctor or other health professional that they had high blood pressure and, if so, whether they had been told that on two or more occasions. If they reported being told one or more times that they had high blood pressure, they were asked additional questions about specific actions they were taking to lower their blood pressure.

Table 15.1 shows that, overall, 8 percent of women and 4 percent of men age 15-49 reported being told by a health professional that they have high blood pressure or hypertension. As expected, the percentages increased with age, especially among women. For example, less than 1 percent of women age 15-19 had been told they have high blood pressure, compared with 22 percent of women age 45-49. Obese women and men (BMI greater than 30.0) are more likely than other respondents with a lower BMI to have a history of hypertension. Women and men in urban areas are slightly more likely than those in rural areas to have been told by a health professional that they have high blood pressure. By region, prevalence of high blood pressure is highest among women in Greater Accra (13 percent) and men in Ashanti (7 percent). The percentage told that they have high blood pressure or hypertension increases steadily by education among men (and among women for those with no education, primary education, or middle/JSS/JHS education).

Hypertension is often seen as a disease of the rich. The 2014 GDHS data indeed show that the proportion of respondents who have been told by a health professional that they have hypertension is highest among women and men in the wealthiest households (12 percent and 7 percent, respectively).

Table 15.1 History of hypertension

Percentage of women and men age 15-49 who were ever told by a health professional that they have hypertension or high blood pressure, by background characteristics, Ghana 2014

Background characteristic	Women		Men	
	Percentage ever told by a health professional they had hypertension or high blood pressure	Number of women	Percentage ever told by a health professional they had hypertension or high blood pressure	Number of men
Age				
15-19	0.4	1,625	0.9	855
20-24	2.9	1,613	1.8	588
25-29	3.5	1,604	4.9	589
30-34	8.9	1,372	4.6	552
35-39	9.6	1,295	6.7	473
40-44	15.2	1,030	6.5	456
45-49	22.3	857	8.7	355
Nutritional status[1]				
Thin (BMI <18.5)	5.7	660	1.5	381
Normal (BMI 18.5-24.9)	5.9	5,619	3.2	2,801
Overweight (BMI 25-29.9)	8.2	1,979	10.2	481
Obese (BMI ≥30.0)	15.8	1,000	16.4	112
Missing	11.3	138	1.9	94
Smoking status				
Smokes cigarettes/tobacco	(2.5)	38	2.7	199
Does not smoke	7.5	9,355	4.3	3,669
Residence				
Urban	9.7	5,051	5.6	2,050
Rural	5.0	4,345	2.7	1,819
Region				
Western	5.6	1,038	1.9	447
Central	3.3	937	6.1	380
Greater Accra	13.0	1,898	4.6	831
Volta	9.3	720	3.3	295
Eastern	8.3	878	4.9	362
Ashanti	6.6	1,798	7.3	680
Brong Ahafo	5.5	769	1.9	320
Northern	5.6	786	1.4	316
Upper East	4.1	358	4.0	146
Upper West	3.2	215	1.0	91
Education				
No education	6.6	1,792	1.8	362
Primary	7.8	1,672	2.7	543
Middle/JSS/JHS	8.0	3,862	3.4	1,626
Secondary+	7.1	2,070	6.5	1,336
Wealth quintile				
Lowest	3.3	1,511	1.9	639
Second	4.8	1,636	1.7	648
Middle	6.9	1,938	2.8	770
Fourth	8.7	2,117	6.3	848
Highest	11.8	2,194	6.8	963
Total 15-49	7.5	9,396	4.3	3,869
50-59	na	na	16.4	519
Total 15-59	na	na	5.7	4,388

na = Not applicable
[1] Body mass index is expressed as the ratio of weight in kilograms to the square of height in metres (kg/m^2).

Table 15.2 shows that, among respondents ever told that they have high blood pressure, 73 percent of women and 46 percent of men were told on two or more occasions. Looking at specific actions to lower blood pressure among respondents with a history of hypertension, 72 percent of women and 65 percent of men were taking prescribed medication; 51 percent of women and 69 percent of men were controlling or losing weight; 73 percent of women and 75 percent of men were cutting down on salt; 49 percent of women and 75 percent of men were exercising; 21 percent of women and 57 percent of men were cutting down alcohol intake; and 13 percent of women and 43 percent of men had stopped smoking. This information is useful to health programmers when planning health education campaigns and messages targeting hypertension.

Table 15.2 History of hypertension and actions taken to lower blood pressure

Among respondents age 15-49 who had ever been told that they have hypertension or high blood pressure, the percentage who were told on two or more different occasions by a health professional that they have hypertension or high blood pressure and the percentage taking specific actions to lower blood pressure, Ghana 2014

Told on two or more occasions they have hypertension or high blood pressure/actions taken to lower blood pressure	Women	Men
Told on two or more different occasions that they had high blood pressure	72.9	46.2
Actions taken to lower blood pressure		
Taking prescribed medication	71.8	64.6
Controlling or losing weight	51.0	68.5
Cutting down salt in their diet	72.8	74.6
Exercising to control hypertension	49.1	74.5
Cutting down on alcohol intake	21.3	57.3
Stopped smoking	13.3	42.9
Number of respondents who had ever told they have high blood pressure or hypertension by a health professional	703	165

15.1.2 Coverage Rates for Blood Pressure Measurement

The 2014 GDHS is the first national survey in Ghana to measure blood pressure among consenting adults age 15-49. All women and men interviewed were eligible for blood pressure measurement. More than 99 percent of women and men of varied background characteristics consented. Because Table 15.3 presents coverage statistics, the numbers are the unweighted number of women and men who were interviewed and eligible for blood pressure measurement.

Table 15.3 Coverage of blood pressure measurement among women and men

Percentage of women and men age 15-49 eligible for blood pressure measurements, by testing status, according to background characteristics (unweighted), Ghana 2014

Background characteristic	Women		Men	
	Percentage measured for blood pressure	Number of women	Percentage measured for blood pressure	Number of men
Age				
15-19	99.9	1,756	99.6	889
20-24	99.4	1,571	100.0	620
25-29	99.9	1,564	99.8	577
30-34	99.6	1,343	99.6	497
35-39	99.5	1,260	100.0	472
40-44	99.3	1,032	99.5	442
45-49	99.5	870	99.4	358
Residence				
Urban	99.6	4,602	99.7	1,826
Rural	99.6	4,794	99.8	2,029
Region				
Western	99.9	1,027	99.8	447
Central	99.8	941	99.2	363
Greater Accra	99.7	999	99.8	422
Volta	99.9	795	99.7	312
Eastern	98.9	907	99.7	377
Ashanti	98.8	1,040	99.7	390
Brong Ahafo	99.8	1,005	99.5	422
Northern	99.8	1,042	100.0	431
Upper East	99.8	914	99.7	382
Upper West	100.0	726	100.0	309
Education				
No education	99.6	2,281	99.8	502
Primary	99.8	1,747	99.5	636
Middle/JSS/JHS	99.6	3,528	99.8	1,512
Secondary+	99.3	1,840	99.7	1,205
Wealth quintile				
Lowest	99.7	2,335	99.8	990
Second	99.9	1,759	99.9	717
Middle	99.5	1,902	99.6	735
Fourth	99.4	1,771	99.6	726
Highest	99.6	1,629	99.7	687
Total 15-49	99.6	9,396	99.7	3,855
50-59	na	na	99.8	533
Total 15-59	na	na	99.7	4,388

na = Not applicable

15.1.3 Prevalence of High Blood Pressure

To measure blood pressure, the survey interviewers used a fully automatic, digital device with upper-arm pressure inflation and pressure release. Interviewers trained to use the device according to the manufacturer's recommended protocol. Three measurements of systolic and diastolic blood pressure (measured in millimetres of mercury [mmHg]) were taken during the survey interview, with an interval of at least 10 minutes between measurements. The average of the second and third measurements was used to classify individuals with respect to hypertension, following internationally recommended categories (WHO 1999). Individuals were classified as hypertensive if their systolic blood pressure was 140 mmHg or higher or if their diastolic blood pressure was 90 mmHg or higher. Elevated blood pressure was classified as mild, moderate, or severe, according to the cutoff points recommended by the World Health Organization and the National Institutes of Health (WHO 1999; NIH 1997).

Blood pressure status	Systolic (mmHg)		Diastolic (mmHg)
Optimal	<120	and	<80
Normal	120-129	or	80-84
High normal	130-139	or	85-89
Level of hypertension			
Grade 1, mild	140-159	or	90-99
Grade 2, moderate	160-179	or	100-109
Grade 3, severe	180+	or	110+

Following internationally recommended guidelines, individuals were also considered hypertensive if they had a normal average blood pressure reading but were taking antihypertensive medication.

Tables 15.4.1 and 15.4.2 show the prevalence of hypertension among survey respondents age 15-49. Thirteen percent of women and men age 15-49 were classified as hypertensive; that is, they had a systolic blood pressure of at least 140 mmHg or a diastolic blood pressure of at least 90 mmHg at the time of the survey, or they were currently taking antihypertensive medication to control their blood pressure. The term "hypertension" as used in this report is not meant to be a clinical diagnosis of the disease; rather, it is intended to provide an indication of the disease burden in the population at the time of the survey.

As expected, the prevalence of hypertension is positively associated with increasing age; it is lowest among women and men age 15-19 (2 percent and 3 percent, respectively) and highest among women age 45-49 (38 percent) and men age 50-59 (34 percent). Sixteen percent of women and men in urban areas are considered hypertensive, compared with 10 percent of women and 9 percent of men in rural areas. Among women, prevalence of hypertension is highest in Greater Accra (17 percent) and lowest in Upper West (5 percent). Among men, it ranges from 6 percent in the Northern and Upper East regions to 18 percent in the Ashanti region. By education, prevalence of hypertension is highest among women with middle/JSS/JHS education and among men with secondary or higher education (15 percent). The prevalence of hypertension increases with increasing wealth among both women and men.

Although the overall rates of hypertension are relatively low, hypertension is a serious health problem among respondents who are obese (27 percent of women and 51 percent of men). A first step toward bringing hypertension under control is increasing awareness by individuals of their condition and its implications in terms of premature disability and death. Educating the population about the adverse effects of hypertension and promoting blood pressure screening, particularly for older and obese individuals, should be an important focus of health programmes.

Table 15.4.1 Blood pressure status: Women

Among women age 15-49, prevalence of hypertension, percent distribution of blood pressure values, and percentage having normal blood pressure and taking medication, by background characteristics, Ghana 2014

Background characteristic	Prevalence of hypertension[1]	Classification of blood pressure						Total	Normal blood pressure and taking medicine	Number of women measured
		Normal			Elevated					
		Optimal <120 and 80 mmHg	Normal 120-129/ 80-84 mmHg	High normal 130-139/ 85-89 mmHg	Mildly elevated (Grade 1) 140-159/ 90-99 mmHg	Moder- ately elevated (Grade 2) 160-179/ 100-109 mmHg	Severely elevated (Grade 3) 180+/110+ mmHg			
Age										
15-19	1.8	85.9	9.9	2.7	1.3	0.2	0.0	100.0	0.3	1,622
20-24	4.6	79.4	12.0	5.6	2.5	0.2	0.2	100.0	1.7	1,601
25-29	7.2	74.9	13.9	5.6	3.6	1.3	0.8	100.0	1.5	1,601
30-34	13.7	68.0	14.0	8.1	6.6	1.6	1.6	100.0	3.9	1,366
35-39	17.1	57.1	17.5	11.7	9.6	2.5	1.6	100.0	3.3	1,290
40-44	24.8	50.5	17.8	12.3	12.1	4.0	3.3	100.0	5.4	1,022
45-49	38.3	40.1	18.6	11.5	17.8	7.9	4.1	100.0	8.5	852
Nutritional status[2]										
Thin (BMI <18.5)	9.5	75.3	10.2	6.5	4.9	3.0	0.1	100.0	1.5	655
Normal (BMI 18.5-24.9)	10.2	73.0	12.9	6.5	5.1	1.5	1.0	100.0	2.6	5,597
Overweight (BMI 25-29.9)	14.4	62.9	17.5	8.7	7.3	2.2	1.5	100.0	3.4	1,977
Obese (BMI ≥30.0)	26.6	49.1	18.1	11.2	13.8	4.0	3.7	100.0	5.1	995
Missing	17.9	59.6	12.2	15.0	6.6	4.1	2.4	100.0	4.7	132
Residence										
Urban	15.8	63.9	15.1	9.0	7.3	2.6	2.0	100.0	3.9	5,031
Rural	9.5	73.3	13.2	5.9	5.5	1.4	0.7	100.0	1.9	4,325
Region										
Western	11.1	68.1	14.2	8.7	6.6	1.5	0.9	100.0	2.1	1,037
Central	10.1	71.7	13.1	6.8	5.5	1.7	1.2	100.0	1.7	935
Greater Accra	17.0	58.3	17.9	10.7	8.4	2.5	2.4	100.0	3.7	1,892
Volta	15.7	69.9	12.8	6.1	8.5	1.9	0.9	100.0	4.4	719
Eastern	11.8	70.5	12.9	8.3	4.7	2.7	0.9	100.0	3.5	870
Ashanti	15.3	65.7	14.8	6.9	7.6	2.8	2.2	100.0	2.7	1,778
Brong Ahafo	11.4	70.3	14.5	7.0	6.1	1.4	0.7	100.0	3.2	767
Northern	7.8	80.1	10.4	4.6	3.4	1.0	0.4	100.0	3.0	785
Upper East	7.9	79.8	11.3	3.7	3.8	1.2	0.3	100.0	2.7	357
Upper West	5.4	80.1	11.5	4.5	2.9	0.7	0.3	100.0	1.5	215
Education										
No education	12.5	70.0	12.5	7.9	7.0	1.7	0.9	100.0	2.8	1,784
Primary	13.0	68.2	14.7	7.0	6.9	1.6	1.6	100.0	2.9	1,669
Middle/JSS/JHS	14.5	66.0	14.8	7.7	7.4	2.5	1.6	100.0	3.1	3,848
Secondary+	10.2	71.1	14.3	7.5	4.1	1.8	1.2	100.0	3.1	2,055
Wealth quintile										
Lowest	6.7	79.2	11.5	4.3	3.9	0.7	0.3	100.0	1.7	1,507
Second	9.9	72.4	12.9	6.5	5.9	1.8	0.5	100.0	1.7	1,635
Middle	13.1	67.6	14.5	7.7	6.4	2.1	1.8	100.0	2.8	1,927
Fourth	14.3	64.3	16.7	7.8	7.3	2.0	1.9	100.0	3.1	2,103
Highest	17.8	62.1	14.6	10.3	8.1	3.1	1.8	100.0	4.8	2,184
Total 15-49	12.9	68.3	14.2	7.6	6.5	2.0	1.4	100.0	3.0	9,356

[1] An individual was classified as having hypertension if he/she had a systolic blood pressure level of 140 mmHg or above or a diastolic blood pressure level of 90 mmHg or above at the time of the survey or was currently taking antihypertensive medication to control his/her blood pressure. The term "hypertension" as used in this table is not meant to be a clinical diagnosis of the disease; rather, it provides an indication of the disease burden in the population at the time of the survey.
[2] Body mass index is expressed as the ratio of weight in kilograms to the square of height in metres (kg/m^2).

Table 15.4.2 Blood pressure status: Men

Among men age 15-49, prevalence of hypertension, percent distribution of blood pressure values, and percentage having normal blood pressure and taking medication, by background characteristics, Ghana 2014

		Classification of blood pressure								
		Normal			Elevated					
Background characteristic	Prevalence of hypertension[1]	Optimal <120 and 80 mmHg	Normal 120-129/ 80-84 mmHg	High normal 130-139/ 85-89 mmHg	Mildly elevated (Grade 1) 140-159/ 90-99 mmHg	Moder- ately elevated (Grade 2) 160-179/ 100-109 mmHg	Severely elevated (Grade 3) 180+/110+ mmHg	Total	Normal blood pressure and taking medicine	Number of men measured
Age										
15-19	2.6	75.6	15.2	7.3	1.7	0.2	0.0	100.0	0.7	852
20-24	6.3	59.7	27.3	7.9	4.9	0.1	0.0	100.0	1.2	588
25-29	11.4	54.1	25.5	12.3	6.2	1.3	0.7	100.0	3.3	588
30-34	13.1	50.9	24.3	13.5	7.2	3.3	0.8	100.0	1.7	548
35-39	21.6	47.6	22.4	11.5	13.9	3.9	0.7	100.0	3.1	473
40-44	21.2	43.6	23.0	14.2	12.7	4.9	1.6	100.0	1.9	453
45-49	24.3	46.1	16.5	14.2	14.4	4.8	4.1	100.0	1.1	353
Nutritional status[2]										
Thin (BMI <18.5)	5.2	74.5	14.9	6.5	3.2	0.9	0.0	100.0	1.1	380
Normal (BMI 18.5-24.9)	9.6	59.9	22.3	9.8	5.9	1.5	0.5	100.0	1.6	2,795
Overweight (BMI 25-29.9)	26.5	32.4	24.6	19.2	16.3	6.2	1.4	100.0	2.7	478
Obese (BMI ≥30.0)	50.9	16.6	16.4	21.8	31.1	7.1	7.0	100.0	5.7	111
Missing	12.3	50.0	27.9	10.1	4.0	3.2	4.7	100.0	0.4	92
Residence										
Urban	15.8	53.4	20.7	12.7	9.1	3.0	1.1	100.0	2.6	2,041
Rural	8.8	59.9	23.0	9.1	5.9	1.4	0.6	100.0	0.9	1,815
Region										
Western	10.7	51.6	25.0	12.8	8.7	1.6	0.3	100.0	0.1	445
Central	16.3	58.4	18.0	9.7	8.3	3.6	2.0	100.0	2.4	378
Greater Accra	12.7	54.5	19.5	14.6	7.1	2.5	1.7	100.0	1.3	830
Volta	14.0	51.0	26.5	9.8	9.5	2.2	1.1	100.0	1.2	294
Eastern	10.0	59.1	24.3	8.4	7.2	0.9	0.0	100.0	1.9	361
Ashanti	18.1	54.0	23.0	9.7	8.7	3.7	0.9	100.0	4.7	678
Brong Ahafo	10.3	49.8	25.6	14.7	8.0	1.7	0.4	100.0	0.3	318
Northern	6.2	74.2	14.2	6.1	4.8	0.7	0.0	100.0	0.7	316
Upper East	6.4	68.8	19.6	7.4	3.2	1.0	0.0	100.0	2.2	146
Upper West	7.4	59.0	25.8	7.8	7.2	0.2	0.0	100.0	0.0	91
Education										
No education	10.2	59.3	21.6	9.6	7.2	1.8	0.5	100.0	0.6	361
Primary	8.2	60.9	21.7	10.0	5.5	1.0	0.8	100.0	0.9	540
Middle/JSS/JHS	12.2	57.0	20.7	11.6	7.4	2.4	0.9	100.0	1.5	1,623
Secondary+	15.3	53.3	23.3	11.0	8.9	2.6	0.9	100.0	2.9	1,332
Wealth quintile										
Lowest	7.4	62.5	22.3	8.5	5.5	0.7	0.5	100.0	0.8	637
Second	7.4	59.6	24.5	8.9	5.1	1.4	0.5	100.0	0.4	647
Middle	9.7	58.2	22.1	10.7	5.5	2.4	1.0	100.0	0.7	768
Fourth	16.7	55.8	21.1	10.7	10.3	1.2	1.0	100.0	4.3	844
Highest	17.9	49.6	20.1	14.5	10.1	4.6	1.2	100.0	2.0	960
Total 15-49	12.5	56.5	21.8	11.0	7.6	2.2	0.9	100.0	1.8	3,856
50-59	33.7	39.5	17.3	14.2	15.1	9.2	4.7	100.0	4.6	518
Total 15-59	15.0	54.5	21.3	11.4	8.5	3.1	1.3	100.0	2.1	4,374

[1] An individual was classified as having hypertension if he/she had a systolic blood pressure level of 140 mmHg or above or a diastolic blood pressure level of 90 mmHg or above at the time of the survey or was currently taking antihypertensive medication to control his/her blood pressure. The term "hypertension" as used in this table is not meant to be a clinical diagnosis of the disease; rather, it provides an indication of the disease burden in the population at the time of the survey.
[2] Body mass index is expressed as the ratio of weight in kilograms to the square of height in metres (kg/m^2).

Figure 15.1 shows the level of awareness and treatment status of women and men classified as hypertensive based on the survey measurements. More than 6 in 10 women (63 percent) and 8 in 10 men (86 percent) who had high blood pressure based on survey measurements reported that they were unaware of their condition. Only 17 percent of hypertensive women and 6 percent of hypertensive men were being treated and had brought their blood pressure under control, and 16 percent of women and 5 percent of men were being treated but still had elevated blood pressure. Four percent of hypertensive women and 3 percent of hypertensive men were aware that they had elevated blood pressure but were not being treated for it.

Figure 15.1 Awareness of high blood pressure and treatment status among women and men age 15-49 with high blood pressure
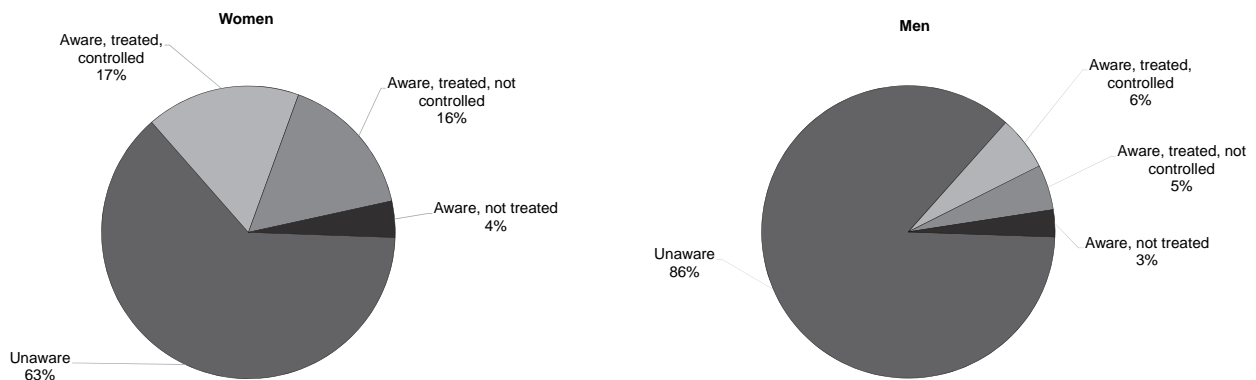
15.2 CONSUMPTION OF FRUITS AND VEGETABLES

Over the last decade, regenerative health has established a firmer foothold in the field of public health in Ghana. This has become possible mainly due to the introduction of the Regenerative Health and Nutrition (RHN) health risk-reduction programme initiated by the Ghanaian Ministry of Health (RHNP 2006).

Adequate nutrition, especially sufficient intake of fruits and vegetables, is essential for good health and general wellbeing. The 2014 GDHS respondents were asked a number of questions on the consumption of fruits and vegetables over the last seven days. Table 15.5 shows the mean number of days during the past week that women and men age 15-49 consumed fruits and vegetables, by background characteristics. On average, women and men consumed fruit on three of the previous seven days and vegetables on four of the previous seven days.

Differences by background characteristics in the mean number of days that respondents consumed fruit and vegetables in the past week are minimal.

Table 15.5 Consumption of fruit and vegetables

Mean number of days during the week preceding the survey that women and men 15-49 consumed fruits and vegetables, by background characteristics, Ghana 2014

	Women			Men		
Background characteristic	Mean number of days in the past week respondent consumed fruit	Mean number of days in the past week respondent consumed vegetables	Number of women	Mean number of days in the past week respondent consumed fruit	Mean number of days in the past week respondent consumed vegetables	Number of men
Age						
15-19	3.2	3.4	1,625	2.9	3.9	855
20-24	3.3	3.5	1,613	3.1	4.1	588
25-29	3.6	3.6	1,604	3.3	3.7	589
30-34	3.6	3.6	1,372	3.3	4.1	552
35-39	3.3	3.6	1,295	3.5	4.2	473
40-44	3.3	3.6	1,030	3.4	4.2	456
45-49	3.3	3.6	857	3.4	4.3	355
Residence						
Urban	3.4	3.4	5,051	3.2	3.7	2,050
Rural	3.4	3.7	4,345	3.3	4.5	1,819
Region						
Western	5.0	3.8	1,038	3.1	5.1	447
Central	3.8	3.5	937	4.8	3.6	380
Greater Accra	3.4	3.4	1,898	3.3	3.7	831
Volta	2.3	2.5	720	3.3	2.9	295
Eastern	2.8	3.4	878	2.9	4.9	362
Ashanti	2.7	3.9	1,798	3.3	4.1	680
Brong Ahafo	3.5	4.0	769	3.4	3.8	320
Northern	3.4	3.1	786	2.7	3.8	316
Upper East	3.1	3.9	358	2.1	4.1	146
Upper West	4.6	3.6	215	1.3	4.6	91
Education						
No education	3.1	3.4	1,792	2.6	4.3	362
Primary	3.2	3.4	1,672	3.2	4.2	543
Middle/JSS/JHS	3.4	3.5	3,862	3.2	4.0	1,626
Secondary+	3.7	3.8	2,070	3.6	4.0	1,336
Wealth quintile						
Lowest	3.0	3.5	1,511	2.7	4.3	639
Second	3.2	3.7	1,636	3.4	4.4	648
Middle	3.4	3.5	1,938	3.4	4.2	770
Fourth	3.3	3.4	2,117	3.2	3.6	848
Highest	3.7	3.6	2,194	3.5	4.0	963
Total 15-49	3.4	3.5	9,396	3.2	4.0	3,869
50-59	na	na	na	3.3	4.4	519
Total 15-59	na	na	na	3.2	4.1	4,388

na = Not applicable

15.3 HOUSEHOLD USE OF SALTY FOODS

Salt intake is an important factor in controlling high blood pressure, cardiovascular disease, and stroke. The 2014 GDHS collected information from eligible women age 15-49 on household consumption of salty foods in the last 24 hours.

Table 15.6 shows that a high proportion of women (84 percent) reported that someone in their household consumed processed foods with salt in the last 24 hours; 7 in 10 (70 percent) reported that a household member used bouillon cubes; more than one-third (36 percent) reported use of salted, dried fish; about one in five (21 percent) reported use of processed or canned meat, fish, or legumes; and about one in four (24 percent) reported use of other processed foods with salt.

Use of salty foods is high in both urban and rural areas. There are regional variations in household use. For example, 92 percent of women in Northern region reported use of bouillon cubes, as compared with 62 percent of women in Greater Accra. On the other hand, use of processed or canned meat, fish, or legumes is lowest in the Northern region (7 percent) and highest in the Volta region (39 percent). Use of bouillon cubes decreases with wealth, while use of processed or canned meat, fish, or legumes increases

with wealth. Variations in the use of other salty components by wealth do not follow a particular pattern. There is a slight decline in use of foods processed with salt as wealth increases.

Table 15.6 Household use of salty foods

Percentage of women age 15-49 who reported that a household member cooked food using salty ingredients in the 24 hours preceding the survey, by ingredient, according to selected background characteristics, Ghana 2014

Background characteristic	Percentage of women who reported that a household member cooked food using salty ingredients in the 24 hours preceding the survey by ingredient:					Number of women
	Bouillon cubes	Processed or canned meat, fish, or legumes	Salted, dried fish	Other processed foods with salt	Any processed foods with salt	
Residence						
Urban	66.7	25.1	34.0	24.2	82.6	5,051
Rural	72.9	16.5	37.6	23.0	86.4	4,345
Region						
Western	66.9	31.2	41.5	47.4	84.2	1,038
Central	63.3	13.0	49.1	29.8	84.1	937
Greater Accra	62.4	13.1	32.1	8.3	74.9	1,898
Volta	77.5	39.3	28.9	31.1	86.3	720
Eastern	65.8	17.7	37.2	48.5	87.3	878
Ashanti	64.0	32.6	38.8	20.1	84.9	1,798
Brong Ahafo	73.9	15.6	36.6	22.2	88.5	769
Northern	92.3	6.8	29.4	12.6	94.4	786
Upper East	88.9	20.3	9.9	1.7	91.4	358
Upper West	79.1	9.4	32.6	3.6	84.8	215
Wealth quintile						
Lowest	79.7	10.8	27.3	13.7	88.0	1,511
Second	70.8	15.9	40.7	23.0	85.9	1,636
Middle	70.6	21.4	40.7	30.3	84.6	1,938
Fourth	66.9	23.7	35.4	27.3	83.6	2,117
Highest	63.5	29.4	33.4	21.8	81.3	2,194
Total	69.6	21.1	35.6	23.7	84.4	9,396

15.4 KNOWLEDGE OF IODISED SALT AND ITS PERCEIVED BENEFITS

It is essential that the population is well informed about the benefits and sources of iodised salt. Table 15.7 shows the percentage of women age 15-49 who have ever heard of iodised salt, and among women who have heard of it, the percentage who know of specific benefits of using iodised salt and the percentage who know how to recognise iodised salt.

More than 8 in 10 women age 15-49 have heard of iodised salt. This proportion is lowest among women age 15-19 (80 percent), those living in rural areas (81 percent), and women in Brong Ahafo (70 percent). Knowledge of iodised salt increases substantially with education and wealth.

Among women who have heard of iodised salt, 49 percent believe that use of iodised salt provides energy, 34 percent believe that it prevents goiter, and 21 percent believe that it improves intelligence. Some variations in perceived benefits of iodised salt use are observed by background characteristics. The percentage of women who perceive that iodised salt use improves intelligence and prevents goiter is higher in urban than in rural areas and increases markedly by education and wealth. Regional variations also exist. For example, the proportion of women who believe that use of iodised salt provides energy ranges from 14 percent in Upper West to 58 percent in Brong Ahafo.

When asked if they can distinguish iodised from non-iodised salt, about half of women said they can recognise it as a fine powdered salt (52 percent) or by looking at the iodised salt logo (48 percent). Only 7 percent of women reported that iodised salt could be distinguished from non-iodised salt through salt testing. There are variations by background characteristics. The proportion of women who can identify iodised salt as a fine powdered salt is higher in rural than in urban areas. This percentage is highest among women in Upper West region (85 percent). The proportion of women who can identify iodised salt as a fine powdered salt decreases with women's increasing education and wealth. By contrast, the percentage of women who can recognise iodised salt by looking at the iodised salt logo is higher in urban areas and increases with increasing education and wealth.

Table 15.7 Knowledge of iodised salt and perceived benefits of using iodised salt

Percentage of women 15-49 who have ever heard of iodised salt, and among women who ever heard of iodised salt, percentage who know of specific benefits of using iodised salt and percentage who know how to recognise iodised salt by specific ways, according to background characteristics, Ghana 2014

| Background characteristic | Percentage of women who have ever heard of iodised salt | Number of women | Percentage of women who know of specific benefits: | | | | | | | | Percentage of women who can recognise iodised salt by specific ways: | | | | Number of women who heard of iodised salt |
			Improves intelligence	Provides energy	Prevents still birth	Prevents mental retardation	Prevents miscarriages	Prevents goiter	Other benefits	Don't know	By testing salt	By looking at iodised salt logo	Fine powdered salt	Don't know	
Age															
15-19	80.3	1,625	23.7	44.2	0.2	1.0	0.7	28.6	7.6	25.5	4.7	44.2	55.0	3.5	1,306
20-24	87.8	1,613	22.3	45.1	0.8	1.4	1.1	32.8	6.8	21.7	7.4	45.8	50.1	5.1	1,416
25-29	89.4	1,604	20.7	49.1	0.4	1.4	1.0	36.0	5.1	19.4	8.2	47.1	51.7	3.9	1,433
30-34	89.1	1,372	20.6	54.6	0.5	1.1	1.5	33.4	8.7	17.3	8.4	49.8	51.6	1.9	1,222
35-39	88.2	1,295	23.1	53.8	1.0	1.7	1.3	33.3	7.3	17.1	8.0	49.9	50.7	3.1	1,142
40-44	86.9	1,030	20.5	48.3	0.1	0.8	0.8	36.1	7.0	20.2	6.2	52.8	50.4	2.8	895
45-49	87.4	857	13.9	52.1	0.2	1.2	0.4	37.4	7.0	17.6	7.9	47.6	53.3	3.0	749
Residence															
Urban	92.4	5,051	24.5	49.2	0.5	1.5	1.2	37.8	6.6	16.7	8.1	49.5	46.4	3.6	4,667
Rural	80.5	4,345	16.6	49.4	0.5	0.9	0.8	28.0	7.6	24.5	6.1	45.7	59.0	3.3	3,496
Region															
Western	90.2	1,038	24.2	54.9	0.2	0.7	0.6	26.3	7.4	17.8	14.4	60.3	40.0	2.5	937
Central	90.6	937	29.6	56.5	0.1	0.8	0.7	42.7	3.2	12.3	6.5	55.8	47.1	1.6	849
Greater Accra	96.0	1,898	26.3	46.8	0.5	2.5	0.9	37.2	7.7	18.8	6.3	45.1	48.8	0.9	1,822
Volta	87.0	720	17.6	48.5	1.1	1.0	3.9	43.8	8.5	14.6	10.9	43.5	62.4	5.9	633
Eastern	89.8	878	16.6	56.4	0.7	1.3	0.2	31.0	8.9	20.1	6.7	37.2	73.6	3.8	789
Ashanti	84.5	1,798	23.5	56.5	0.2	1.0	1.2	29.6	2.1	18.6	7.7	60.2	32.1	8.4	1,519
Brong Ahafo	70.1	769	15.4	57.9	0.2	0.5	0.3	32.1	9.6	16.6	4.9	35.6	67.7	1.7	539
Northern	72.7	786	3.9	23.5	1.4	0.8	0.7	23.0	19.9	34.4	0.7	38.5	63.5	0.5	571
Upper East	83.8	358	12.3	30.6	0.4	0.5	0.8	30.2	3.2	38.8	4.8	37.9	67.3	0.4	300
Upper West	94.8	215	12.8	13.9	0.7	1.7	1.3	45.3	1.9	42.6	2.5	18.5	85.2	10.5	204
Education															
No education	74.6	1,792	9.9	40.6	0.5	0.7	0.4	22.8	9.9	31.0	4.2	39.8	59.9	2.2	1,338
Primary	78.7	1,672	17.9	53.7	0.5	0.5	0.9	21.5	5.6	27.1	3.7	45.3	57.1	3.5	1,316
Middle/JSS/JHS	89.9	3,862	22.6	55.3	0.4	0.6	1.2	29.9	6.1	18.6	6.7	48.9	50.1	3.9	3,473
Secondary+	98.4	2,070	28.1	42.0	0.7	3.1	1.2	55.0	7.4	10.8	12.6	53.1	46.0	3.5	2,037
Wealth quintile															
Lowest	72.0	1,511	7.7	35.6	0.9	0.6	0.5	23.6	11.6	34.4	2.6	32.2	69.1	2.3	1,088
Second	78.0	1,636	15.2	50.6	0.4	0.6	0.6	26.5	7.3	25.1	4.3	47.0	58.7	2.4	1,276
Middle	87.7	1,938	20.1	56.2	0.2	1.0	1.3	26.9	6.3	20.7	6.7	48.6	53.9	4.3	1,699
Fourth	93.0	2,117	25.0	53.8	0.4	1.3	1.0	35.6	4.6	16.5	9.5	49.3	48.6	4.0	1,969
Highest	97.1	2,194	28.8	45.8	0.6	2.1	1.3	46.5	7.2	12.5	9.8	54.4	40.2	3.5	2,131
Total	86.9	9,396	21.1	49.3	0.5	1.3	1.0	33.6	7.0	20.1	7.2	47.9	51.8	3.5	8,163

15.5 KNOWLEDGE AND ATTITUDES ON TUBERCULOSIS

Tuberculosis (TB) is a communicable disease caused by *Mycobacterium tuberculosis*. Transmission is mainly airborne through droplets coughed or sneezed out by infected persons. The infection is primarily concentrated in the lungs, but in some cases can be transmitted to other areas of the body. Mortality among TB-infected individuals is high, as the disease leads to poor lung function, acid-base imbalance, and death.

Tuberculosis is, however, curable. The cure rates in persons infected have been directly proportional to knowledge of the disease, as well as the ability of persons to seek early treatment. The Ghana Society for the Prevention of Tuberculosis was established in 1954 to support efforts by the Ghanaian government to control TB. Control of tuberculosis has remained a priority for the country. The current strategies of the National Tuberculosis Control Programme include TB-related health education, regular supply of medications, TB surveillance, training of health personnel on TB treatment and control, and directly observed supervision of treatment or DOTS.

The 2014 GDHS collected information from women age 15-49 and men age 15-59 on knowledge of and attitudes toward TB. Specifically, respondents were asked whether they had ever heard of the illness, how it spreads from one person to another, whether it can be cured, and whether they would want to keep the information secret if a member of their family contracted TB. This information is useful in policy formulation and implementation of programmes designed to combat and limit the spread of TB, and in addressing issues of discrimination.

Table 15.8 shows that knowledge of tuberculosis is high in Ghana. More than 8 in 10 women (83 percent) and about 9 in 10 men age 15-49 (89 percent) have heard of TB. Seventy-eight percent of women and 81 percent of men age 15-49 correctly responded that TB is spread through the air by coughing. A lower proportion of respondents age 15-19 (70 percent of women and 72 percent of men) responded that TB is spread through the air by coughing, compared with older respondents. Knowledge is higher among urban than among rural respondents. Regional variations exist. For instance, knowledge among women that TB is spread through the air by coughing ranges from 59 percent in Upper West to 84 percent in Central and Volta. Knowledge increases with education and wealth among both women and men. For instance, 68 percent of women and 64 percent of men with no education report that TB is spread through the air by coughing, compared with 90 percent and 91 percent, respectively, of women and men with a secondary or higher education.

More than 8 in 10 women and men age 15-49 (85 and 89 percent, respectively) believe that TB can be cured. Differences across subgroups are similar to those observed for the other TB knowledge components.

When asked whether they would want to keep a family member's TB status a secret, 33 percent of women and 25 percent of men age 15-49 responded that they would. Among both women and women, the proportion who reported that they would want to keep a family member's TB status a secret is highest in the youngest age group 15-19 (42 percent and 33 percent, respectively). This percentage is highest among women in Upper East and men in Ashanti (51 percent each). For women, fear of stigma regarding TB generally decreases with education and wealth, while the opposite is true for men, as fear of stigma noticeably increases with increasing education and wealth.

Table 15.8 Knowledge and attitude concerning tuberculosis

Percentage of women and men age 15-49 who have heard of tuberculosis (TB), and among those who have heard of TB, the percentages who know that TB is spread through the air by coughing, the percentage who believe that TB can be cured, and the percentage who would want to keep secret that a family member has TB, by background characteristics, Ghana 2014

Background characteristic	Among all respondents:		Among respondents who heard of tuberculosis, percentage who:			
	Heard of TB	Number of respondents	Know that tuberculosis is spread through air by coughing	Believe tuberculosis can be cured	Would want a family member's tuberculosis kept secret	Number of respondents
WOMEN						
Age						
15-19	67.9	1,625	70.1	78.3	42.2	1,103
20-24	81.5	1,613	81.3	86.0	34.2	1,314
25-29	86.1	1,604	81.6	84.4	32.3	1,381
30-34	87.2	1,372	80.7	85.2	30.1	1,196
35-39	87.0	1,295	80.2	84.8	30.1	1,126
40-44	87.8	1,030	78.1	84.7	27.1	904
45-49	88.8	857	73.7	88.8	30.3	761
Residence						
Urban	89.9	5,051	81.2	85.7	32.1	4,543
Rural	74.6	4,345	74.5	82.7	33.3	3,243
Region						
Western	92.8	1,038	76.0	82.1	34.6	963
Central	85.3	937	84.3	89.6	43.8	799
Greater Accra	91.2	1,898	79.8	86.2	22.6	1,731
Volta	77.0	720	83.5	80.8	16.2	554
Eastern	77.2	878	70.5	86.8	31.1	678
Ashanti	90.6	1,798	78.7	84.8	33.4	1,629
Brong Ahafo	79.8	769	82.5	84.0	47.9	614
Northern	51.1	786	73.1	80.4	30.9	402
Upper East	72.4	358	78.1	78.1	51.2	259
Upper West	72.5	215	58.7	74.8	42.2	156
Education						
No education	65.5	1,792	68.3	78.0	34.2	1,173
Primary	71.7	1,672	70.8	78.8	35.0	1,198
Middle/JSS/JHS	87.6	3,862	77.9	84.9	34.7	3,383
Secondary+	98.2	2,070	89.5	90.8	26.6	2,032
Wealth quintile						
Lowest	58.8	1,511	69.6	78.0	35.1	889
Second	77.9	1,636	71.9	81.0	35.7	1,274
Middle	82.6	1,938	77.6	83.7	34.3	1,600
Fourth	91.4	2,117	80.3	85.6	33.4	1,935
Highest	95.2	2,194	85.0	88.9	27.4	2,088
Total 15-49	82.9	9,396	78.4	84.5	32.6	7,786
MEN						
Age						
15-19	76.9	855	71.7	86.4	33.1	657
20-24	88.2	588	83.2	91.4	31.6	519
25-29	93.0	589	83.7	90.0	23.4	547
30-34	91.5	552	82.0	88.2	22.9	505
35-39	93.2	473	81.7	92.3	23.7	441
40-44	94.0	456	81.5	89.7	18.1	429
45-49	93.6	355	83.8	88.4	19.1	332
Residence						
Urban	92.8	2,050	83.7	91.2	28.6	1,902
Rural	84.0	1,819	76.7	87.0	21.4	1,529
Region						
Western	89.3	447	76.7	90.9	29.4	399
Central	93.1	380	81.9	87.7	12.5	354
Greater Accra	92.0	831	79.9	89.7	13.1	765
Volta	85.5	295	81.6	93.3	13.4	252
Eastern	91.2	362	77.9	85.6	24.2	330
Ashanti	96.6	680	86.1	90.3	50.8	657
Brong Ahafo	85.7	320	88.7	85.7	37.5	274
Northern	76.4	316	72.7	92.1	5.3	241
Upper East	59.4	146	75.0	90.0	28.8	87
Upper West	77.8	91	63.5	82.8	30.4	71
Education						
No education	72.1	362	64.1	88.0	16.9	261
Primary	70.8	543	66.4	81.8	23.6	385
Middle/JSS/JHS	90.4	1,626	77.7	87.9	26.5	1,471
Secondary+	98.3	1,336	91.3	93.4	26.3	1,314
Wealth quintile						
Lowest	70.8	639	68.5	88.3	19.2	452
Second	86.2	648	76.0	85.3	23.2	559
Middle	89.5	770	79.7	86.0	25.1	690
Fourth	93.8	848	82.5	91.4	29.9	796
Highest	97.0	963	88.2	93.0	26.0	934
Total 15-49	88.7	3,869	80.6	89.4	25.4	3,431
50-59	94.8	519	79.2	91.6	19.5	492
Total 15-59	89.4	4,388	80.4	89.6	24.6	3,923

15.6 TOBACCO USE

Smoking has a powerful, negative impact on population health. Smoking is a known risk factor for cardiovascular disease, it causes lung cancer and other forms of cancer, and it contributes to the severity of pneumonia, emphysema, and chronic bronchitis. It may also have an impact on individuals who are exposed to secondhand smoke. For example, inhaling secondhand smoke may adversely affect children's growth and cause childhood illnesses, especially respiratory diseases. Because smoking is an acquired behaviour, all morbidity and mortality caused by smoking is preventable.

With the release of its new policy recommendations in 2007, WHO signalled the urgent need for countries to make all indoor public places and workplaces 100 percent smoke-free to reduce population exposure to secondhand tobacco smoke.[1] In Ghana, tobacco regulations are itemised in Articles 61 to 68 of the Public Health Act of 2012 (Act 851). The Act, in Article 64, clearly prohibits the sale of tobacco without adequate labelling of its health hazards. Further legal provision for incorporating tobacco education on the hazards of smoking into school health programmes is given in Article 66 (4) of Act 851. The Act affirms Ghana's commitment to the WHO Framework Convention on tobacco control (WHO 2003).

Women and men interviewed in the 2014 GDHS were asked about their smoking habits. Tables 15.9.1 and 15.9.2 show the percentage of women and men who smoke cigarettes or use tobacco, according to background characteristics. Due to the small numbers of female and male smokers (5 and 253, respectively), a breakdown of the number of cigarettes smoked in the last 24 hours by background characteristics is not shown. Less than 1 percent of women age 15-49 smoke cigarettes, and less than 1 percent use other tobacco. Differences by background characteristics are minimal, although 3 percent of women in Northern use tobacco.

Table 15.9.1 Use of tobacco: Women

Percentage of women age 15-49 who smoke cigarettes or a pipe or use other tobacco products, according to background characteristics and maternity status, Ghana 2014

Background characteristic	Uses tobacco		Does not use tobacco	Number of women
	Cigarettes	Other tobacco		
Age				
15-19	0.0	0.1	99.9	1,625
20-24	0.0	0.3	99.6	1,613
25-29	0.2	0.0	99.8	1,604
30-34	0.0	0.3	99.6	1,372
35-39	0.0	0.3	99.6	1,295
40-44	0.3	0.4	99.2	1,030
45-49	0.0	1.3	98.7	857
Maternity status				
Pregnant	0.1	0.1	99.8	663
Breastfeeding (not pregnant)	0.0	0.3	99.6	2,009
Neither	0.1	0.4	99.5	6,724
Residence				
Urban	0.1	0.1	99.7	5,051
Rural	0.0	0.6	99.4	4,345
Region				
Western	0.0	0.1	99.9	1,038
Central	0.1	0.1	99.8	937
Greater Accra	0.3	0.0	99.7	1,898
Volta	0.0	0.0	100.0	720
Eastern	0.0	0.1	99.7	878
Ashanti	0.0	0.0	100.0	1,798
Brong Ahafo	0.1	0.3	99.6	769
Northern	0.0	3.1	96.9	786
Upper East	0.0	0.3	99.7	358
Upper West	0.0	0.5	99.5	215
Education				
No education	0.0	1.4	98.5	1,792
Primary	0.2	0.0	99.7	1,672
Middle/JSS/JHS	0.1	0.1	99.8	3,862
Secondary+	0.0	0.2	99.8	2,070
Wealth quintile				
Lowest	0.1	1.5	98.4	1,511
Second	0.0	0.3	99.7	1,636
Middle	0.2	0.2	99.6	1,938
Fourth	0.1	0.0	99.9	2,117
Highest	0.0	0.0	99.9	2,194
Total	0.1	0.3	99.6	9,396

Table 15.9.2 shows that smoking is somewhat more common among men than women; 4 percent of men smoke cigarettes or a pipe, and 2 percent use other tobacco. Table 15.9.2 shows that smoking is more common among men than women; 4 percent of men age 15-49 smoke cigarettes or a pipe, and 2 percent use other tobacco. The likelihood of a man using tobacco increases with age and decreases with increasing education and wealth. As is true of women, men in Northern are the most likely of all the regions to use tobacco (11 percent).

Among men who smoke cigarettes, 27 percent smoked 1-2 cigarettes, 37 percent smoked 3-5 cigarettes, 16 percent smoked 6-9 cigarettes, and 14 percent smoked 10 or more cigarettes within the past 24 hours (data not shown).

Table 15.9.2 Use of tobacco: Men

Percentage of men age 15-49 who smoke cigarettes or a pipe or use other tobacco products, according to background characteristics, Ghana 2014

Background characteristic	Uses tobacco			Does not use tobacco	Number of men
	Cigarettes	Pipe	Other tobacco		
Age					
15-19	0.5	0.0	0.6	98.8	855
20-24	1.5	0.1	1.5	97.7	588
25-29	4.9	0.9	2.6	93.7	589
30-34	4.0	0.2	2.6	94.0	552
35-39	4.2	0.6	1.7	94.3	473
40-44	5.6	0.5	2.9	91.9	456
45-49	10.7	0.4	1.2	88.3	355
Residence					
Urban	2.5	0.1	1.4	96.7	2,050
Rural	5.4	0.6	2.2	92.7	1,819
Region					
Western	3.1	0.1	5.4	92.8	447
Central	3.3	0.0	0.4	96.5	380
Greater Accra	2.3	0.2	1.4	97.3	831
Volta	2.2	0.0	2.3	95.7	295
Eastern	2.2	0.0	2.9	94.9	362
Ashanti	2.9	0.0	0.6	96.7	680
Brong Ahafo	4.9	0.8	0.8	94.4	320
Northern	9.6	1.9	1.2	88.9	316
Upper East	10.3	0.7	2.0	88.8	146
Upper West	8.6	1.3	0.5	91.1	91
Education					
No education	16.8	2.4	3.7	80.6	362
Primary	4.8	0.3	4.8	91.6	543
Middle/JSS/JHS	2.3	0.0	1.3	96.8	1,626
Secondary+	1.8	0.2	0.6	97.7	1,336
Wealth quintile					
Lowest	9.0	1.5	2.5	88.8	639
Second	5.5	0.1	2.5	92.3	648
Middle	4.8	0.0	2.7	94.1	770
Fourth	1.5	0.1	1.3	97.6	848
Highest	0.6	0.2	0.5	98.8	963
Total 15-49	3.8	0.3	1.8	94.9	3,869
50-59	11.9	2.0	2.8	85.1	519
Total 15-59	4.8	0.5	1.9	93.7	4,388

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

15.7   HEALTH INSURANCE

15.7.1 Health Insurance Coverage

The National/District Health Insurance Scheme (N/DHIS) is a national health care financing policy introduced to promote universal access to health care in Ghana. In 2003, the scheme was passed into law by Act 650. The Ghana National Health Insurance Authority was established to license, monitor, and regulate the operation of health insurance schemes in the country. In 2012, Act 650 was repealed and replaced with Act 852, which presently governs health insurance practices in Ghana.

Tables 15.10.1 and 15.10.2 show the percentage of women and men age 15-49, respectively, by type of health insurance coverage, according to background characteristics. More than 6 in 10 women (62 percent) and about half of men age 15-49 (48 percent) reported that they are covered by the National/District Health Insurance Scheme. One percent or less of women and men are covered by other types of insurance.

Thirty-eight percent of women and 51 percent of men report that they are not covered by any type of the health insurance scheme, a sharp decrease from 60 percent of women and 70 percent of men age 15-49 as reported in the 2008 GDHS.

There are no major variations in N/DHIS coverage by age or residence for women. Among men, those age 25-29 are the least likely to be covered by this type of insurance (39 percent), and urban men are somewhat more likely than those living in rural areas to do so (50 percent versus 46 percent). N/DHIS coverage levels range from 48 percent of women in Central and 37 percent of men in Western to 85 percent and 74 percent, respectively, of respondents in Upper West. Women and men who have a secondary or higher education and those in the wealthiest households are the most likely to be covered by the National/District Health Insurance Scheme when compared with other subgroups.

Table 15.10.1 Health insurance coverage: Women

Percentage of women age 15-49 by type of health insurance coverage, according to background characteristics, Ghana 2014

Background characteristic	National/District Health Insurance (N/DHIS)	Health insurance through employer	Mutual health organisation/ community based insurance	Privately purchased commercial insurance	None	Number of women
Age						
15-19	59.3	0.1	0.0	0.0	40.6	1,625
20-24	57.5	0.6	0.0	0.2	41.9	1,613
25-29	65.8	0.5	0.2	0.2	34.0	1,604
30-34	65.8	0.6	0.0	0.3	33.8	1,372
35-39	66.0	0.4	0.0	0.4	33.9	1,295
40-44	59.2	0.2	0.2	0.1	40.4	1,030
45-49	60.3	0.4	0.2	0.0	39.2	857
Residence						
Urban	63.0	0.7	0.1	0.3	36.5	5,051
Rural	60.9	0.1	0.0	0.1	39.0	4,345
Region						
Western	64.9	0.2	0.1	0.1	35.1	1,038
Central	48.0	0.5	0.1	0.4	51.8	937
Greater Accra	57.8	1.5	0.3	0.5	41.1	1,898
Volta	70.1	0.0	0.0	0.0	29.9	720
Eastern	67.7	0.0	0.0	0.1	32.2	878
Ashanti	52.3	0.2	0.0	0.1	47.4	1,798
Brong Ahafo	76.0	0.1	0.0	0.1	23.8	769
Northern	70.7	0.0	0.0	0.0	29.3	786
Upper East	68.9	0.0	0.0	0.0	31.1	358
Upper West	85.3	0.0	0.0	0.0	14.7	215
Education						
No education	61.5	0.0	0.1	0.0	38.4	1,792
Primary	56.1	0.2	0.0	0.0	43.7	1,672
Middle/JSS/JHS	61.8	0.1	0.0	0.1	38.1	3,862
Secondary+	67.7	1.6	0.3	0.7	31.2	2,070
Wealth quintile						
Lowest	64.5	0.0	0.0	0.0	35.5	1,511
Second	57.6	0.0	0.1	0.0	42.4	1,636
Middle	58.9	0.0	0.0	0.0	41.1	1,938
Fourth	61.2	0.5	0.0	0.2	38.2	2,117
Highest	67.2	1.3	0.2	0.5	32.0	2,194
Total	62.0	0.4	0.1	0.2	37.6	9,396

Table 15.10.2 Health insurance coverage: Men

Percentage of men age 15-49 by type of health insurance coverage, according to background characteristics, Ghana 2014

Background characteristic	National/District Health Insurance (N/DHIS)	Health insurance through employer	Privately purchased commercial insurance	None	Number of men
Age					
15-19	54.4	0.0	0.0	45.6	855
20-24	42.2	0.3	0.1	57.8	588
25-29	39.3	1.1	0.3	59.8	589
30-34	42.3	1.4	0.2	57.1	552
35-39	54.7	3.6	0.8	42.9	473
40-44	48.6	1.1	0.0	50.8	456
45-49	53.7	3.2	0.8	44.0	355
Residence					
Urban	49.7	1.9	0.4	49.1	2,050
Rural	45.8	0.6	0.1	53.9	1,819
Region					
Western	37.4	2.7	0.2	61.0	447
Central	37.7	1.5	0.2	61.5	380
Greater Accra	38.0	3.3	0.8	60.3	831
Volta	56.0	0.0	0.3	44.0	295
Eastern	50.1	0.5	0.4	49.0	362
Ashanti	51.9	0.3	0.0	47.8	680
Brong Ahafo	56.8	0.2	0.0	43.2	320
Northern	56.1	0.1	0.0	43.8	316
Upper East	67.8	0.0	0.0	32.2	146
Upper West	73.6	0.0	0.0	26.4	91
Education					
No education	46.1	0.0	0.0	53.9	362
Primary	35.4	0.0	0.0	64.6	543
Middle/JSS/JHS	44.3	0.6	0.1	55.1	1,626
Secondary+	57.6	3.1	0.7	40.7	1,336
Wealth quintile					
Lowest	48.1	0.0	0.0	51.9	639
Second	44.0	0.0	0.0	56.0	648
Middle	40.9	0.0	0.2	58.9	770
Fourth	47.9	0.9	0.1	51.5	848
Highest	55.7	4.4	0.9	41.8	963
Total 15-49	47.8	1.3	0.3	51.4	3,869
50-59	53.1	0.6	0.4	46.6	519
Total 15-59	48.4	1.2	0.3	50.8	4,388

In the 2014 GDHS, respondents who answered that they were *not covered* by any health insurance scheme were further probed to find out if they were *registered* with the National/District Health Insurance Scheme[1]. The purpose of this question is to gather information on individuals who, even though they reported they were not covered by any health insurance, may have been registered with N/DHIS but did not hold valid N/DHIS cards. This could be due to various reasons, such as: they were registered but had not fully paid for the membership; they had not yet received the membership card; or they were in the waiting period.

Table 15.11 shows the percentage of women and men age 15-49 who reported they were registered with N/DHIS (even though they reported they were not covered by any health insurance), by background characteristics. Overall, 18 percent of women and 13 percent of men reported they were registered with N/DHIS. There are no major variations by background characteristics, except for place of residence for men and region for both women and men. Rural men are more likely than those living in urban areas to be registered with N/DHIS (16 percent versus 11 percent). For women, N/DHIS registration level ranges from 3 percent in Upper West to 33 percent in Ashanti, and, for men, it ranges from 4 percent in Upper East to 20 percent, each, in Brong Ahafo and Western.

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[1] This question was not asked in the 2008 Ghana DHS survey.

Table 15.11 Registration with N/DHIS

Percentage of women and men age 15-49 who said they were not covered by any health insurance but who reported they were registered with the National/District Health Insurance (N/DHIS), by background characteristics, Ghana 2014

Background characteristic	Women		Men	
	Percentage registered with N/DHIS	Number of women	Percentage registered with N/DHIS	Number of men
Age				
15-19	17.0	1,625	14.1	855
20-24	20.8	1,613	15.5	588
25-29	17.0	1,604	12.6	589
30-34	14.4	1,372	11.6	552
35-39	17.8	1,295	11.7	473
40-44	21.5	1,030	14.2	456
45-49	16.2	857	9.0	355
Residence				
Urban	17.3	5,051	10.6	2,050
Rural	18.4	4,345	15.7	1,819
Region				
Western	17.2	1,038	19.7	447
Central	20.8	937	9.1	380
Greater Accra	10.7	1,898	5.4	831
Volta	14.6	720	10.8	295
Eastern	15.3	878	15.4	362
Ashanti	32.8	1,798	17.2	680
Brong Ahafo	15.7	769	20.1	320
Northern	6.9	786	16.2	316
Upper East	24.3	358	7.9	146
Upper West	2.9	215	3.5	91
Education				
No education	14.8	1,792	11.0	362
Primary	18.8	1,672	14.5	543
Middle/JSS/JHS	19.1	3,862	15.1	1,626
Secondary+	17.3	2,070	10.3	1,336
Wealth quintile				
Lowest	14.2	1,511	16.3	639
Second	18.5	1,636	14.8	648
Middle	19.9	1,938	16.9	770
Fourth	19.8	2,117	10.8	848
Highest	16.0	2,194	8.4	963
Total 15-49	17.8	9,396	13.0	3,869
50-59	na	na	12.7	519
Total 15-59	na	na	13.0	4,388

na = Not applicable

15.7.2 Health Insurance Payment

Respondents who reported that they were covered by N/DHIS were further asked who paid for their N/DHIS membership. Tables 15.12.1 and 15.12.2 show the percentage of women and men, respectively, who were covered by N/DHIS by the person who paid their membership, according to background characteristics.

Overall, 94 percent of women and 99 percent of men covered by N/DHIS paid for their membership, 6 percent of women and 1 percent of men were exempt and did not have to pay. Slightly less than 4 in 10 women and 6 in 10 men age 15-49 (37 and 60 percent, respectively) paid for the N/DHIS membership themselves. Older respondents, those employed for cash, women who are formerly married, and men who are currently or formerly married are most likely to have paid for N/DHIS membership themselves or to have had their membership paid for by a relative, friend, or employer. Variations by other background characteristics are not pronounced.

It is notable that relatives paid for N/DHIS membership for more than half of women (54 percent) and for one-third of men (33 percent).

Only 3 percent of women and 7 percent of men age 15-49 said that their insurance was paid for by their employer. There are minimal differences by background characteristics among women; however, some variations exist among men. The percentage of men whose N/DHIS membership was paid for by

their employer is highest among those age 35-39 (12 percent), those employed for cash (9 percent), those who are formally married (12 percent), those in urban areas (9 percent), those in Greater Accra (15 percent), and men in the wealthiest households (15 percent).

Table 15.12.1 Payment for N/DHIS coverage: Women

Percent distribution of women age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by how the membership is paid, according to selected background characteristics, Ghana 2014

Background characteristic	N/DHIS membership paid by:			Exempt as pensioner, elderly or poor	Exempt as pregnant	Exempt as indigent/ Other	Total	Number women covered by N/DHIS
	Paid by respondent	Paid by relative or friend	Paid by employer					
Age								
15-19	4.0	91.2	0.1	3.3	1.3	0.2	100.0	964
20-24	29.6	62.9	1.1	1.2	4.5	0.6	100.0	927
25-29	42.1	46.6	3.7	1.4	5.1	1.0	100.0	1,055
30-34	42.7	45.9	4.4	1.2	4.5	1.4	100.0	902
35-39	45.4	44.8	4.2	1.5	3.3	0.9	100.0	854
40-44	53.7	40.5	2.4	0.8	2.1	0.5	100.0	610
45-49	62.6	33.1	3.0	0.8	0.1	0.4	100.0	517
Employed last 12 months								
Not employed	15.4	77.5	0.3	2.4	3.9	0.6	100.0	1,386
Employed for cash	48.7	42.0	4.2	1.2	3.2	0.7	100.0	3,509
Employed not for cash	27.7	66.6	0.4	1.7	2.6	1.0	100.0	934
Marital status								
Never married	24.7	69.1	2.4	2.5	1.0	0.3	100.0	1,778
Married or living together	37.2	52.8	2.9	1.3	4.8	1.0	100.0	3,535
Divorced/separated/widowed	82.5	14.5	1.7	0.4	0.6	0.3	100.0	516
Residence								
Urban	38.9	51.2	4.5	2.0	2.9	0.6	100.0	3,182
Rural	35.7	58.2	0.5	1.0	3.7	1.0	100.0	2,646
Region								
Western	44.7	48.7	0.4	0.3	4.7	1.2	100.0	674
Central	38.4	49.6	2.3	2.8	6.1	0.8	100.0	449
Greater Accra	37.6	45.7	7.7	3.1	5.1	0.9	100.0	1,096
Volta	56.3	38.4	0.6	2.2	2.2	0.3	100.0	505
Eastern	37.0	55.2	2.0	1.2	3.7	0.9	100.0	594
Ashanti	34.4	60.1	2.8	2.2	0.2	0.4	100.0	940
Brong Ahafo	26.9	66.9	2.1	0.5	2.9	0.7	100.0	585
Northern	28.9	68.1	0.1	0.0	2.6	0.3	100.0	555
Upper East	36.5	61.5	0.8	0.3	1.0	0.0	100.0	247
Upper West	32.6	59.2	0.8	0.2	3.4	3.8	100.0	183
Wealth quintile								
Lowest	30.8	65.3	0.0	0.2	2.9	0.8	100.0	975
Second	33.6	60.8	0.0	0.8	3.5	1.3	100.0	942
Middle	43.1	49.6	0.6	1.3	5.0	0.3	100.0	1,142
Fourth	40.8	51.9	2.0	2.4	1.9	0.9	100.0	1,297
Highest	36.8	48.8	8.2	2.4	3.1	0.6	100.0	1,473
Total	37.4	54.4	2.7	1.6	3.3	0.7	100.0	5,829

Table 15.12.2 Payment for N/DHIS coverage: Men

Percent distribution of men age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by how the membership is paid,, according to selected background characteristics, Ghana 2014

Background characteristic	N/DHIS membership paid by:			Exempt as pensioner, elderly or poor	Exempt as indigent/ Other	Total	Number of men covered by N/DHIS
	Paid by respondent	Paid by relative or friend	Paid by employer				
Age							
15-19	6.5	91.9	0.0	1.4	0.2	100.0	465
20-24	40.4	57.4	2.2	0.0	0.0	100.0	249
25-29	80.6	10.6	7.7	0.0	1.1	100.0	232
30-34	85.5	2.0	12.1	0.4	0.0	100.0	234
35-39	87.0	1.2	11.7	0.0	0.0	100.0	259
40-44	89.3	1.6	8.8	0.0	0.3	100.0	222
45-49	85.4	1.9	10.5	0.0	2.2	100.0	191
Employed last 12 months							
Not employed	8.2	89.6	0.5	1.7	0.0	100.0	372
Employed for cash	78.0	12.2	9.2	0.1	0.5	100.0	1,510
Employed not for cash	57.3	40.7	0.5	0.1	1.3	100.0	244
Marital status							
Never married	29.5	65.8	3.8	0.8	0.2	100.0	893
Married or living together	88.1	2.1	8.9	0.0	0.8	100.0	894
Divorced/separated/widowed	82.2	5.7	12.1	0.0	0.0	100.0	63
Residence							
Urban	58.6	31.0	9.2	0.6	0.7	100.0	1,018
Rural	60.8	35.3	3.3	0.2	0.3	100.0	832
Region							
Western	54.4	34.4	10.9	0.0	0.3	100.0	167
Central	59.2	30.4	9.0	0.4	0.9	100.0	143
Greater Accra	53.2	28.9	15.3	1.5	1.1	100.0	316
Volta	61.2	33.9	3.3	0.0	1.6	100.0	165
Eastern	55.2	38.5	6.4	0.0	0.0	100.0	182
Ashanti	65.9	30.9	3.3	0.0	0.0	100.0	353
Brong Ahafo	63.4	33.6	1.9	0.8	0.4	100.0	182
Northern	62.4	34.1	3.4	0.0	0.0	100.0	177
Upper East	62.5	36.6	0.9	0.0	0.0	100.0	99
Upper West	57.3	37.0	4.6	1.1	0.0	100.0	67
Wealth quintile							
Lowest	59.0	40.6	0.1	0.4	0.0	100.0	307
Second	58.1	38.6	1.7	0.2	1.3	100.0	285
Middle	64.3	32.8	2.4	0.1	0.5	100.0	315
Fourth	58.2	33.1	6.9	0.9	0.9	100.0	406
Highest	59.1	25.5	15.0	0.3	0.0	100.0	536
Total 15-49	59.6	32.9	6.6	0.4	0.4	100.0	1,850
50-59	88.9	2.9	7.3	0.3	0.7	100.0	276
Total 15-59	63.4	29.0	6.7	0.4	0.5	100.0	2,126

Note: Total includes 1 man for whom information on employment is missing. Totals may not add up to 100 percent because missing cases are not shown separately.

15.7.3 Possession of a Valid N/DHIS Card

Respondents who reported that they were covered by N/DHIS were also asked if they held a valid membership card, and if so, if they could show it to the interviewer. Possession of a valid N/DHIS card enables the insured client to access health care services.

Table 15.13 shows the possession of a valid N/DHIS card and whether or not the card was seen by the interviewer. Overall, more than 8 in 10 respondents (88 percent of women and 83 percent of men) who were covered by N/DHIS had a valid card (seen or unseen by the interviewer). One-third of women (33 percent) and about one in five men (19 percent) were not able to show the N/DHIS card at the time of the interview.

Twelve percent of women and 17 percent of men who are covered by N/DHIS did not have a valid membership card. The proportion who did not have a card is especially high among women in Northern, Greater Accra, and Upper West (33 percent, 26 percent, and 25 percent, respectively) and among men in Greater Accra, Eastern, and Upper West (37 percent, 33 percent, and 29 percent, respectively).

The median duration of waiting time to receive N/DHIS membership card is 11 weeks for both women and men. The waiting time is shorter for women in their late 20s (about 8 weeks), for women and men in urban areas (8 weeks and 9 weeks, respectively), respondents in Greater Accra (about 2 weeks each), and those in the wealthiest households (4 weeks for women and 7 weeks for men).

Table 15.13 Possession of a valid N/DHIS card

Percent distribution of women and men age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by possession of a valid N/DHIS card and whether or not card was seen by interviewer, and among respondents with a valid N/DHIS card, median number of weeks respondent waited to receive card, according to background characteristics,, Ghana 2014

	Women						Men					
	Has valid N/DHIS card				Median number of weeks waited for card	Number of women covered by N/DHIS	Has valid N/DHIS card				Median number of weeks waited for card	Number of men covered by N/DHIS
Background characteristic	Card seen	Card not seen	Does not have valid card	Total			Card seen	Card not seen	Does not have valid card	Total		
Age												
15-19	52.7	36.1	11.2	100.0	11.0	964	63.6	19.4	17.0	100.0	11.1	465
20-24	51.4	38.0	10.6	100.0	7.5	927	63.2	16.3	20.4	100.0	11.1	249
25-29	56.1	33.3	10.6	100.0	8.3	1,055	56.5	24.4	19.1	100.0	11.2	232
30-34	58.2	28.6	13.2	100.0	11.1	902	61.3	17.4	21.3	100.0	11.2	234
35-39	58.9	28.4	12.6	100.0	11.1	854	64.3	19.2	16.5	100.0	11.1	259
40-44	55.0	31.8	13.2	100.0	11.0	610	67.6	19.5	12.9	100.0	11.3	222
45-49	53.6	32.3	14.1	100.0	11.2	517	67.9	18.5	13.7	100.0	11.1	191
Residence												
Urban	52.9	34.5	12.6	100.0	7.9	3,182	64.6	17.2	18.2	100.0	9.4	1,018
Rural	57.9	30.8	11.3	100.0	11.1	2,646	61.9	21.7	16.3	100.0	11.3	832
Region												
Western	61.3	32.6	6.0	100.0	7.8	674	67.2	23.2	9.6	100.0	11.3	167
Central	48.8	40.5	10.7	100.0	3.5	449	50.6	39.7	9.8	100.0	3.4	143
Greater Accra	44.6	29.2	26.1	100.0	1.5	1,096	42.7	20.5	36.8	100.0	1.9	316
Volta	77.0	21.1	1.8	100.0	11.4	505	58.0	20.4	21.6	100.0	11.4	165
Eastern	51.4	38.5	10.1	100.0	3.4	594	51.7	15.6	32.7	100.0	1.9	182
Ashanti	63.6	35.2	1.2	100.0	11.1	940	75.6	18.7	5.7	100.0	11.2	353
Brong Ahafo	64.1	34.9	1.0	100.0	11.1	585	79.1	12.1	8.9	100.0	11.2	182
Northern	41.6	25.7	32.7	100.0	11.3	555	77.5	15.8	6.7	100.0	11.5	177
Upper East	45.2	51.3	3.5	100.0	11.4	247	80.1	6.8	13.1	100.0	11.8	99
Upper West	47.2	27.3	25.4	100.0	11.7	183	54.8	16.5	28.8	100.0	11.6	67
Wealth quintile												
Lowest	50.9	31.6	17.4	100.0	11.3	975	74.3	13.1	12.6	100.0	11.6	307
Second	63.6	26.8	9.6	100.0	11.1	942	58.5	25.7	15.8	100.0	11.3	285
Middle	59.6	31.2	9.1	100.0	11.1	1,142	61.8	17.5	20.7	100.0	11.2	315
Fourth	54.2	37.7	8.1	100.0	11.0	1,297	60.6	20.4	18.9	100.0	9.1	406
Highest	50.1	34.4	15.5	100.0	3.7	1,473	62.8	19.5	17.8	100.0	7.3	536
Total 15-49	55.2	32.8	12.0	100.0	11.0	5,829	63.4	19.3	17.4	100.0	11.2	1,850
50-59	na	na	na	na	na	na	64.4	23.4	12.2	100.0	11.2	276
Total 15-59	na	na	na	na	na	na	63.5	19.8	16.7	100.0	11.2	2,126

na = Not applicable

15.7.4 Out-of-Pocket Payments

Women and men covered by N/DHIS were asked whether they made out-of-pocket payments for medicines and services. Table 15.14 shows that more than one-third of respondents (37 percent of women and 35 percent of men) who were covered by N/DHIS paid out of pocket for medicines and services at some time before the survey. More than 6 in 10 respondents (61 percent of women and 63 percent of men) did not make any out-of-pocket payments for medicines and services.

Differences across subgroups by background characteristics are small. Young respondents age 15-19 are the least likely to pay out of pocket for medicines or services (27 percent of women and 19 percent of men). Respondents who are employed for cash (41 percent of women and 38 percent of men), those who are currently or formerly married (38-44 percent of women and 40-41 percent of men), women in urban areas (43 percent), women living in Eastern (61 percent), and men living in Upper East (49 percent) were the most likely to pay out of pocket for medicines or services. The out-of-pocket payments among women who are covered by N/DHIS increases with wealth. Among men, there are no definite patterns in the relationship between out-of-pocket payments and wealth.

Percent distribution of women and men age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by whether they made out-of-pocket payments for medicines and services, according to background characteristics, Ghana 2014

	Women					Men				
	Out-of-pocket payments					Out-of-pocket payments				
Background characteristic	Paid out of pocket for medicines or services	Did not pay out of pocket for medicines or services	Don't know/ not sure	Total	Number of women covered by N/DHIS	Paid out of pocket for medicines or services	Did not pay out of pocket for medicines or services	Don't know/ not sure	Total	Number of men covered by N/DHIS
Age										
15-19	26.9	68.3	4.8	100.0	964	19.4	75.5	5.0	100.0	465
20-24	34.5	63.7	1.8	100.0	927	30.8	67.0	2.2	100.0	249
25-29	38.6	59.3	2.1	100.0	1,055	44.6	52.1	3.3	100.0	232
30-34	41.1	57.9	1.0	100.0	902	41.7	55.2	3.0	100.0	234
35-39	38.2	60.2	1.6	100.0	854	41.1	57.7	1.2	100.0	259
40-44	41.7	55.7	2.6	100.0	610	39.7	59.3	1.0	100.0	222
45-49	42.9	56.0	1.1	100.0	517	39.8	58.5	1.7	100.0	191
Employed last 12 months										
Not employed	33.3	62.8	4.0	100.0	1,386	22.3	72.6	5.0	100.0	372
Employed for cash	41.0	57.9	1.2	100.0	3,509	38.4	60.2	1.4	100.0	1,510
Employed not for cash	27.9	68.5	3.5	100.0	934	32.6	62.2	5.2	100.0	244
Marital status										
Never married	33.5	62.7	3.7	100.0	1,778	27.4	68.9	3.7	100.0	893
Married or living together	37.8	60.7	1.5	100.0	3,535	41.1	56.8	2.1	100.0	894
Divorced/separated/widowed	44.1	53.9	2.0	100.0	516	40.1	58.7	1.3	100.0	63
Residence										
Urban	42.7	55.4	1.9	100.0	3,182	34.6	62.2	3.2	100.0	1,018
Rural	30.3	67.1	2.6	100.0	2,646	34.3	63.3	2.4	100.0	832
Region										
Western	32.0	67.3	0.7	100.0	674	19.0	79.7	1.3	100.0	167
Central	27.4	71.4	1.2	100.0	449	33.7	65.8	0.5	100.0	143
Greater Accra	51.2	45.6	3.2	100.0	1,096	40.6	56.5	2.9	100.0	316
Volta	42.1	57.3	0.6	100.0	505	40.4	55.1	4.5	100.0	165
Eastern	60.8	38.5	0.7	100.0	594	23.4	75.9	0.7	100.0	182
Ashanti	36.0	61.3	2.7	100.0	940	34.7	59.4	5.9	100.0	353
Brong Ahafo	22.6	76.2	1.2	100.0	585	30.0	67.1	2.9	100.0	182
Northern	24.6	75.0	0.4	100.0	555	43.6	56.2	0.1	100.0	177
Upper East	19.6	76.1	4.3	100.0	247	49.4	47.7	2.6	100.0	99
Upper West	16.6	66.3	17.1	100.0	183	25.3	71.1	3.6	100.0	67
Wealth quintile										
Lowest	23.2	72.9	3.9	100.0	975	35.5	61.8	2.6	100.0	307
Second	28.3	69.6	2.1	100.0	942	34.3	63.2	2.5	100.0	285
Middle	39.2	59.5	1.3	100.0	1,142	30.5	67.5	2.0	100.0	315
Fourth	43.8	54.8	1.4	100.0	1,297	38.0	60.1	1.9	100.0	406
Highest	44.2	53.2	2.6	100.0	1,473	33.6	62.1	4.2	100.0	536
Total 15-49	37.0	60.7	2.2	100.0	5,829	34.5	62.7	2.8	100.0	1,850
50-59	na	na	na	na	na	37.9	61.9	0.2	100.0	276
Total 15-59	na	na	na	na	na	34.9	62.6	2.5	100.0	2,126

Note: Total includes 1 man for whom information on employment is missing. Total may not add up to 100 percent because missing cases are not shown separately.
na = Not applicable

Women and men who reported they were registered with N/DHIS were also asked whether they made out-of-pocket payments for medicines and services prior to the survey. More than half of women (55 percent) and 6 in 10 men (60 percent) who are registered with N/DHIS reported that they paid out of pocket for medicines and services at some time before the survey (data not shown).

15.7.5 Need for Services Not Covered Under N/DHIS

Women and men covered by N/DHIS were also asked whether there were any services they needed from a health provider that were not covered by N/DHIS. Table 15.15 shows that about one-third of women and men (33 percent and 32 percent, respectively) reported that they needed additional services that were not covered by N/DHIS.

Women and men in their teenage years (15-19) are the least likely to have a need for services not covered by N/DHIS. Data further shows that women and men who are employed for cash (39 percent

each), those who are formerly married (45 percent and 42 percent, respectively), women in Volta (51 percent), and men in Western (55 percent) are the most likely to have a need for services not covered by N/DHIS. Need for health services not covered by N/DHIS tends to increase with wealth for both women and men.

Table 15.15 Need for health services not covered by N/DHIS

Percent distribution of women and men age 15-49 registered/covered by the National/District Health Insurance Scheme (N/DHIS) by reported need for health services that are not covered by N/DHIS, according to background characteristics, Ghana 2014

Background characteristic	Women		Men	
	Percentage who need health services not covered by N/DHIS	Number of women registered/ covered by N/DHIS	Percentage who need health services not covered by N/DHIS	Number of men registered/ covered by N/DHIS
Age				
15-19	18.7	964	17.9	465
20-24	32.2	927	28.5	249
25-29	34.6	1,055	45.1	232
30-34	38.0	902	41.1	234
35-39	37.6	854	30.1	259
40-44	36.9	610	37.8	222
45-49	41.9	517	40.5	191
Employed last 12 months				
Not employed	25.6	1,386	18.1	372
Employed for cash	38.5	3,509	38.6	1,510
Employed not for cash	26.0	934	20.0	244
Marital status				
Never married	27.1	1,778	25.0	893
Married or living together	34.8	3,535	38.4	894
Divorced/separated/widowed	45.3	516	41.9	63
Residence				
Urban	36.8	3,182	34.2	1,018
Rural	29.3	2,646	29.5	832
Region				
Western	32.1	674	55.3	167
Central	26.0	449	24.0	143
Greater Accra	42.1	1,096	37.7	316
Volta	51.4	505	44.2	165
Eastern	19.8	594	24.6	182
Ashanti	38.0	940	27.3	353
Brong Ahafo	38.5	585	35.0	182
Northern	23.7	555	27.2	177
Upper East	12.4	247	11.0	99
Upper West	17.5	183	16.3	67
Wealth quintile				
Lowest	21.1	975	21.0	307
Second	30.0	942	33.5	285
Middle	35.4	1,142	35.2	315
Fourth	38.2	1,297	35.9	406
Highest	38.1	1,473	32.9	536
Total 15-49	33.4	5,829	32.1	1,850
50-59	na	na	38.4	276
Total 15-59	na	na	32.9	2,126

Note: Total includes 1 man for whom information on employment is missing.
na = Not applicable

Among respondents who reported they are registered with N/DHIS, 24 percent of women and 27 percent of men reported that that they needed additional services that were not covered by N/DHIS (data not shown).

15.8 PERCEIVED QUALITY OF SERVICES AND CLIENT SATISFACTION

Respondents who were covered by N/DHIS were asked about their perceptions of the quality of services received by N/DHIS card holders when compared with other clients. Table 15.16 presents data on client satisfaction among respondents who were covered by N/DHIS.

More than one-third of women and men age 15-49 (36 and 34 percent, respectively) who were covered by N/DHIS thought that N/DHIS insured individuals get better service when compared with other clients, and about 3 in 10 women (29 percent) and one-third of men (34 percent) thought that N/DHIS card holders get worse service than other clients. Client dissatisfaction generally increases with increasing household wealth, supporting the notion that residents in the wealthiest households might have higher expectations for quality of services. For example, 20 percent of women and 25 percent of men in the lowest wealth quintile think that N/DHIS card holders get worse service than other clients, compared with 39 percent of women and 40 percent of men in the highest wealth quintile.

Table 15.16 N/DHIS card holders' perceived quality of services received

Percent distribution of women and men age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by perceived quality of services received compared with other clients, according to background characteristics, Ghana 2014

| | Women | | | | | | Men | | | | | |
| | Compared with other clients, N/DHIS card holders receive services that are: | | | | | | Compared with other clients, N/DHIS card holders receive services that are: | | | | | |
Background characteristic	Better	Same	Worse	Don't know/ not sure	Total	Number of women registered/ covered by N/DHIS	Better	Same	Worse	Don't know/ not sure	Total	Number of men registered/ covered by N/DHIS
Age												
15-19	39.3	33.4	23.6	3.7	100.0	964	37.5	33.4	25.0	4.1	100.0	465
20-24	36.9	31.0	29.3	2.8	100.0	927	32.6	29.4	36.4	1.6	100.0	249
25-29	35.1	32.7	30.1	2.0	100.0	1,055	38.7	32.0	28.1	1.3	100.0	232
30-34	31.0	34.0	33.3	1.5	100.0	902	26.6	27.7	42.1	3.3	100.0	234
35-39	36.9	33.5	28.0	1.6	100.0	854	33.1	28.3	37.6	1.0	100.0	259
40-44	35.2	30.7	31.3	2.8	100.0	610	34.7	25.0	38.1	2.2	100.0	222
45-49	36.7	31.0	29.6	2.6	100.0	517	31.6	30.9	37.0	0.4	100.0	191
Employed last 12 months												
Not employed	40.9	33.5	22.7	2.8	100.0	1,386	34.2	34.8	26.2	4.6	100.0	372
Employed for cash	31.3	32.6	33.7	2.3	100.0	3,509	33.2	31.0	34.0	1.8	100.0	1,510
Employed not for cash	45.4	30.5	21.7	2.4	100.0	934	35.1	23.0	39.2	2.5	100.0	244
Marital status												
Never married	36.3	31.2	28.7	3.7	100.0	1,778	33.8	32.6	30.5	3.1	100.0	893
Married or living together	35.6	33.2	29.2	1.9	100.0	3,535	34.3	27.2	36.9	1.6	100.0	894
Divorced/separated/widowed	35.7	31.8	30.3	2.1	100.0	516	32.9	33.8	33.1	0.2	100.0	63
Residence												
Urban	28.7	34.3	34.4	2.7	100.0	3,182	27.7	33.9	36.6	1.8	100.0	1,018
Rural	44.5	30.4	22.9	2.1	100.0	2,646	41.8	25.3	30.0	2.8	100.0	832
Region												
Western	62.1	25.0	11.8	1.1	100.0	674	22.9	32.1	44.5	0.5	100.0	167
Central	43.3	36.6	18.8	1.3	100.0	449	65.6	15.4	17.4	1.6	100.0	143
Greater Accra	18.3	41.1	35.6	5.1	100.0	1,096	16.6	23.8	57.7	1.9	100.0	316
Volta	30.3	33.3	34.7	1.5	100.0	505	34.1	28.1	33.3	4.4	100.0	165
Eastern	51.3	23.6	23.6	1.4	100.0	594	35.2	33.8	28.3	2.7	100.0	182
Ashanti	19.6	30.3	46.8	3.1	100.0	940	35.1	44.1	20.3	0.4	100.0	353
Brong Ahafo	34.6	27.0	36.0	2.3	100.0	585	16.1	40.6	40.7	2.6	100.0	182
Northern	44.6	37.2	17.3	0.9	100.0	555	41.8	14.7	36.3	7.0	100.0	177
Upper East	39.9	41.7	16.5	1.9	100.0	247	62.4	28.2	7.7	1.2	100.0	99
Upper West	46.6	27.8	23.6	2.0	100.0	183	53.7	19.6	25.3	1.5	100.0	67
Wealth quintile												
Lowest	44.9	33.3	19.6	2.0	100.0	975	46.2	23.3	24.9	5.4	100.0	307
Second	45.2	31.5	21.3	2.0	100.0	942	42.5	28.0	27.0	2.5	100.0	285
Middle	39.7	31.3	27.6	1.4	100.0	1,142	34.7	29.9	33.7	1.6	100.0	315
Fourth	32.9	31.7	32.5	2.9	100.0	1,297	29.0	34.1	36.2	0.7	100.0	406
Highest	23.5	34.2	38.9	3.4	100.0	1,473	26.0	31.9	40.2	1.9	100.0	536
Total 15-49	35.8	32.5	29.2	2.4	100.0	5,829	34.0	30.0	33.6	2.3	100.0	1,850
50-59	na	na	na	na	na	na	30.7	36.0	30.5	2.8	100.0	276
Total 15-59	na	na	na	na	na	na	33.6	30.8	33.2	2.3	100.0	2,126

Note: Total includes 1 man for whom information on employment is missing. Total may not add up to 100 percent because missing cases are not shown separately. na = Not applicable

Respondents registered with N/DHIS were also asked about their perceived quality for services received by N/DHIS card holders when compared with other clients. Twenty-two percent of women and 31 percent of men think that N/DHIS insured individuals get better service when compared with other clients and 43 percent of women and 37 percent of men think that N/DHIS card holders get worse service than other clients (data not shown).

Table 15.17 presents opinions of respondents covered by N/DHIS on the quality of services received the last time they were treated at a health facility. Overall, 8 in 10 women and men (79 percent and 82 percent, respectively) who are covered by N/DHIS said that they were satisfied with the services the last time they were treated at a health facility. While satisfaction in most of the regions is on par with the national levels, only 69 percent of women in the Northern region and 62 percent of men in the Brong Ahafo region reported that the services received the last time they were treated at a clinic or hospital were satisfactory, far below the national average. Nationally, only 12 percent of women and men said that the waiting period was too long, and an even a smaller proportion (6 percent of women and 3 percent of men) said that they did not receive enough information about their illness and treatment from the health provider. Only 2 percent of respondents reported that health staff was not polite during their visit to the health facility. Women in Volta and Northern regions (29 percent and 26 percent, respectively) and men in Brong Ahafo (29 percent) were substantially more likely than other subgroups to say that the waiting period was too long.

Among respondents who said they were not covered by any health insurance but reported they were registered with N/DHIS, 8 in 10 women and men (82 percent and 78 percent, respectively) said that they were satisfied with the services the last time they were treated at a health facility. Nine percent of women and 16 percent of men said that the waiting period was too long, 7 percent of women and 3 percent of men said that they did not receive enough information about their illness and treatment from the health provider, and 2 percent of women and 1 percent of men reported that health staff was not polite during their visit to the health facility (data not shown).

Table 15.17 Client satisfaction among respondents covered by N/DHIS

Percent distribution of women and men age 15-49 covered by the National/District Health Insurance Scheme (N/DHIS) by client satisfaction with most recent visit to a clinic or hospital for treatment, and problem (if any) that occurred during the visit, according to background characteristics, Ghana 2014

| Background characteristic | Women | | | | | | | | Men | | | | | | |
| | Satisfied | | Not satisfied (Client satisfaction and problem during visit) | | | | | | Satisfied | | Not satisfied (Client satisfaction and problem during visit) | | | | |
	Good service	Waiting time too long	Staff not polite	Did not receive enough information	Other	Total	Number of women covered by N/DHIS		Good service	Waiting time too long	Staff not polite	Did not receive enough information	Other	Total	Number of men registered/ covered by N/DHIS
Age															
15-19	80.6	10.6	2.2	5.1	1.5	100.0	964		81.2	13.9	0.6	2.6	1.6	100.0	465
20-24	77.8	13.0	2.5	5.6	1.0	100.0	927		80.6	9.6	2.5	4.6	2.7	100.0	249
25-29	79.8	12.6	1.3	5.9	0.3	100.0	1,055		84.3	9.2	1.3	3.8	1.4	100.0	232
30-34	79.1	12.8	2.2	5.2	0.5	100.0	902		81.7	12.5	2.9	2.2	0.7	100.0	234
35-39	79.7	12.7	1.6	5.7	0.3	100.0	854		86.3	7.2	1.8	4.1	0.7	100.0	259
40-44	76.6	13.4	1.9	7.6	0.5	100.0	610		79.0	12.9	1.6	5.3	1.2	100.0	222
45-49	81.3	10.0	2.4	5.6	0.6	100.0	517		79.9	18.0	0.6	1.4	0.0	100.0	191
Employed last 12 months															
Not employed	78.2	13.5	2.0	5.1	1.2	100.0	1,386		84.0	11.2	1.1	2.4	1.3	100.0	372
Employed for cash	79.8	11.5	2.2	5.8	0.6	100.0	3,509		80.9	12.9	1.7	3.3	1.1	100.0	1,510
Employed not for cash	79.0	13.3	1.0	6.3	0.3	100.0	934		82.7	9.6	1.1	3.9	2.7	100.0	244
Marital status															
Never married	80.3	11.7	2.0	4.7	1.2	100.0	1,778		82.4	11.3	1.2	3.5	1.7	100.0	893
Married or living together	79.5	12.3	1.9	5.8	0.4	100.0	3,535		82.2	12.2	1.8	3.1	0.7	100.0	894
Divorced/separated/widowed	74.2	13.7	2.6	8.7	0.8	100.0	516		70.3	17.0	2.1	6.5	4.1	100.0	63
Residence															
Urban	79.9	12.4	2.4	4.3	0.8	100.0	3,182		82.7	11.4	1.4	3.6	1.0	100.0	1,018
Rural	78.5	12.0	1.4	7.4	0.6	100.0	2,646		80.9	12.6	1.7	3.2	1.7	100.0	832
Region															
Western	77.2	12.0	3.2	7.3	0.4	100.0	674		68.5	21.0	2.0	5.8	2.6	100.0	167
Central	81.0	9.3	1.9	6.2	1.7	100.0	449		91.0	7.5	0.0	0.5	1.0	100.0	143
Greater Accra	83.9	9.4	2.8	2.2	1.6	100.0	1,096		84.1	8.7	1.7	4.3	1.2	100.0	316
Volta	52.0	28.5	2.2	16.3	1.1	100.0	505		78.6	5.2	4.8	4.7	6.6	100.0	165
Eastern	87.4	6.3	2.3	3.5	0.1	100.0	594		89.1	5.9	2.7	2.3	0.0	100.0	182
Ashanti	79.3	10.9	0.9	8.8	0.2	100.0	940		84.6	14.1	0.0	1.3	0.0	100.0	353
Brong Ahafo	91.9	2.0	1.2	4.3	0.5	100.0	585		62.3	29.4	0.6	7.0	0.7	100.0	182
Northern	68.8	26.4	2.0	2.6	0.2	100.0	555		84.1	9.9	2.0	3.2	0.8	100.0	177
Upper East	85.8	11.3	1.2	1.6	0.0	100.0	247		95.6	3.0	0.0	1.3	0.0	100.0	99
Upper West	87.3	9.5	1.1	2.0	0.1	100.0	183		86.4	6.4	3.1	3.4	0.6	100.0	67
Wealth quintile															
Lowest	79.1	14.2	1.7	4.6	0.4	100.0	975		85.0	9.3	1.0	4.0	0.7	100.0	307
Second	77.9	12.7	0.9	7.5	0.9	100.0	942		74.3	16.6	2.9	3.2	3.0	100.0	285
Middle	77.2	12.0	2.2	8.0	0.4	100.0	1,142		78.6	13.5	1.3	5.4	1.2	100.0	315
Fourth	80.3	11.2	2.3	5.9	0.3	100.0	1,297		82.4	13.2	0.9	2.3	1.2	100.0	406
Highest	81.0	11.7	2.4	3.4	1.3	100.0	1,473		85.6	9.1	1.7	2.8	0.7	100.0	536
Total 15-49	79.3	12.2	2.0	5.7	0.7	100.0	5,829		81.9	11.9	1.5	3.4	1.3	100.0	1,850
50-59	na	na	na	na	na	na	na		80.1	14.3	1.8	2.3	1.5	100.0	276
Total 15-59	na	na	na	na	na	na	na		81.6	12.2	1.6	3.2	1.3	100.0	2,126

Note: Total includes 1 man for whom information on employment is missing.
na = Not applicable

15.9 TREATMENT SEEKING AND PERCEIVED QUALITY OF CARE

GDHS respondents were asked if they visited a health facility in the last six months and, if so, what type of facility they visited. Data in Table 15.18 show that 37 percent of women and 15 percent of men age 15-49 visited a health facility in the preceding six months. The percentage who had visited a health facility in the last six months by region is highest among women in Upper West (49 percent) and men in Western (20 percent), and, by education, it is highest among those with a secondary or higher education (42 percent and 21 percent, respectively). While the percentage of women and men who visited a health facility in the six months preceding the survey tends to increase with increasing education and wealth quintile among both women and men, the percentage of men who visited a facility is far lower than among women across all background characteristics.

Among women and men age 15-49 who visited a health facility in the last six months, 78 percent and 65 percent, respectively, visited a public health facility, and 22 percent and 36 percent, respectively, visited a private facility.

Table 15.18 Treatment seeking behaviour among all respondents

Percentage of women and men age 15-49 who visited a health facility in the 6 months preceding the survey, and among women and men who visited a health facility in the 6 months before the survey, percent distribution by type of facility, according to background characteristics, Ghana 2014

Background characteristic	Women							Men					
	Percentage visiting a health facility in the 6 months preceding the survey	Number of women	Type of facility				Number of women who visited a health facility in the past 6 months	Percentage visiting a health facility in the 6 months preceding the survey	Number of men	Type of facility			Number of men who visited a health facility in the past 6 months
			Public	Private	Other/ don't know/ missing	Total				Public	Private	Total	
Age													
15-19	18.8	1,625	84.8	15.2	0.1	100.0	306	11.0	855	71.4	28.6	100.0	94
20-24	38.2	1,613	79.1	20.3	0.7	100.0	616	13.4	588	73.2	26.8	100.0	79
25-29	46.9	1,604	81.9	18.1	0.0	100.0	752	16.8	589	57.6	42.4	100.0	99
30-34	45.1	1,372	76.0	23.8	0.1	100.0	618	14.9	552	57.9	42.1	100.0	82
35-39	42.6	1,295	74.5	25.5	0.0	100.0	552	16.2	473	58.0	42.0	100.0	77
40-44	35.2	1,030	75.6	24.2	0.2	100.0	363	16.7	456	62.4	37.6	100.0	76
45-49	34.9	857	75.9	24.1	0.0	100.0	299	18.6	355	72.8	27.2	100.0	66
Residence													
Urban	38.8	5,051	69.2	30.6	0.2	100.0	1,958	14.8	2,050	54.3	45.7	100.0	304
Rural	35.6	4,345	89.8	10.1	0.1	100.0	1,549	14.7	1,819	76.0	24.0	100.0	268
Region													
Western	31.2	1,038	75.9	24.1	0.0	100.0	324	20.4	447	57.7	42.3	100.0	91
Central	30.4	937	83.2	16.7	0.1	100.0	285	14.4	380	69.3	30.7	100.0	55
Greater Accra	36.0	1,898	58.6	41.0	0.4	100.0	683	14.4	831	46.7	53.3	100.0	120
Volta	40.9	720	85.7	14.3	0.0	100.0	295	14.5	295	(70.7)	(29.3)	(100.0)	43
Eastern	37.5	878	88.9	10.9	0.3	100.0	330	15.5	362	78.6	21.4	100.0	56
Ashanti	39.1	1,798	74.5	25.5	0.0	100.0	703	12.7	680	(60.4)	(39.6)	(100.0)	86
Brong Ahafo	43.6	769	80.0	19.8	0.2	100.0	335	13.3	320	73.0	27.0	100.0	43
Northern	35.5	786	95.1	4.6	0.2	100.0	279	15.2	316	84.9	15.1	100.0	48
Upper East	47.1	358	93.9	6.0	0.1	100.0	169	12.3	146	(74.7)	(25.3)	(100.0)	18
Upper West	49.0	215	97.0	2.8	0.2	100.0	105	13.9	91	(85.9)	(14.1)	(100.0)	13
Education													
No education	38.4	1,792	88.9	11.0	0.1	100.0	688	10.9	362	82.5	17.5	100.0	40
Primary	33.1	1,672	88.2	11.8	0.0	100.0	554	10.0	543	79.5	20.5	100.0	54
Middle/JSS/JHS	35.9	3,862	76.8	23.1	0.1	100.0	1,388	12.1	1,626	67.0	33.0	100.0	197
Secondary+	42.3	2,070	66.1	33.4	0.4	100.0	876	21.1	1,336	57.3	42.7	100.0	281
Wealth quintile													
Lowest	35.9	1,511	94.8	5.1	0.2	100.0	543	11.5	639	92.1	7.9	100.0	73
Second	34.2	1,636	91.3	8.7	0.0	100.0	560	11.3	648	80.5	19.5	100.0	74
Middle	37.4	1,938	85.0	14.8	0.2	100.0	725	16.5	770	72.5	27.5	100.0	127
Fourth	37.3	2,117	73.0	26.7	0.3	100.0	790	15.1	848	54.1	45.9	100.0	128
Highest	40.5	2,194	59.3	40.6	0.1	100.0	889	17.7	963	47.6	52.4	100.0	171
Total 15-49	37.3	9,396	78.3	21.5	0.2	100.0	3,507	14.8	3,869	64.5	35.5	100.0	572
50-59	na	na	na	na	na	na	na	20.9	519	71.4	28.6	100.0	109
Total 15-59	na	na	na	na	na	na	na	15.5	4,388	65.6	34.4	100.0	681

na = Not applicable

The 2014 GDHS also asked respondents who had visited a health facility in the past six months about the types of services they received and methods of payment for their last visit. Table 15.19 shows that, as expected, the highest proportion of women received services for antenatal, delivery, and postnatal care (29 percent), followed by malaria (16 percent). Among men, the highest proportion received services for malaria (33 percent), followed by other outpatient care (16 percent). Only 6 percent of women received family planning services at their most recent visit to a health facility.

Among respondents who visited a health facility in the last six months, 61 percent of women and 50 percent of men paid through the National/District Health Insurance Scheme, and 29 percent and 42 percent, respectively, paid cash for the services they received.

Table 15.19 Type of health services received among all respondents

Percent distribution of women and men age 15-49 by type of service received at most recent visit to a health facility in the 6 months before the survey and percent distribution of women and men age 15-49 by method of payment for services received during most recent visit in the 6 months before the survey, Ghana 2014

Type of service received/method of payment	Percent distribution of women	Percent distribution of men
Type of service received during the most recent visit		
Outpatient care		
Family planning	5.6	0.2
ANC/Delivery/PNC	28.5	na
Newborn care	2.4	0.1
Malaria	16.0	32.8
Fever	6.9	8.5
Diarrhoea	2.1	5.2
HIV/AIDS/STI	0.8	1.8
High blood pressure	2.4	3.9
Ear/nose/throat infection	0.8	3.4
Diabetes	0.5	0.8
Eye infection	0.8	1.4
Checkup/preventative care	6.7	11.1
Accident/injury	1.8	9.4
Other outpatient	5.5	15.8
Inpatient care		
Pregnancy/delivery	4.0	na
Child illness	5.6	1.9
Own illness	9.4	0.8
Accident/injury	0.3	1.7
Other inpatient	1.6	5.2
Total	100.0	100.0
Method of payment for services received during the most recent visit		
Cash	28.6	41.5
National Health Insurance	61.3	50.1
Other insurance	2.6	5.0
Any combination of above	6.2	3.2
Other	1.3	0.2
Total	100.0	100.0
Number of respondents who visited a health facility in the past 6 months	3,507	572

na= Not applicable

As part of the efforts aimed at achieving Millennium Development Goals 4 and 5 (reducing child mortality and improving maternal health), a number of health care interventions are provided for free under N/DHIS for pregnant women and children under age 18. These services include free antenatal and maternity services, emergency obstetric and neonatal care, home visits by community health nurses, immunisation of children under 5, and adolescent health care, including counselling. The 2014 GDHS respondents were asked if they were aware of any programmes that help pregnant women and children under age 18 to access health services for free.

Table 15.20 shows that 66 percent of women and 59 percent of men are aware of services for pregnant women. More than 4 in 10 women (44 percent) and men (47 percent) are aware of services for children under age 18.

Awareness about programmes that help pregnant women and children under 18 to access health services is lowest among respondents age 15-19, among the less educated, and among the poorest respondents. Women in Upper East (39 percent) and men in Upper West (42 percent) have the lowest level of awareness of programmes that help pregnant women access health services. Women in Northern (16 percent) and Eastern (21 percent) are especially unlikely to be aware of programmes that provide help for accessing health services for children under 18.

Table 15.20 Awareness of health services for children and pregnant women

Percentage of women and men age 15-49 who are aware of programmes that help pregnant women and children under age 18 to access health services, by background characteristics, Ghana 2014

Background characteristic	Percentage of women who are aware of programmes that help access health services for:		Number of women	Percentage of men who are aware of programmes that help access health services for:		Number of men
	Pregnant women	Children under age 18		Pregnant women	Children under age 18	
Age						
15-19	41.5	31.4	1,625	39.5	34.1	855
20-24	65.8	40.2	1,613	54.0	40.8	588
25-29	74.5	49.1	1,604	63.3	49.5	589
30-34	75.8	46.4	1,372	65.7	51.7	552
35-39	75.4	50.6	1,295	74.8	59.8	473
40-44	68.4	47.3	1,030	69.0	56.0	456
45-49	66.6	45.9	857	67.3	52.7	355
Residence						
Urban	67.2	44.1	5,051	62.2	49.7	2,050
Rural	65.1	43.5	4,345	56.2	44.9	1,819
Region						
Western	75.6	51.6	1,038	51.3	47.6	447
Central	78.2	54.7	937	64.0	54.8	380
Greater Accra	67.7	41.4	1,898	58.5	39.9	831
Volta	72.7	51.7	720	52.3	44.2	295
Eastern	41.7	21.1	878	49.7	40.0	362
Ashanti	67.7	43.9	1,798	73.5	52.6	680
Brong Ahafo	80.3	73.9	769	67.8	59.7	320
Northern	49.5	16.2	786	49.9	42.6	316
Upper East	39.0	30.5	358	63.4	59.1	146
Upper West	78.3	62.4	215	41.5	40.1	91
Education	61.9	34.6	1,792	52.8	41.7	362
No education	62.9	39.7	1,672	47.1	37.7	543
Primary	68.7	47.6	3,862	58.0	45.7	1,626
Middle/JSS/JHS	68.0	48.2	2,070	67.9	55.0	1,336
Secondary+						
Wealth quintile						
Lowest	52.2	31.1	1,511	45.8	40.5	639
Second	64.4	41.3	1,636	54.2	46.1	648
Middle	68.5	47.7	1,938	60.6	45.6	770
Fourth	69.7	47.3	2,117	64.2	51.0	848
Highest	71.9	47.7	2,194	66.8	51.1	963
Total 15-49	66.2	43.8	9,396	59.4	47.4	3,869
50-59	na	na	na	63.1	50.3	519
Total 15-59	na	na	na	59.8	47.8	4,388

na = Not applicable

In order to assess client satisfaction with different aspects of health care services, all 2014 GDHS respondents who visited a health facility in the preceding six months were asked questions on their level of satisfaction for the services they received during their most recent visit.

Data in Table 15.21 show that a high proportion of clients are either very satisfied or satisfied with various aspects of health care services. Among women, the proportion very satisfied or satisfied ranges from 56 percent for the time they waited for test results to 92 percent, each, for the cleanliness of the facility and for the ease of finding where to go. Among men, the proportion very satisfied or satisfied

ranges from 58 percent for the time they waited for test results, to 90 percent who reported being very satisfied or satisfied with the provider listening to them.

Overall, 12 percent or less of respondents reported not being satisfied with any particular aspect of provision of services, and only 6 percent or less reported being very dissatisfied with the different aspects health services.

Table 15.21 Satisfaction with health services among all respondents

Percent distribution of women and men age 15-49 by satisfaction with various aspects of health services for the most recent visit to a health facility in the 6 months before the survey, Ghana 2014

	Women						Men					
Aspects of health service provision	Very satisfied	Satisfied	Fairly satisfied	Not satisfied	Very dissatisfied	Number of women who visited a health facility in the past 6 months	Very satisfied	Satisfied	Fairly satisfied	Not satisfied	Very dissatisfied	Number of men who visited a health facility in the past 6 months
Ease of getting there	42.0	40.9	11.6	4.9	0.6	3,507	29.9	49.0	12.2	8.4	0.4	572
Location of health facility	34.9	46.8	11.9	5.8	0.7	3,507	33.0	52.4	10.3	3.8	0.5	572
Hours of the health facility	38.3	51.5	7.1	2.7	0.4	3,507	33.8	55.6	7.9	2.6	0.1	572
Time spent waiting for turn	28.5	38.8	15.9	10.6	5.8	3,507	14.7	56.3	12.8	12.4	3.8	572
Time spent in consulting/ examining room	31.3	47.9	12.6	4.4	2.3	3,507	18.1	57.9	18.3	4.2	0.8	572
Time waited for test results	22.1	33.4	15.2	7.3	2.8	3,507	11.4	46.3	16.9	5.9	1.3	572
Time at pharmacy/ dispensary	28.9	40.9	14.0	6.2	3.2	3,507	13.8	56.5	18.2	6.2	2.4	572
Provider listening	50.4	40.7	6.5	2.0	0.3	3,507	28.0	62.2	8.1	1.4	0.3	572
Provider explaining	45.6	40.7	9.0	4.1	0.6	3,507	26.7	55.2	14.0	3.1	1.0	572
Provider's advice and information on options for treatment	44.1	39.6	10.2	5.0	1.0	3,507	22.8	57.4	11.4	7.4	1.0	572
The cleanliness of the facility	53.0	39.1	6.5	1.1	0.2	3,507	25.6	61.8	10.7	1.6	0.1	572
Ease of finding where to go	43.5	48.1	6.8	1.4	0.2	3,507	20.9	65.6	11.9	1.3	0.3	572
Privacy during the examination	41.7	46.0	9.4	2.3	0.5	3,507	19.2	67.8	10.8	1.7	0.3	572

When asked specifically whether the health provider spent enough time with the respondents and if the provider was friendly during the most recent visit in the past six months, more than 9 in 10 women (93 percent and 95 percent, respectively) and men (92 percent and 95 percent, respectively) responded positively. More than 8 in 10 women and men (88 percent and 82 percent, respectively) answered positively when asked if the provider had sought their consent before providing treatment (data not shown).

WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES

16

> **Key Findings:**
>
> - The percentage of currently married employed women who earn cash and make independent decisions about how to spend their earnings increased to 63 percent in 2014 from 58 percent in in 2008.
> - Seventy-seven percent of women participate in making decisions regarding their own health care.
> - The percentage of women who agree that a husband is justified in beating his wife for at least one specified reason has dropped— from 37 percent in 2008 to 28 percent in 2014.
> - Contraceptive use increases with women's empowerment.
> - Unmet need for family planning decreases with improvements in women's empowerment.
> - Access to antenatal care, delivery assistance from a skilled provider, and postnatal care within the first two days of delivery go up as women's empowerment increases.
> - Infant, child, and under-5 mortality rates decline with improvements in women's empowerment.
> - Only 7 percent of employed women had maternity leave with pay.
> - Seventy percent of currently married women in Ghana live in marriages where a price was negotiated and paid for the bride.

The 1994 International Conference on Population and Development declared that "advancing gender equality and equity and the empowerment of women and the elimination of all kinds of violence against women, and ensuring women's ability to control their own fertility are cornerstones of population and development-related programs" (United Nations 1994). Women's empowerment has been defined to encompass women having a sense of self-worth, access to opportunities and resources, choices and the ability to exercise them, control over their own lives, and influence over the direction of social change (United Nations Population Information Network 1995).

Ghana is a signatory to almost all the international conventions on human rights, women's rights, and children's rights, as well as to agreements on international goals regarding education, health, and poverty eradication. As a signatory to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted in 1979 by the United Nations General Assembly, the government of Ghana promised nodiscrimination, gender equity, and social justice as mandated by the 1992 Constitution of Ghana. The 2003 national plan of action, approved by the government of Ghana for the effective implementation of CEDAW and other documents related to human rights, guarantees all rights per the CEDAW covenants. There is also a plan of action in place to implement all 12 of the Beijing Platform of Action commitments. These commitments include addressing poverty among women, increasing access to education and health resources, and establishing support for programmes to bring women to decision-making levels in all political, constitutional, and administrative units. Currently, Ghana ranks 13 in the world (out of 187 countries) on the Gender Inequality Index.[1]

Data from the 2014 GDHS discussed in earlier chapters show that women in Ghana are predominantly engaged in agriculture. Few have skilled manual jobs, and they are much less likely than men to be engaged in the professional, technical, and managerial fields (see Table 3.6.1). Further, women

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[1] http://hdr.undp.org/en/countries/profiles/GHA

lag behind men in educational attainment, literacy, and exposure to mass media, all of which are critical contributors to women's empowerment and exert considerable influence on both the development of their personality and on strengthening women's positions in the household and in society in general.

This chapter presents additional data on the status of women in Ghana, including information on gender differences in employment, access to and control over cash earnings, asset ownership, participation in household decision-making, the relative earnings of husbands and wives, and entitlement to maternity leave. The chapter also explores how demographic and health indicators vary by women's empowerment, as measured by the number of decisions in which the woman participates and her ability to negotiate safer sexual relations with her husband. The ranking of women on these indices has been found to be associated with demographic and health outcomes, including contraceptive use, ideal family size, unmet need for family planning, access to reproductive health care and child survival. It also highlights issues of maternity protection and bride wealth negotiations and payments for married women and men in Ghana.

16.1 EMPLOYMENT AND FORM OF EARNINGS

Employment, particularly employment for cash, and control over how earnings are used are important indicators of empowerment for women and men. Table 16.1 shows the percentage of currently married women and men age 15-49 who were employed at any time in the 12 months before the survey and the percent distribution of employed women and men by the type of earnings they received (cash only, cash and in-kind, or in-kind only), if any.

The table shows that 87 percent of currently married women and almost all currently married men (99 percent) age 15-49 were employed in the 12 months preceding the survey. Women age 15-24 are less likely than older women age 25-49 to be employed, while there is no such variation by age among currently married men. The proportion of currently married women who are employed has declined over the past six years (from 91 percent in 2008 to 87 percent in 2014); by contrast, employment among currently married men has seen no change (99 percent in both 2008 and 2014). Employed men and women differ in the type of earnings they receive for their work.

Table 16.1 Employment and cash earnings of currently married women and men

Percentage of currently married women and men age 15-49 who were employed at any time in the past 12 months and the percent distribution of currently married women and men employed in the past 12 months by type of earnings, according to age, Ghana 2014

Age	Among currently married respondents:		Percent distribution of currently married respondents employed in the past 12 months, by type of earnings					
	Percentage employed in past 12 months	Number of respondents	Cash only	Cash and in-kind	In-kind only	Not paid	Total	Number of respondents
			WOMEN					
15-19	57.1	104	55.3	13.9	12.7	18.2	100.0	59
20-24	69.7	606	53.8	15.5	6.6	24.1	100.0	423
25-29	84.9	1,062	69.8	14.5	3.1	12.6	100.0	901
30-34	87.1	1,078	67.5	16.3	3.6	12.6	100.0	939
35-39	93.5	1,040	63.4	19.3	3.4	13.9	100.0	973
40-44	94.6	821	63.4	22.0	2.5	12.1	100.0	776
45-49	94.2	611	55.6	27.5	3.8	13.0	100.0	575
Total	87.3	5,321	63.5	18.8	3.7	14.0	100.0	4,647
			MEN					
15-19	*	4	*	*	*	*	*	4
20-24	98.7	61	75.1	19.8	0.4	4.6	100.0	60
25-29	98.5	262	78.3	11.4	1.0	9.3	100.0	258
30-34	99.4	410	79.3	13.1	0.2	7.4	100.0	408
35-39	99.7	406	83.4	10.0	0.5	6.1	100.0	404
40-44	99.6	398	80.1	13.7	0.1	6.1	100.0	396
45-49	99.0	306	76.3	17.1	0.6	5.9	100.0	303
Total 15-49	99.3	1,846	79.6	13.2	0.5	6.7	100.0	1,833
50-59	98.5	444	77.5	17.9	0.2	4.4	100.0	438
Total 15-59	99.1	2,290	79.2	14.1	0.4	6.3	100.0	2,271

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Ninety-three percent of men receive cash only, cash and in-kind, and in-kind only payment compared with 86 percent of women. Fourteen percent of women are not paid for their work at all, compared with 7 percent of men. Thus, not only are currently married women much less likely than currently married men to be employed, they are also much less likely to be paid for the work they perform. Women are more than four times as likely as men (4 and 1 percent, respectively) to be paid in-kind only.

16.2 WOMEN'S CONTROL OVER THEIR OWN EARNINGS AND RELATIVE MAGNITUDE OF WOMEN'S AND THEIR HUSBANDS' EARNINGS

Control over cash earnings is another dimension of empowerment. Currently married women who earn cash for their work were asked who the main decisionmaker is regarding the use of their earnings. They were also asked about the relative magnitude of their earnings compared with their husband's earnings. This information provides insight into women's empowerment within the family and the extent of their control over resources. It is expected that women who are employed and who receive cash earnings are more likely to have control over household resources.

Table 16.2.1 shows the percent distribution of currently married women who received cash earnings in the past 12 months, according to the person who controls their earnings and their perception of the magnitude of their earnings relative to those of their husbands. Sixty-three percent of currently married women who earn cash mainly decide themselves on how their cash earnings are used, one-third make the decision jointly with their husbands, and only 5 percent have the decision made mainly by their husbands. The proportion of currently married women who earn cash for their work and who decide mainly by themselves on the use of their cash earnings has increased from 58 percent in 2008 to 63 percent in 2014, whereas the proportion of women who jointly decide with their husbands on the use of their own earnings has decreased from 36 percent to 32 percent. Overall, the proportion of women who participate alone or jointly with their husbands in decisions about the use of their earnings has increased slightly, from 93 percent in 2008 to 95 percent in 2014.

Table 16.2.1 further shows that decision-making by women alone about the use of women's earnings does not vary much with age. Women with one to four children are more likely than others to decide how to use their cash earnings (65 percent versus 59 to 60 percent). Women's participation in the use of their own earnings varies by urban-rural residence, with urban women slightly more likely to be involved in decision-making. Women with no education and women in the lowest wealth quintile are most likely to decide on how their earnings are used.

There is substantial regional variation in who makes decisions on how women's earnings are used. The proportion of employed women who mainly decide on the use of their earnings is highest in the Northern region (92 percent) and lowest in the Western region (45 percent). Joint decision-making on the use of women's earnings is most common in the Western region (51 percent).

Table 16.2.1 also shows women's perception of their cash earnings relative to their husbands' earnings. Among currently married women who earn cash, 77 percent earn less than their husband, 10 percent earn more, and 8 percent earn about the same. Thus, almost one in five women who have cash earnings in Ghana are likely to earn about the same as or more than their husband.

The proportion of currently married women who are employed, receive only cash, and earn about the same as or more than their husband generally increases with age. However, the proportions vary by number of living children, women's education, and household wealth. Women in the Eastern and Central regions are more likely than women in other regions to earn the same as or more than their husband.

Table 16.2.1 Control over women's cash earnings and relative magnitude of women's cash earnings

Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used and by whether she earned more or less than her husband, according to background characteristics, Ghana 2014

Background characteristic	Person who decides how the wife's cash earnings are used:					Wife's cash earnings compared with husband's cash earnings:						Number of women
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Total	More	Less	About the same	Husband has no earnings	Don't know/ missing	Total	
Age												
15-19	(66.0)	(32.3)	(0.0)	(1.7)	100.0	(4.3)	(83.7)	(5.4)	(5.3)	(1.3)	100.0	41
20-24	64.6	28.6	6.4	0.1	100.0	4.7	85.2	4.0	1.2	5.0	100.0	293
25-29	58.0	35.3	6.6	0.0	100.0	6.0	79.4	9.0	0.9	4.7	100.0	760
30-34	62.0	33.3	4.6	0.1	100.0	7.0	80.0	7.3	1.5	4.2	100.0	787
35-39	61.7	34.0	4.2	0.1	100.0	10.3	75.9	7.2	1.4	5.2	100.0	804
40-44	66.3	28.7	4.9	0.0	100.0	14.8	70.8	7.9	0.9	5.6	100.0	663
45-49	67.7	26.4	5.5	0.0	100.0	13.9	69.1	8.8	2.1	6.0	100.0	478
Number of living children												
0	59.7	35.5	4.8	0.0	100.0	5.4	68.2	14.9	2.3	9.2	100.0	279
1-2	64.6	30.3	4.9	0.1	100.0	8.9	79.7	6.0	0.9	4.6	100.0	1,281
3-4	64.6	30.0	5.2	0.1	100.0	9.8	77.5	5.7	1.2	5.8	100.0	1,337
5+	58.9	35.4	5.6	0.0	100.0	11.2	73.0	10.6	2.0	3.2	100.0	928
Residence												
Urban	66.8	28.9	4.1	0.0	100.0	10.8	73.8	6.4	1.5	7.5	100.0	2,068
Rural	58.2	35.3	6.4	0.1	100.0	8.0	79.7	9.1	1.2	2.1	100.0	1,758
Region												
Western	45.4	50.9	3.5	0.2	100.0	10.6	76.9	9.1	1.2	2.3	100.0	392
Central	49.8	45.3	4.1	0.0	100.0	10.4	74.1	12.2	1.6	1.8	100.0	376
Greater Accra	69.6	25.9	4.5	0.0	100.0	12.1	69.7	5.6	1.8	10.9	100.0	825
Volta	76.8	16.0	6.9	0.0	100.0	14.1	79.0	4.8	0.5	1.6	100.0	313
Eastern	46.5	46.9	6.3	0.3	100.0	10.7	70.2	12.8	1.5	4.9	100.0	358
Ashanti	63.6	30.2	6.2	0.0	100.0	7.8	76.7	7.4	1.3	6.6	100.0	816
Brong Ahafo	59.7	33.2	7.1	0.0	100.0	6.4	84.7	6.9	0.0	2.0	100.0	273
Northern	92.4	4.4	2.9	0.2	100.0	2.4	95.4	1.8	0.0	0.4	100.0	289
Upper East	51.7	46.7	1.3	0.0	100.0	6.6	73.1	12.7	5.3	2.3	100.0	126
Upper West	75.9	10.1	13.4	0.6	100.0	7.7	82.1	6.4	3.4	0.4	100.0	57
Education												
No education	69.7	23.9	6.1	0.2	100.0	7.8	80.3	7.1	1.6	3.3	100.0	925
Primary	58.3	35.6	6.0	0.0	100.0	8.5	78.0	8.1	1.6	3.8	100.0	711
Middle/JSS/JHS	63.2	31.2	5.5	0.0	100.0	9.9	77.2	6.0	1.2	5.6	100.0	1,532
Secondary+	57.4	40.2	2.3	0.1	100.0	12.1	67.8	11.8	1.1	7.3	100.0	658
Wealth quintile												
Lowest	69.0	23.7	7.0	0.2	100.0	6.5	83.0	7.9	1.0	1.6	100.0	599
Second	56.4	37.1	6.5	0.0	100.0	8.6	75.4	11.9	1.6	2.4	100.0	659
Middle	64.8	30.4	4.5	0.2	100.0	10.2	79.2	5.0	1.1	4.5	100.0	690
Fourth	61.3	31.8	6.6	0.0	100.0	10.2	75.5	5.3	1.7	7.3	100.0	823
Highest	63.3	34.0	2.6	0.0	100.0	10.8	72.5	8.4	1.3	7.1	100.0	1,055
Total	62.8	31.8	5.2	0.1	100.0	9.5	76.5	7.6	1.4	5.0	100.0	3,826

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

16.3 CONTROL OVER HUSBANDS' EARNINGS

Currently married men age 15-49 who receive cash earnings were asked who—the men themselves, their wife, the husband and wife jointly, or someone else—decides how their own cash earnings are used. In addition, currently married women were asked who decides how their husbands' cash earnings are used. Table 16.2.2 shows that 52 percent of currently married men age 15-49 who receive cash earnings mainly make decisions on how their earnings will be used, while 44 percent decide jointly with their wives. Only 4 percent of men say that decisions on how their earnings are used are made mainly by their wives.

The proportion of currently married men who say that they make decisions about the use of their earnings jointly with their wives is highest among men age 40-44 (49 percent). The proportion of men making decisions alone about the use of their income is higher in urban than in rural areas (54 percent and 49 percent, respectively). However, differentials by education are minimal, as all the categories record proportions hovering around 50 percent, with the exception of men with primary education. The proportion

of men who jointly make decisions about the use of their earnings with their wives is highest among men in the lowest wealth quintile (54 percent).

The main decisionmaker regarding the use of men's own earnings varies greatly by region. Decision-making by the man alone is highest in the Volta (68 percent) and lowest in Upper East and Western regions (31 percent each). Decision-making about men's earnings mainly by the wife is most common in the Western region (19 percent).

Table 16.2.2 also shows women's responses on who makes decisions about their husbands' earnings. Only currently married women whose husbands received cash earnings are included. Fifty-five percent of currently married women whose husbands receive cash earnings say that their husbands alone decide about the use of husbands' cash earnings, 37 percent say that they decide jointly with their husband, and 8 percent say that they decide by themselves.

A comparison between women's responses about the main decision maker regarding the use of their husbands' earnings and men's responses about the use of their own earnings shows similarities and differences. Men are more likely than women to report that they jointly make the decision with their spouse (44 percent and 37 percent, respectively), but women are twice as likely as men to say that the wife is the main decision maker (8 percent and 4 percent, respectively). Further, women are more likely than men to report that the husband is the main decision maker regarding the use of his earnings (55 percent versus 52 percent).

The pattern of variation by background characteristics in women's responses about decisions on the use of their husbands' earnings is similar to that of men's responses. A higher proportion of men age 40-44 report that they make joint decision with their wives (49 percent) while, for women, it is those age 35-39 (41 percent). Among men and women, the proportion in rural areas who report that they make joint decisions (47 percent and 39 percent, respectively) in relation to the use of the husbands' earnings is higher than men and women in urban areas (42 percent and 35 percent, respectively).

Table 16.2.2 Control over men's cash earnings

Percent distributions of currently married men age 15-49 who receive cash earnings and of currently married women age 15-49 whose husbands receive cash earnings, by person who decides how husband's cash earnings are used, according to background characteristics, Ghana 2014

Background characteristic	Men						Women				
	Mainly wife	Husband and wife jointly	Mainly husband	Other	Total	Number of men	Mainly wife	Husband and wife jointly	Mainly husband	Total	Number of women
Age											
15-19	*	*	*	*	100.0	3	7.8	35.4	56.8	100.0	98
20-24	3.8	30.5	63.7	2.0	100.0	57	5.5	34.4	60.1	100.0	594
25-29	5.1	36.8	58.0	0.1	100.0	232	7.0	39.5	53.5	100.0	1,046
30-34	4.2	45.5	50.3	0.1	100.0	377	7.5	36.8	55.7	100.0	1,064
35-39	3.8	46.5	49.7	0.0	100.0	378	8.0	40.6	51.4	100.0	1,023
40-44	3.5	48.5	48.0	0.0	100.0	372	9.4	32.5	57.9	100.0	811
45-49	4.0	43.1	52.9	0.0	100.0	283	10.4	33.3	56.3	100.0	600
Number of living children											
0	5.2	42.4	51.5	0.9	100.0	127	8.5	46.9	44.6	100.0	365
1-2	4.2	43.9	51.8	0.1	100.0	619	7.8	34.4	57.7	100.0	1,873
3-4	4.5	44.6	51.0	0.0	100.0	566	8.0	35.7	56.2	100.0	1,769
5+	2.7	44.7	52.5	0.0	100.0	388	7.6	38.7	53.7	100.0	1,229
Residence											
Urban	4.0	42.0	54.0	0.0	100.0	876	8.2	34.8	56.9	100.0	2,625
Rural	4.0	46.6	49.2	0.2	100.0	824	7.6	38.7	53.7	100.0	2,612
Region											
Western	18.8	50.2	31.0	0.0	100.0	202	16.6	56.7	26.7	100.0	527
Central	5.8	48.4	45.9	0.0	100.0	190	9.9	40.4	49.5	100.0	525
Greater Accra	0.9	38.4	60.7	0.0	100.0	362	5.4	36.2	58.4	100.0	989
Volta	3.1	27.9	68.3	0.8	100.0	145	9.5	25.2	65.3	100.0	402
Eastern	5.7	48.6	45.7	0.0	100.0	154	8.1	53.5	38.2	100.0	493
Ashanti	0.0	38.0	62.0	0.0	100.0	294	7.5	33.0	59.5	100.0	956
Brong Ahafo	0.0	53.0	47.0	0.0	100.0	155	6.2	34.1	59.7	100.0	438
Northern	0.6	54.9	44.5	0.0	100.0	113	5.1	14.4	80.4	100.0	558
Upper East	3.6	65.7	30.7	0.0	100.0	64	3.9	48.3	47.8	100.0	206
Upper West	0.0	30.1	67.2	2.8	100.0	22	4.6	31.2	64.1	100.0	144
Education											
No education	2.5	47.0	50.3	0.2	100.0	219	7.7	28.6	63.7	100.0	1,452
Primary	4.3	39.8	55.8	0.1	100.0	224	9.4	38.1	52.4	100.0	959
Middle/JSS/JHS	4.9	43.4	51.5	0.2	100.0	741	7.9	37.4	54.7	100.0	2,036
Secondary+	3.2	46.1	50.7	0.0	100.0	516	6.4	48.4	45.2	100.0	790
Wealth quintile											
Lowest	2.2	54.1	43.4	0.3	100.0	244	4.8	28.9	66.3	100.0	1,000
Second	3.0	45.5	51.5	0.0	100.0	283	8.0	40.8	51.2	100.0	947
Middle	4.6	42.7	52.4	0.3	100.0	359	10.0	36.1	53.8	100.0	984
Fourth	5.6	35.5	58.9	0.0	100.0	365	9.8	37.7	52.5	100.0	1,072
Highest	3.9	46.3	49.9	0.0	100.0	451	7.0	39.6	53.4	100.0	1,234
Total 15-49	4.0	44.2	51.7	0.1	100.0	1,701	7.9	36.7	55.3	100.0	5,237
50-59	4.2	44.9	51.0	0.0	100.0	418	na	na	na	na	na
Total 15-59	4.0	44.3	51.5	0.1	100.0	2,118	na	na	na	na	na

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Totals may not add up to 100 percent because women with missing information are not shown separately.
na = Not applicable

The level of women's earnings relative to their husbands' earnings is expected to be associated with women's control over their own and their husbands' earnings. To examine this association, Table 16.3 shows the percent distribution of currently married women with cash earnings by the person who has the main say in the use of their earnings and the distribution of currently married women by the person who has the main say in the use of their husbands' earnings, according to women's perception of the size of their own earnings relative to their husbands' earnings.

The table shows that women's participation in the decision on the use of their own and their husbands' earnings varies by their relative earnings. However, the variation is not necessarily as expected. The most consistent finding is that women who earn about the same as their husbands are more likely to jointly decide about the use of both their own earnings (60 percent) and their husbands' earnings (63 percent). Women who earn more than their husbands are more likely than other women to be the main decisionmaker about the use of their husbands' earnings (12 percent), but women who earn more and

women who earn less than their husbands are about equally likely to be the main decisionmakers about the use of their own earnings (63 percent versus 65 percent, respectively).

Table 16.3 Women's control over their own earnings and over those of their husbands

Percent distribution of currently married women age 15-49 with cash earnings in the last 12 months by person who decides how the wife's cash earnings are used and percent distribution of currently married women age 15-49 whose husbands have cash earnings by person who decides how the husband's cash earnings are used, according to the relation between wife's and husband's cash earnings, Ghana 2014

| Women's earnings relative to husband's earnings | Person who decides how the wife's cash earnings are used: | | | | | | Person who decides how husband's cash earnings are used: | | | | |
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Total	Number of women	Mainly wife	Wife and husband jointly	Mainly husband	Total	Number of women
More than husband	62.9	28.2	8.4	0.5	100.0	364	11.8	35.7	52.3	100.0	364
Less than husband	64.8	30.3	4.9	0.0	100.0	2,926	7.4	36.1	56.4	100.0	2,926
Same as husband	34.0	60.2	5.8	0.0	100.0	293	6.3	63.2	30.5	100.0	293
Husband has no cash earnings or did not work	51.3	47.3	0.7	0.7	100.0	52	na	na	na	na	na
Woman worked but has no cash earnings	na	na	na	na	na	na	8.8	37.8	53.4	100.0	808
Woman did not work	na	na	na	na	na	na	6.5	31.0	62.4	100.0	655
Total[1]	62.8	31.8	5.2	0.1	100.0	3,826	7.9	36.7	55.3	100.0	5,237

Note: Total includes 135 women for whom information on their earnings relative to their husband's earnings is missing. Totals may not add up to 100 percent because women with missing information are not shown separately.
na = Not applicable
[1] Includes cases where a woman does not know whether she earned more or less than her husband.

16.4 WOMEN'S AND MEN'S OWNERSHIP OF SELECTED ASSETS

Ownership of assets, particularly high-value assets, has many beneficial effects for households, including protection against financial ruin. Women's individual ownership of assets enables their economic empowerment and provides protection in the case of marital dissolution or abandonment. The 2014 GDHS collected information on women's and men's ownership (alone, jointly, and alone and jointly) of two high-value assets: namely, land and a house.

Table 16.4.1 shows that 81 percent of women age 15-49 do not own a house and 78 percent do not own any land. Four percent of women own a house alone, and 8 percent own land alone. Notably, women who own either of these assets appear to own them mostly jointly, as opposed to alone or alone and with someone else. Women's ownership of a house increases with age but decreases with education. Rural women are more likely to own a house and land than those from the urban areas. More women in the Central region own a house (11 percent) and land (16 percent) by themselves than women from the other regions.

Table 16.4.1 Ownership of assets: Women

Percent distribution of women age 15-49 by ownership of housing and land, according to background characteristics, Ghana 2014

Background characteristic	Percentage who own a house:					Percentage who own land:					Number of women
	Alone	Jointly	Alone and jointly	Percentage who do not own a house	Total	Alone	Jointly	Alone and jointly	Percentage who do not own land	Total	
Age											
15-19	0.5	1.0	0.9	97.6	100.0	0.3	0.7	0.4	98.5	100.0	1,625
20-24	0.5	4.1	1.2	94.2	100.0	2.9	3.3	1.0	92.7	100.0	1,613
25-29	2.3	9.8	3.9	83.9	100.0	6.4	9.5	4.5	79.7	100.0	1,604
30-34	4.7	12.8	4.7	77.8	100.0	8.8	16.6	5.2	69.3	100.0	1,372
35-39	5.1	17.9	5.6	71.3	100.0	11.1	16.2	5.8	66.9	100.0	1,295
40-44	8.7	19.9	5.7	65.5	100.0	15.8	15.5	5.2	63.4	100.0	1,030
45-49	15.0	18.9	7.4	58.7	100.0	21.4	14.4	6.3	57.9	100.0	857
Residence											
Urban	3.1	8.5	3.0	85.3	100.0	7.6	9.9	3.4	79.0	100.0	5,051
Rural	5.6	13.4	4.7	76.2	100.0	8.8	10.0	4.0	77.2	100.0	4,345
Region											
Western	3.6	9.4	12.4	74.6	100.0	8.0	10.7	13.5	67.7	100.0	1,038
Central	11.3	15.3	4.2	69.2	100.0	16.4	12.8	3.6	67.2	100.0	937
Greater Accra	3.6	10.0	2.6	83.8	100.0	7.7	11.1	2.9	78.4	100.0	1,898
Volta	8.3	8.1	3.8	79.8	100.0	8.7	6.5	3.5	81.3	100.0	720
Eastern	3.6	10.2	2.3	83.8	100.0	8.0	10.1	1.9	79.8	100.0	878
Ashanti	3.4	10.2	1.8	84.6	100.0	7.3	10.5	2.2	79.9	100.0	1,798
Brong Ahafo	3.3	16.1	3.5	77.1	100.0	10.9	15.7	3.1	70.3	100.0	769
Northern	0.7	6.0	0.7	92.5	100.0	1.8	0.8	0.6	96.8	100.0	786
Upper East	1.8	15.8	6.3	76.1	100.0	4.0	8.9	1.8	85.3	100.0	358
Upper West	1.4	10.7	1.9	86.0	100.0	2.0	6.0	2.0	90.1	100.0	215
Education											
No education	5.0	14.8	4.3	76.0	100.0	7.1	9.6	3.6	79.7	100.0	1,792
Primary	4.8	11.9	3.6	79.7	100.0	8.2	10.5	3.4	77.8	100.0	1,672
Middle/JSS/JHS	4.9	10.2	4.1	80.8	100.0	8.6	10.0	4.0	77.4	100.0	3,862
Secondary+	2.2	7.7	2.9	87.2	100.0	8.1	9.9	3.6	78.4	100.0	2,070
Wealth quintile											
Lowest	2.4	12.8	2.9	81.8	100.0	3.9	6.7	2.2	87.2	100.0	1,511
Second	6.5	15.2	4.3	73.9	100.0	10.5	11.1	3.7	74.7	100.0	1,636
Middle	5.8	8.4	4.5	81.3	100.0	8.9	8.1	3.8	79.1	100.0	1,938
Fourth	4.3	8.4	3.2	84.1	100.0	7.7	8.5	2.9	80.9	100.0	2,117
Highest	2.6	10.5	4.0	82.9	100.0	9.0	14.5	5.6	70.9	100.0	2,194
Total	4.3	10.8	3.8	81.1	100.0	8.1	10.0	3.7	78.1	100.0	9,396

Note: Totals may not add up to 100 percent because women with missing information are not shown separately.
na = Not applicable

Table 16.4.2 shows that 78 percent of men age 15-49 percent do not own a house and 67 percent do not own land. Seventeen percent of men age 15-49 own a house alone, and 25 percent own land alone, compared with 4 percent and 8 percent of women, respectively. Ownership of land and a house among men increases with age. Men's ownership of a house declines sharply with education, from 51 percent among men with no education to 14 percent among men with a secondary or higher education. Ownership of land is highest among men with no education (55 percent). Unexpectedly, ownership of a house declines with wealth, and ownership of land varies minimally and inconsistently with wealth. Men in the Upper West region are more likely than men in other regions to own a house (59 percent). Land ownership among men is highest in the Northern region (49 percent).

Women's disadvantage relative to men in land ownership is evident in every demographic and socioeconomic category, and women's disadvantage in home ownership is also evident, especially among those with no education. A higher proportion of men own a house or land alone or jointly, compared with their female counterparts. The proportions of older women and older men owning these high-value assets alone are vastly different. For example, only 15 percent of women age 45-49 own a house alone, and 21 percent own land alone, compared with 40 percent and 54 percent, respectively, of men age 45-49.

Table 16.4.2 Ownership of assets: Men

Percent distribution of men age 15-49 by ownership of housing and land, according to background characteristics, Ghana 2014

| Background characteristic | Percentage who own a house: | | | | | Percentage who own land: | | | | | Number of men |
	Alone	Jointly	Alone and jointly	Percentage who do not own a house	Total	Alone	Jointly	Alone and jointly	Percentage who do not own land	Total	
Age											
15-19	0.8	1.3	0.0	97.8	100.0	0.8	0.8	0.0	98.3	100.0	855
20-24	2.3	2.6	0.0	95.1	100.0	8.3	3.2	0.4	88.1	100.0	588
25-29	14.4	4.0	0.5	81.1	100.0	21.4	8.4	0.3	69.8	100.0	589
30-34	20.9	5.8	0.5	72.8	100.0	32.7	9.1	1.5	56.6	100.0	552
35-39	23.9	7.0	2.1	67.0	100.0	43.0	10.7	1.6	44.7	100.0	473
40-44	40.9	7.9	2.2	49.0	100.0	49.1	10.2	1.7	39.1	100.0	456
45-49	39.6	7.6	1.6	51.3	100.0	54.0	7.0	0.9	38.0	100.0	355
Residence											
Urban	10.0	3.3	0.6	86.2	100.0	22.5	4.2	0.7	72.5	100.0	2,050
Rural	25.1	6.1	1.1	67.7	100.0	28.6	8.9	0.9	61.6	100.0	1,819
Region											
Western	18.9	2.9	0.4	77.8	100.0	26.6	7.0	0.1	66.3	100.0	447
Central	20.9	5.3	0.9	72.9	100.0	29.1	4.0	0.3	66.5	100.0	380
Greater Accra	12.5	2.9	0.2	84.4	100.0	28.4	4.1	0.4	67.1	100.0	831
Volta	31.3	1.7	0.9	65.9	100.0	28.3	2.6	0.0	68.9	100.0	295
Eastern	14.3	3.2	0.1	82.4	100.0	24.0	6.8	1.6	67.6	100.0	362
Ashanti	12.1	3.0	0.5	84.5	100.0	19.0	4.4	0.4	76.2	100.0	680
Brong Ahafo	14.6	4.1	4.6	76.6	100.0	28.4	3.2	3.6	64.8	100.0	320
Northern	24.0	8.9	0.8	66.3	100.0	21.8	25.7	1.2	51.3	100.0	316
Upper East	15.7	6.6	0.8	76.9	100.0	20.2	2.2	0.7	76.9	100.0	146
Upper West	22.6	36.1	0.5	40.8	100.0	30.3	11.7	0.3	57.7	100.0	91
Education											
No education	35.7	14.0	1.2	49.1	100.0	33.4	20.3	1.1	45.2	100.0	362
Primary	24.9	4.3	0.7	70.0	100.0	25.8	5.7	1.3	67.0	100.0	543
Middle/JSS/JHS	16.7	3.4	0.9	79.1	100.0	22.8	4.8	0.6	71.9	100.0	1,626
Secondary+	9.4	3.7	0.7	86.2	100.0	26.2	4.9	0.8	68.1	100.0	1,336
Wealth quintile											
Lowest	26.7	10.3	1.4	61.6	100.0	25.6	13.0	1.0	60.4	100.0	639
Second	27.4	4.8	0.8	66.8	100.0	30.2	5.7	0.8	63.2	100.0	648
Middle	16.8	3.8	1.0	78.4	100.0	23.4	6.0	1.0	69.6	100.0	770
Fourth	10.9	2.6	0.2	86.3	100.0	22.0	4.3	0.4	73.3	100.0	848
Highest	9.4	3.1	0.8	86.7	100.0	26.6	4.7	0.9	67.9	100.0	963
Total 15-49	17.1	4.6	0.8	77.5	100.0	25.4	6.4	0.8	67.4	100.0	3,869
50-59	50.0	7.8	2.2	39.9	100.0	49.1	9.8	2.1	39.0	100.0	519
Total 15-59	21.0	5.0	1.0	73.0	100.0	28.2	6.8	1.0	64.0	100.0	4,388

Note: Totals may not add up to 100 percent because men with missing information are not shown separately.
na = Not applicable

16.5 WOMEN'S PARTICIPATION IN DECISION-MAKING

The ability of women to make decisions that affect their personal circumstances is an essential element of their empowerment and serves as an important contributor to their overall development. To assess currently married women's decision-making autonomy, the 2014 GDHS collected information on their participation in three types of decisions: their own health care, making major household purchases, and visits to family or relatives. To provide an understanding of gender differences in household decision-making, currently married men were asked the same questions about their participation in decisions about their own health care and major household purchases. Table 16.5 shows the percent distribution of currently married women and men, according to the person in the household who usually makes decisions concerning these matters. Women are considered to participate in decision-making if they make decisions alone or jointly with their husbands.

Table 16.5 shows that 77 percent of women participate in making decisions about their own health care, but only 27 percent decide solely about their own health care. By contrast, the vast majority of men (92 percent) are involved in decisions about their own health care. Only 23 percent of women and 11 percent of men report that they make their own decisions about major household purchases. Slightly over one-quarter of women decide themselves on visits to their family or relatives.

Table 16.5 Participation in decision making

Percent distribution of currently married women and currently married men age 15-49 by person who usually makes decisions about various issues, Ghana 2014

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Total	Number of women
		WOMEN				
Own health care	27.4	49.5	22.5	0.5	100.0	5,321
Major household purchases	22.8	51.1	25.3	0.8	100.0	5,321
Visits to her family or relatives	26.4	60.3	12.7	0.5	100.0	5,321
		MEN				
Own health care	7.6	42.8	49.4	0.1	100.0	1,846
Major household purchases	10.5	50.5	38.9	0.1	100.0	1,846

Table 16.6.1 shows how currently married women's participation (alone or jointly) in decision-making varies by background characteristics. The table presents the results for the three specific types of decisions asked about: the woman's own health care, making major household purchases, and visits to her family or relatives. In addition, the table includes two summary indicators: the proportion of women involved in making all three decisions and the proportion not involved in making any of the three decisions.

Table 16.6.1 Women's participation in decision-making by background characteristics

Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husband, by background characteristics, Ghana 2014

Background characteristic	Specific decisions			All three decisions	None of the three decisions	Number of women
	Woman's own health care	Making major household purchases	Visits to her family or relatives			
Age						
15-19	56.0	53.5	73.6	43.3	20.2	104
20-24	64.4	63.1	80.9	48.8	12.5	606
25-29	77.0	70.9	86.9	61.5	7.3	1,062
30-34	77.2	72.4	84.9	58.8	6.3	1,078
35-39	82.4	79.7	90.3	68.9	4.4	1,040
40-44	77.1	78.3	89.1	64.1	5.0	821
45-49	82.7	79.8	88.3	66.8	4.2	611
Employment (last 12 months)						
Not employed	60.4	60.3	79.3	45.1	14.2	674
Employed for cash	79.8	77.6	88.8	65.0	4.8	3,826
Employed not for cash	77.2	67.6	83.0	59.2	9.0	820
Number of living children						
0	75.0	70.3	84.6	59.1	7.4	375
1-2	72.6	69.2	86.3	57.4	8.5	1,900
3-4	80.4	77.2	85.9	64.7	5.6	1,792
5+	79.0	77.1	89.3	64.4	5.2	1,255
Residence						
Urban	75.7	73.8	87.5	60.4	6.1	2,664
Rural	78.1	73.9	85.9	62.9	7.3	2,657
Region						
Western	89.0	89.7	94.0	82.4	2.4	547
Central	84.0	81.1	89.3	70.0	4.5	532
Greater Accra	69.4	69.8	85.9	55.3	8.5	1,005
Volta	68.1	69.9	83.0	53.5	9.9	405
Eastern	83.2	85.1	91.1	75.7	4.6	500
Ashanti	81.0	69.2	86.4	56.1	3.8	969
Brong Ahafo	87.6	78.8	88.1	73.2	5.7	439
Northern	52.7	54.3	76.9	33.0	13.9	561
Upper East	91.1	87.7	96.4	83.9	1.8	218
Upper West	72.8	60.3	71.7	48.9	16.2	146
Education						
No education	69.5	67.7	82.9	54.1	10.2	1,478
Primary	79.9	73.3	86.5	63.4	6.6	979
Middle/JSS/JHS	78.6	76.1	88.4	62.8	4.7	2,063
Secondary+	82.6	80.1	89.5	70.3	5.4	801
Wealth quintile						
Lowest	69.0	66.5	80.4	52.1	10.7	1,016
Second	81.3	75.6	87.1	66.4	6.3	964
Middle	81.5	77.6	88.9	67.5	6.3	1,001
Fourth	76.4	75.2	86.9	61.8	5.7	1,090
Highest	76.7	74.3	89.7	60.8	4.8	1,250
Total	76.9	73.9	86.7	61.6	6.7	5,321

Note: Total includes 1 woman for whom information on employment in the last 12 months is missing.

Table 16.6.1 shows that 62 percent of women report taking part in all three decisions, and less than 1 in 10 (7 percent) report not participating in any of the three decisions. Seventy-four percent of women report taking part in specific decision making on major household purchases, while 87 percent participate in decisions on visits to their parents or relatives. The highest proportion of women who report participation in all three decisions (69 percent) is in the age group 35-39. More women who are in the middle wealth quintile take part in all three decisions (68 percent) than women in the other wealth quintiles. Participation in all three decisions varies minimally and inconsistently with education. Women in rural areas are more likely to participate in all three decisions than women in urban areas (63 percent and 60 percent, respectively). Women's participation in all three decisions ranges from a low of 49 percent in the Upper West region to a high of 84 percent in the Upper East region.

Women may have a say in some and not all other decisions. To assess a woman's overall decision-making autonomy, the decisions in which she participates (i.e., she alone has the final say or does so jointly with her husband) are added together. The total number of decisions in which a woman participates is one simple measure of her empowerment. Figure 16.1 gives the percentage of currently married women, according to the number of decisions in which they participate either alone or jointly with their husband. Only 7 percent of currently married women do not participate in any of the three types of decisions, 11 percent have a say in at least one decision, 21 percent participate in at least two decisions, and 62 percent participate in all three decisions.

Figure 16.1 Number of decisions in which currently married women participate
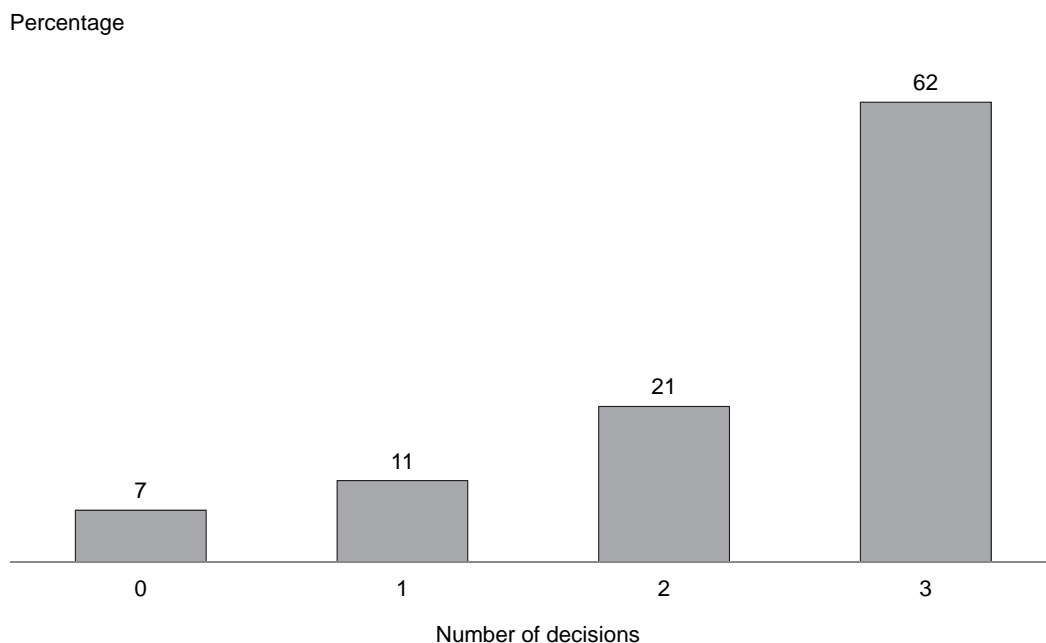
GDHS 2014

Table 16.6.2 presents data on currently married men's participation (alone or jointly) in two types of decisions—their own health care and making major household purchases—by background characteristics. The table shows that 92 percent of men age 15-49 participate in decisions about their own health care, and 89 percent participate in decisions about major household purchases. Overall, 87 percent of currently married men participate in both of these decisions and only 7 percent do not participate in either. The proportion of currently married men participating in both decisions varies slightly with age but tends to decline with education. More men in the second wealth quintile take part in both decisions (94 percent) than men in the other wealth quintiles. Men's participation in both decisions is higher in rural than urban areas (90 percent and 85 percent, respectively). At the regional level, participation in both decisions ranges from 99 percent in the Northern region to 73 percent in the Ashanti region.

Table 16.6.2 Men's participation in decision making by background characteristics

Percentage of currently married men age 15-49 who usually make specific decisions either alone or jointly with their wife, by background characteristics, Ghana 2014

Background characteristic	Specific decisions				
	Man's own health care	Making major household purchases	Both decisions	Neither of the two decisions	Number of men
Age					
15-19	*	*	*	*	4
20-24	87.7	87.6	82.9	7.6	61
25-29	91.5	86.8	86.5	8.2	262
30-34	92.1	87.6	86.0	6.3	410
35-39	91.5	89.2	86.6	5.8	406
40-44	93.1	92.8	89.9	4.0	398
45-49	94.0	90.0	88.6	4.7	306
Employment (last 12 months)					
Not employed	*	*	*	*	13
Employed for cash	91.8	89.0	86.9	6.1	1,701
Employed not for cash	99.6	96.6	96.6	0.4	132
Number of living children					
0	87.5	86.2	83.9	10.2	155
1-2	91.0	89.4	87.0	6.7	667
3-4	92.3	86.7	84.8	5.9	602
5+	96.1	94.5	92.9	2.3	422
Residence					
Urban	90.9	87.7	84.7	6.0	935
Rural	93.7	91.1	90.2	5.4	911
Region					
Western	80.5	81.3	78.9	17.0	207
Central	94.7	94.6	92.8	3.5	196
Greater Accra	96.4	91.3	88.1	0.4	395
Volta	99.0	95.4	95.4	1.0	150
Eastern	95.6	85.0	84.5	3.9	159
Ashanti	79.6	77.8	73.3	16.0	298
Brong Ahafo	98.8	97.9	97.5	0.8	159
Northern	99.1	98.6	98.6	0.9	168
Upper East	94.6	92.4	91.2	4.2	69
Upper West	98.1	90.3	90.3	1.9	44
Education					
No education	95.9	95.3	94.4	3.2	287
Primary	92.3	88.8	86.6	5.5	243
Middle/JSS/JHS	91.6	89.5	87.2	6.1	768
Secondary+	91.4	86.4	84.3	6.5	547
Wealth quintile					
Lowest	96.5	93.8	93.2	2.9	312
Second	95.8	94.7	94.0	3.5	308
Middle	92.4	89.1	87.8	6.3	373
Fourth	91.7	88.1	86.6	6.8	374
Highest	87.7	84.3	79.6	7.6	479
Total 15-49	92.3	89.4	87.4	5.7	1,846
50-59	87.8	86.6	84.7	10.3	444
Total 15-59	91.4	88.8	86.9	6.6	2,290

Note: Total includes 1 man for whom information on employment in the last 12 months is missing. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

16.6 ATTITUDES TOWARDS WIFE BEATING

The critical problems that women face are many and diverse. One of these problems, and among the most serious, is the issue of violence against women. To assess women's and men's attitudes towards wife beating, respondents were asked whether a husband is justified in hitting or beating his wife in each of the following five situations: if she burns the food, if she argues with him, if she goes out without telling him, if she neglects the children, and if she refuses to have sexual intercourse with him.

Table 16.7.1 shows the percentage of women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, according to background characteristics. More than one in four women (28 percent) agree that a husband is justified in beating his wife for at least one specified reason. Seven percent of women agree that a husband is justified in hitting or beating his wife if she burns the food, 16 percent if she argues with him, 17 percent if she goes out without telling him, 21 percent if she neglects the children, and 12 percent if she refuses to have sexual intercourse with him. Women's attitudes

towards wife beating have improved since 2008; the proportion of women who agreed that wife beating is justified for at least one of the specified reasons has decreased from 37 percent in 2008 to 28 percent in 2014.

Table 16.7.1 Attitude towards wife beating: Women

Percentage of all women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Ghana 2014

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number of women
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15-19	9.5	17.9	19.0	27.0	11.6	35.1	1,625
20-24	8.2	15.6	16.7	20.1	12.4	28.5	1,613
25-29	6.2	14.8	14.7	17.6	11.5	24.8	1,604
30-34	7.5	14.7	14.9	20.4	13.5	25.7	1,372
35-39	5.2	13.5	14.3	18.4	9.3	23.5	1,295
40-44	8.0	16.6	18.6	21.2	14.0	30.6	1,030
45-49	6.7	16.5	18.0	21.8	14.0	29.6	857
Employment (last 12 months)							
Not employed	8.3	15.8	16.4	22.6	12.4	30.7	2,200
Employed for cash	6.3	13.6	13.9	17.8	9.7	23.9	5,681
Employed not for cash	10.2	23.1	26.5	30.2	21.2	41.1	1,514
Number of living children							
0	6.7	12.4	13.8	19.3	9.1	26.0	2,994
1-2	6.7	14.1	15.4	18.8	10.8	25.6	2,843
3-4	7.7	17.6	17.6	22.1	13.7	29.3	2,119
5+	10.0	22.3	22.6	26.9	19.1	36.7	1,440
Marital status							
Never married	6.7	13.6	13.7	19.7	9.0	27.0	3,094
Married or living together	8.2	17.4	18.5	22.4	14.7	29.7	5,321
Divorced/separated/widowed	5.3	12.6	14.5	17.1	8.3	24.5	981
Residence							
Urban	4.5	10.0	11.4	14.8	7.2	21.0	5,051
Rural	10.8	22.2	22.4	28.1	18.0	36.7	4,345
Region							
Western	10.3	18.3	16.2	22.1	14.2	29.3	1,038
Central	6.3	13.4	12.8	17.4	7.7	24.2	937
Greater Accra	2.6	6.0	8.8	10.4	3.4	15.2	1,898
Volta	12.5	16.6	13.9	26.1	14.7	31.8	720
Eastern	4.9	9.3	13.3	14.4	5.8	23.1	878
Ashanti	2.3	12.7	12.5	15.9	8.0	22.9	1,798
Brong Ahafo	7.2	25.4	25.9	31.5	16.5	40.9	769
Northern	26.3	40.6	43.8	49.5	45.2	62.8	786
Upper East	6.8	16.4	17.5	23.9	11.3	29.2	358
Upper West	9.3	17.1	21.4	28.1	17.3	37.9	215
Education							
No education	15.4	30.3	30.8	36.6	29.0	47.1	1,792
Primary	9.7	20.0	22.4	26.1	14.0	34.7	1,672
Middle/JSS/JHS	5.6	12.5	13.7	18.3	8.2	25.6	3,862
Secondary+	2.1	5.3	4.4	8.2	3.6	11.7	2,070
Wealth quintile							
Lowest	17.9	32.2	33.8	39.3	29.8	50.0	1,511
Second	10.3	21.9	22.4	29.2	16.3	37.7	1,636
Middle	7.1	16.8	16.0	20.9	11.8	29.8	1,938
Fourth	3.3	9.2	11.3	14.5	5.9	20.6	2,117
Highest	2.2	4.7	5.6	8.4	3.3	12.3	2,194
Total	7.4	15.6	16.5	20.9	12.2	28.3	9,396

Note: Total includes 1 woman for whom information on employment in the last 12 months is missing.

Women who are employed but do not receive cash, women with more than five children, women who are married or living together, rural women, and women in the Northern region are more likely than their counterparts to agree that wife beating is justified for at least one specified reason. The proportion of women who agree that wife beating is justified for at least one specified reason decreases with increasing education and wealth.

Table 16.7.2 shows the percentage of men age 15-49 who agree that a husband is justified in hitting or beating his wife for each of the specified reasons, according to background characteristics. Thirteen percent of men agree that a man is justified in beating his wife for at least one specified reason. Three percent agree that he is justified in hitting or beating his wife if she burns the food, 6 percent if she

argues with him, 7 percent if she goes out without telling him, 8 percent if she neglects the children, and 5 percent if she refuses to have sexual intercourse with him. Similar to the results reported for women, there has been a marked decrease in the percentage of men who agree that wife beating is justified for at least one specified reason, from 22 percent in 2008 to 13 percent in 2014.

Men age 15-19 who are employed but not for cash, have no living children, have never been married, live in rural areas, and in Upper West region are more likely to agree that wife beating is justified for at least one specified reason than their counterparts. Similar to women, the proportion of men who agree that wife beating is justified for at least one specified reason decreases with increasing education and wealth.

Table 16.7.2 Attitude towards wife beating: Men

Percentage of all men age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Ghana 2014

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number of men
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15-19	5.9	9.4	10.7	12.6	7.2	20.1	855
20-24	4.3	8.5	8.7	10.5	6.6	16.8	588
25-29	1.3	4.1	6.1	8.0	4.4	10.8	589
30-34	2.1	3.7	4.3	7.1	2.3	9.5	552
35-39	1.1	3.6	2.6	3.8	2.5	7.5	473
40-44	1.4	4.3	4.8	7.1	4.1	9.5	456
45-49	1.4	4.5	5.6	5.3	4.2	9.5	355
Employment (last 12 months)							
Not employed	2.7	5.6	5.9	6.7	5.6	13.7	588
Employed for cash	2.6	5.6	6.3	8.1	4.4	11.9	2,894
Employed not for cash	5.2	8.4	10.3	13.6	6.2	19.9	386
Number of living children							
0	4.0	7.0	8.0	10.2	5.8	15.6	1,944
1-2	0.8	4.0	4.2	5.0	3.0	8.5	839
3-4	2.0	4.8	5.2	7.2	2.9	10.3	649
5+	3.0	5.8	7.6	8.7	6.4	13.5	437
Marital status							
Never married	4.2	7.5	8.4	10.6	6.1	16.3	1,851
Married or living together	1.7	4.4	5.2	6.4	3.5	10.0	1,846
Divorced/separated/widowed	0.6	3.5	3.6	5.7	3.8	7.6	172
Residence							
Urban	2.0	4.0	4.6	5.8	3.2	9.4	2,050
Rural	3.9	7.9	9.0	11.4	6.6	16.9	1,819
Region							
Western	4.5	9.2	9.9	16.5	4.9	20.7	447
Central	1.5	5.4	6.2	8.5	5.3	14.1	380
Greater Accra	1.9	2.6	4.2	4.7	2.8	8.3	831
Volta	1.2	3.2	2.3	3.9	0.7	6.5	295
Eastern	2.8	9.5	6.4	9.8	4.7	16.7	362
Ashanti	3.0	3.8	4.0	3.9	2.6	7.4	680
Brong Ahafo	1.0	3.1	3.9	2.9	3.2	6.3	320
Northern	6.0	15.9	20.7	20.6	18.6	28.2	316
Upper East	3.1	2.2	5.1	7.1	3.1	9.3	146
Upper West	9.6	11.7	13.2	23.9	9.4	35.4	91
Education							
No education	4.0	9.0	15.5	15.7	12.8	23.5	362
Primary	4.1	9.6	8.8	12.8	6.7	18.4	543
Middle/JSS/JHS	3.6	6.4	6.5	8.2	3.9	13.4	1,626
Secondary+	1.1	2.9	3.6	4.9	2.9	7.3	1,336
Wealth quintile							
Lowest	5.6	9.3	14.0	15.9	11.1	22.0	639
Second	3.2	8.0	7.6	10.0	5.0	15.9	648
Middle	3.0	7.2	7.5	9.3	4.7	14.8	770
Fourth	2.9	5.1	4.3	6.5	3.9	10.5	848
Highest	0.6	1.8	2.5	3.4	1.3	5.5	963
Total 15-49	2.9	5.9	6.6	8.4	4.8	12.9	3,869
50-59	1.9	6.1	5.9	6.6	4.8	9.2	519
Total 15-59	2.7	5.9	6.6	8.2	4.8	12.5	4,388

Note: Total includes 2 men for whom information on employment in the last 12 months is missing.

16.7 Women's Empowerment Indicators

Women's empowerment has important implications for demographic and health outcomes, including women's use of family planning and maternal health care services. Two summary indices of women's empowerment were used to assess the relationship of selected demographic and health outcomes with women's empowerment. The first index is the number of decisions that currently married women participate in alone or jointly. This index, which ranges from 0 (participates in none of the three decisions asked about) to 3 (participates in all three decisions), provides insight into women's control over their daily lives. The second indicator, which ranges in value from 0 to 5, is the total number of reasons for which the respondent feels that a husband is justified in beating his wife. A lower score on this indicator is interpreted as reflecting a greater sense of entitlement and self-esteem and a higher status of women. Table 16.8 shows how these two indicators relate to each other.

Table 16.8 examines the relationship between the two empowerment indices among currently married women age 15-49. In general, the expectation is that women who participate in making household decisions are also likely to have gender-equalisation beliefs. Empowerment is strongest for those women who participate in all decisions and agree that wife beating is not justified for any reason. As expected, the percentage of women who disagree with all the reasons justifying wife beating increases with the number of decisions in which the woman participates. Also, as expected, the percentage of women participating in all household decisions declines directly with the number of reasons the woman believes justify wife beating.

Table 16.8 Indicators of women's empowerment

Percentage of currently married women age 15-49 who participate in all decision making and the percentage who disagree with all of the reasons justifying wife beating, by value on each of the indicators of women's empowerment, Ghana 2014

Empowerment indicator	Percentage who participate in all decision making	Percentage who disagree with all the reasons justifying wife beating	Number of women
Number of decisions in which women participate[1]			
0	na	64.1	355
1-2	na	64.3	1,689
3	na	74.1	3,278
Number of reasons for which wife-beating is justified[2]			
0	64.9	na	3,742
1-2	58.2	na	767
3-4	54.1	na	547
5	40.5	na	265

na = Not applicable
[1] See Table 16.6.1 for the list of decisions.
[2] See Table 16.7.1 for the list of reasons.

16.8 Current Use of Contraception by Women's Status

A currently married woman's ability to have only the number of children she wants, as well as her use and choice of contraceptive methods, will be affected by her control over her own life, including her sexual relationship with her husband. A woman who is unable to control other aspects of her life may be less able to make decisions regarding her fertility. She may also feel the need to choose contraceptive methods that are less obvious or do not need the approval or knowledge of her husband. Table 16.9 shows the relationship of each of the empowerment indices with current use of contraceptive methods for currently married women.

As expected, contraceptive use is positively associated with both indices of women's empowerment. Use of any contraceptive method and any modern method is higher among women who

participate in one or more decisions and increases with the number of positive attitudes towards safer sexual relations. For example, the percentage of women using any method increases from 20 percent among those who do not participate in any decisions to 29 percent among women who participate in all three decisions. The association between the decision-making index and use of specific family planning methods is most evident for any modern method: the percentage of women using any modern method rises from 18 percent among women who do not participate in any of the household decisions to 24 percent among women participating in all three decisions.

Similarly, contraceptive use is negatively related to the number of reasons for which wife beating is justified. Table 16.9 shows that the percentage using any method decreases from 28 percent of women who did not agree that any of the reasons justified wife-beating to 22 percent among women who agreed that wife beating is justified for any of the five reasons. The proportion using any modern method tends to decrease with the number of reasons for which wife beating is accepted. Conversely, the percentage of women not currently using any method is highest among those women who justified all five reasons for wife-beating (79 percent), compared with those women who do not believe wife-beating is ever justified (72 percent).

Table 16.9 Current use of contraception by women's empowerment

Percent distribution of currently married women age 15-49 by current contraceptive method, according to selected indicators of women's status, Ghana 2014

			Modern methods						
Empowerment indicator	Any method	Any modern method	Female sterili-sation	Temporary modern female methods[1]	Male condom	Any traditional method	Not currently using	Total	Number of women
Number of decisions in which women participate[1]									
0	20.1	18.0	0.0	17.0	1.0	2.1	79.9	100.0	355
1-2	23.3	19.3	1.3	17.2	0.8	3.9	76.7	100.0	1,689
3	29.1	24.1	2.4	20.4	1.4	5.0	70.9	100.0	3,278
Number of reasons for which wife-beating is justified[2]									
0	28.0	22.7	2.1	19.2	1.4	5.3	72.0	100.0	3,742
1-2	25.1	22.7	1.4	20.3	1.0	2.3	74.9	100.0	767
3-4	22.3	19.0	1.4	17.4	0.2	3.3	77.7	100.0	547
5	21.5	20.1	0.8	18.7	0.7	1.4	78.5	100.0	265
Total	26.7	22.2	1.9	19.2	1.2	4.5	73.3	100.0	5,321

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Pill, IUD, injectables, implants, female condom, diaphragm, foam/jelly, and lactational amenorrhoea method
[2] See Table 16.6.1 for the list of decisions.
[3] See Table 16.7.1 for the list of reasons.

16.9 IDEAL FAMILY SIZE AND UNMET NEED BY WOMEN'S STATUS

The question about ideal family size required a woman to perform the difficult task of considering the number of children she would choose to have in her whole life regardless of the number (if any) that she had already borne. As a woman becomes more empowered, she is more likely to have a say in the number (ideal family size) and spacing of children she desires. She has more control over her ability to access and use contraceptives to space and limit her family size. Women who have a desire to limit their births but who are not using family planning are defined as having an unmet need for family planning. Table 16.10 shows how currently married women's ideal family size and their unmet need for family planning vary by the two indices of women's empowerment. Women who want to delay their next birth for two or more years (space their next birth) or do not want to have any more births (limit their births), but who are not using family planning, are considered to have an unmet need for family planning.

Table 16.10 shows that more empowered women have a somewhat smaller ideal family size than those who are least empowered. For example, the mean ideal family size among women who agree that wife-beating is justified for all five reasons is 5.6, compared with 4.1 among women who do not agree that wife-beating is justified for any of the reasons.

Unmet need varies inconsistently with the two empowerment indicators. Looking at the relationship between unmet need and women's empowerment indicators, the findings show that unmet need is highest among women who participate in 1-2 of the household decisions (32 percent) and among women who think that wife beating is justified for 3-4 of the reasons (32 percent).

Table 16.10 Ideal number of children and unmet need for family planning by women's empowerment

Mean ideal number of children for women 15-49 and the percentage of currently married women age 15-49 with an unmet need for family planning, by indicators of women's empowerment, Ghana 2014

Empowerment indicator	Mean ideal number of children[1]	Number of women	Percentage of currently married women with an unmet need for family planning[2]			Number of women
			For spacing	For limiting	Total	
Number of decisions in which women participate[3]						
0	5.2	340	22.4	8.7	31.1	355
1-2	4.8	1,650	20.3	11.4	31.7	1,689
3	4.5	3,206	15.3	13.5	28.9	3,278
Number of reasons for which wife-beating is justified[4]						
0	4.1	6,637	17.2	12.7	30.0	3,742
1-2	4.5	1,408	17.3	12.7	30.1	767
3-4	5.1	807	19.6	12.6	32.2	547
5	5.6	379	14.5	8.9	23.4	265
Total	4.3	9,231	17.4	12.5	29.9	5,321

[1] Mean excludes respondents who gave non-numeric responses.
[2] See table 7.12.1 for the definition of unmet need for family planning
[3] Restricted to currently married women. See Table 16.6.1 for the list of decisions.
[4] See Table 16.7.1 for the list of reasons.

16.10 REPRODUCTIVE HEALTH CARE AND WOMEN'S EMPOWERMENT

Table 16.11 shows use of antenatal, delivery, and postnatal care services by women's scores on the two empowerment indices. It is expected that empowered women will be more likely to seek health care services that better meet their reproductive health goals, including safe motherhood.

The results in Table 16.11 show that women's empowerment, as expected, is positively associated with women's access to and use of reproductive health services. Women who agree with none of the reasons justifying wife beating are the most likely to have received antenatal care from a skilled provider (98 percent), delivery assistance from a skilled provider (81 percent), and postnatal care soon after delivery (84 percent), compared with women who think that wife beating is justified for all five reasons (92 percent, 47 percent, and 54 percent, respectively).

Table 16.11 Reproductive health care by women's empowerment

Percentage of women age 15-49 with a live birth in the five years preceding the survey who received antenatal care, delivery assistance and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Ghana 2014

Empowerment indicator	Percentage receiving antenatal care from a skilled provider[1]	Percentage receiving delivery care from a skilled provider[1]	Received postnatal care from health personnel within the first two days since delivery[2]	Number of women with a child born in the last five years
Number of decisions in which women participate[3]				
0	92.8	65.4	63.9	259
1-2	96.9	73.4	77.1	1,143
3	98.2	77.7	82.9	2,044
Number of reasons for which wife-beating is justified[4]				
0	98.3	80.7	84.3	2,878
1-2	96.4	72.4	76.1	606
3-4	94.8	64.3	68.8	441
5	92.0	47.3	53.6	218
Total	97.3	76.0	79.8	4,142

[1] Skilled provider includes doctor, nurse/midwife, and community health officer/nurse.
[2] Includes women who received a postnatal checkup from a doctor, nurse/midwife, community health officer/nurse, or traditional birth attendant (TBA) in the first two days after the birth. Includes women who gave birth in a health facility and those who did not give birth in a health facility.
[3] Restricted to currently married women. See Table 16.6.1 for the list of decisions.
[4] See Table 16.7.1 for the list of reasons.

16.11 INFANT AND CHILD MORTALITY AND WOMEN'S EMPOWERMENT

The care that children, particularly young children, receive is a result of their household circumstances. In most cases, a child's mother is the person most likely to notice problems with a child's health because of her role as the primary caregiver, and she is therefore likely to be in the best position to make health care choices. Also, a mother's health care before, during, and after pregnancy directly and indirectly influences her child's health, particularly in the early stages of life. There is a positive relationship between higher levels of women's empowerment and better health and chances of survival for children. The ability of women to access information, make decisions, and act effectively in their own interests or in the interests of those who depend on them is essential to their empowerment. In fact, maternal empowerment fits into Mosley and Chen's framework on child survival as an individual-level variable that affects child survival through proximate determinants (Mosley and Chen 1984).

Table 16.12 shows that infant and under-5 mortality rates decline as women's empowerment index scores increase. For example, in the case of women who participate in no decisions, infant mortality is 52 deaths per 1,000 live births and under-5 mortality is 83 deaths per 1,000 live births. This compares unfavourably with 50 deaths and 69 deaths per 1,000 live births, respectively, for women who participate in all three decisions. The relationship between scores for reasons for the justification of wife beating and childhood mortality is not clear. However, among women who justified wife-beating for all five reasons, they are more likely to have a high infant and under-5 mortality rate (54 deaths and 88 deaths per 1,000 live births, respectively), compared with children of women who believe that wife-beating is never justified (49 deaths and 67 deaths per 1,000 live births, respectively).

Table 16.12 Early childhood mortality rates by women's status

Infant, child, and under-5 mortality rates for the 10-year period preceding the survey, by indicators of women's empowerment, Ghana 2014

Empowerment indicator	Infant mortality $(_1q_0)$	Child mortality $(_4q_1)$	Under-5 mortality $(_5q_0)$
Number of decisions in which women participate[1]			
0	52	33	83
1-2	40	27	67
3	50	20	69
Number of reasons for which Wife beating is justified[2]			
0	49	19	67
1-2	46	33	78
3-4	38	32	69
5	54	36	88

[1] Restricted to currently married women. See Table 16.6.1 for the list of decisions.
[2] See Table 16.7.1 for the list of reasons

16.12 ENTITLEMENT TO AND USE OF MATERNITY LEAVE

Maternity protection for working women is essential to their health and well-being and to that of their children. It is crucial to ensure women's access to decent work, as well as to gender equality, as it enables them to combine their reproductive and productive functions and to prevent unequal treatment in employment due to women's reproductive function. To ensure that women are protected during their reproductive period, the 2003 Ghana Labour Act 651 states that employed women are entitled to a period of 12 weeks of maternity leave on production of a medical certificate issued by a health professional showing the expected date of her delivery (in addition to any period of annual leave she is entitled to otherwise). Employed women who are on maternity leave are entitled to be paid fully and receive all the other benefits that they are otherwise entitled to.

Table 16.13 shows the percent distribution of women age 15-49 who were employed at any time in the past 12 months preceding the survey by reported entitlement to maternity leave. Seventy-eight percent of the employed women were not entitled to maternity leave. Only 9 percent of employed women were entitled to maternity leave with pay, while 12 percent could only take maternity leave without pay. Employed women in urban areas are more likely to receive maternity leave with pay (13 percent) than those in rural areas (5 percent). At the regional level, women who are entitled to paid maternity leave range from 16 percent in Greater Accra to as low as 3 percent in the Northern region. Employed women with secondary and higher education and those in the highest wealth quintile are much more likely to enjoy maternity leave with pay than those in the other categories.

Table 16.13 Entitlement to maternity leave

Percent distribution of women age 15-49 who were employed at any time in the 12 months preceding the survey by reported entitlement to maternity leave, according to background characteristics, Ghana, 2014

Background characteristic	Among women employed in the 12 months preceding the survey, percent distribution by maternity leave entitlement:					Number of women
	Paid leave	Unpaid leave	Not eligible for maternity leave	Don't know/ missing	Total	
Age						
15-19	1.6	7.5	84.7	6.2	100.0	576
20-24	8.9	11.0	76.7	3.5	100.0	1,057
25-29	14.7	11.8	72.3	1.3	100.0	1,366
30-34	9.7	13.8	76.0	0.5	100.0	1,215
35-39	10.1	12.2	77.2	0.5	100.0	1,206
40-44	6.0	11.2	81.8	1.0	100.0	973
45-49	6.1	10.5	82.0	1.4	100.0	800
Residence						
Urban	12.8	11.1	73.8	2.3	100.0	3,871
Rural	4.7	12.0	82.3	1.0	100.0	3,323
Region						
Western	7.0	1.4	90.9	0.6	100.0	758
Central	8.6	7.1	82.6	1.7	100.0	726
Greater Accra	16.1	17.3	62.9	3.7	100.0	1,531
Volta	6.7	28.6	64.8	0.0	100.0	501
Eastern	9.0	10.3	79.2	1.5	100.0	618
Ashanti	7.2	8.0	82.8	2.0	100.0	1,449
Brong Ahafo	9.1	6.7	83.3	0.9	100.0	595
Northern	2.8	14.3	81.9	1.1	100.0	615
Upper East	4.1	6.2	89.7	0.0	100.0	248
Upper West	8.5	22.3	68.9	0.3	100.0	153
Education						
No education	1.5	13.5	84.1	0.9	100.0	1,589
Primary	2.3	12.8	83.6	1.2	100.0	1,301
Middle/JSS/JHS	3.1	11.9	83.4	1.5	100.0	2,843
Secondary+	34.7	7.3	54.6	3.4	100.0	1,462
Wealth quintile						
Lowest	1.7	13.2	84.1	0.9	100.0	1,171
Second	2.2	12.0	85.1	0.6	100.0	1,228
Middle	4.3	12.1	82.0	1.6	100.0	1,471
Fourth	9.6	9.5	78.9	2.0	100.0	1,621
Highest	22.5	11.3	63.3	2.9	100.0	1,703
Total	9.0	11.5	77.7	1.7	100.0	7,195

Table 16.14 shows the percent distribution of women 15-49 with a live birth in the past five years and working at the time of their last birth, percent distribution of women who took maternity leave, and percent distribution of women who took paid maternity leave. Overall, 63 percent of women were working around the time of their last birth. Eighty-one percent of the women working did not take leave, 12 percent took leave without pay, and only 7 percent took paid maternity leave. Women employed by a nonfamily member, earning cash only, and living in urban areas and in Greater Accra are more likely to enjoy maternity leave with pay than those in the other categories. Women with a secondary or higher education are much more likely to go on maternity leave with pay (40 percent) than those with no education or only primary education (1 percent). Similarly, the proportion of women going on maternity leave with pay around the time of their last birth increases with increasing wealth.

Table 16.14 Maternity leave

Percentage of women 15-49 with a live birth in the past five years before the survey working around the time of their last birth; percent distribution of women who worked at the time of their last birth by maternity leave, Ghana, 2014

	Worked around the birth time of the last child		Took maternity leave for the last birth					
Background characteristic	Percentage of women working around the time of the last birth	Number of women	Yes, paid leave	Yes, unpaid leave	Did not take leave	Don't remember/ missing	Total	Number of women
Type of employer								
Employed by family member	100.0	274	2.4	12.4	85.2	0.0	100.0	274
Employed by nonfamily member	100.0	440	38.3	12.6	49.0	0.0	100.0	440
Self-employed	100.0	1,909	0.6	12.2	87.1	0.0	100.0	1,909
Type of earnings								
Cash only	100.0	1,691	10.5	13.6	75.9	0.0	100.0	1,691
Cash and in-kind	100.0	475	1.8	15.5	82.7	0.0	100.0	475
In-kind only	100.0	84	2.2	9.0	88.8	0.0	100.0	84
Not paid	100.0	373	0.0	3.2	96.8	0.0	100.0	373
Age								
15-19	30.2	184	0.0	5.1	94.9	0.0	100.0	56
20-24	47.0	704	1.8	10.7	87.5	0.0	100.0	331
25-29	62.4	1,002	10.3	13.6	75.9	0.1	100.0	625
30-34	66.3	970	9.6	13.5	76.9	0.0	100.0	643
35-39	76.0	780	7.8	13.1	79.1	0.0	100.0	593
40-44	76.4	382	2.3	9.7	88.0	0.0	100.0	292
45-49	70.4	121	2.8	8.2	89.0	0.0	100.0	85
Residence								
Urban	62.0	1,914	10.7	13.6	75.7	0.0	100.0	1,187
Rural	64.5	2,228	4.2	11.3	84.5	0.1	100.0	1,438
Region								
Western	57.8	427	6.8	2.2	91.1	0.0	100.0	247
Central	63.3	455	8.2	8.0	83.8	0.0	100.0	288
Greater Accra	64.3	674	13.2	21.7	65.1	0.0	100.0	433
Volta	64.5	315	3.2	32.0	64.4	0.4	100.0	203
Eastern	67.2	389	7.2	9.5	83.3	0.0	100.0	261
Ashanti	70.3	738	6.1	3.3	90.5	0.0	100.0	519
Brong Ahafo	73.5	374	5.9	8.4	85.7	0.0	100.0	275
Northern	45.3	480	2.9	20.5	76.6	0.0	100.0	217
Upper East	62.4	178	3.2	6.6	90.2	0.0	100.0	111
Upper West	62.6	111	9.7	27.1	63.3	0.0	100.0	69
Education								
No education	62.0	1,079	1.0	14.8	84.0	0.1	100.0	669
Primary	68.4	812	1.1	11.6	87.2	0.0	100.0	556
Middle/JSS/JHS	61.8	1,640	1.8	11.4	86.7	0.0	100.0	1,013
Secondary+	63.3	611	40.2	11.3	48.4	0.0	100.0	387
Wealth quintile								
Lowest	59.0	869	1.5	15.0	83.5	0.0	100.0	513
Second	65.9	840	0.8	11.9	87.1	0.1	100.0	554
Middle	63.5	827	2.3	11.9	85.8	0.0	100.0	525
Fourth	65.2	814	7.3	11.2	81.6	0.0	100.0	531
Highest	63.4	791	24.8	11.7	63.5	0.0	100.0	502
Total	63.4	4,142	7.1	12.3	80.5	0.0	100.0	2,624

Note: Total includes 1 woman for whom information on type of employer is missing and two women for whom information of type of earnings is missing.

16.13 LENGTH OF MATERNITY LEAVE

Table 16.15 shows, among women taking paid or unpaid maternity leave, the median number of weeks that women did not work prior to their last birth and the median number of weeks that they did not work following their last birth, according to background and employment characteristics.

Generally, the median number of weeks that women did not work before their last birth is 2 weeks, and the median number of weeks that they did not work after giving birth is 16 weeks. Women who are self-employed stop work for a longer duration before giving birth (4 weeks) and resume work later (17 weeks) than women who are employed by family members and nonfamily members. There are variations in the median number of weeks of stopping work before last birth in relation to women who earn cash only

and those who earn cash and in-kind. Women who earn only cash stop work for a shorter duration before birth than women who earn cash and in-kind (median of 2 weeks versus 4 weeks). However, the median number of weeks that women stop working following birth is similar for both women who earn only cash and those who earn cash and in-kind.

The median number of weeks that women stopped work before and after birth is higher for women age 20-24, compared with women in other age groups. Women in urban areas are more likely to stop work longer after birth (16 weeks) than those in rural areas (12 weeks). At the regional level, Volta region has the highest median number of weeks that women stopped work before birth (4 weeks). On the other hand, the highest median number of weeks that women did not work following their last birth is in Brong Ahafo region (17 weeks). Women in the poorest and wealthiest households have the shortest median number of weeks that they stopped work before and after birth, compared with women in the other wealth quintiles.

Table 16.15 Median number of weeks women do not work before and after birth

Among women taking paid or unpaid maternity leave, median number of weeks that women did not work prior to their last birth and median number of weeks that women did not work following their last birth, according to background and employment characteristics, Ghana 2014

Background/employment characteristic	Women taking paid or unpaid maternity leave at time of the last birth		Number of women
	Median number of weeks that woman did not work prior to last birth	Median number of weeks that woman did not work following last birth	
Age			
15-19	*	*	3
20-24	3.9	16.4	41
25-29	3.2	16.1	150
30-34	1.2	11.9	149
35-39	0.1	16.2	124
40-44	0.1	16.1	35
45-49	*	*	9
Took maternity leave for the last birth			
Yes, paid leave	*	11.8	187
Yes, unpaid leave	3.8	16.5	323
Type of employer			
Employed by family member	1.8	11.9	41
Employed by nonfamily member	0.1	11.8	225
Self-employed	3.7	16.6	246
Type of earnings			
Cash only	1.5	16.0	407
Cash and in-kind	3.8	16.1	82
In-kind only	*	*	9
Not paid	*	*	12
Residence			
Urban	2.0	16.2	289
Rural	1.6	11.9	222
Region			
Western	*	*	22
Central	(2.9)	(12.0)	47
Greater Accra	3.4	16.4	151
Volta	3.6	11.9	72
Eastern	(1.3)	(11.9)	44
Ashanti	*	(16.2)	49
Brong Ahafo	*	16.8	39
Northern	*	16.2	51
Upper East	(1.9)	(11.1)	11
Upper West	0.8	11.3	26
Education			
No education	3.1	16.3	106
Primary	3.6	16.3	71
Middle/JSS/JHS	7.1	16.9	134
Secondary+	*	11.8	199
Wealth quintile			
Lowest	0.0	11.9	85
Second	3.6	16.4	71
Middle	3.8	16.2	74
Fourth	3.7	16.2	98
Highest	0.1	12.0	183
Total	1.8	16.1	511

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

16.14 BRIDEWEALTH NEGOTIATION

One of the characteristics of Ghanaian marriages is the payment of bridewealth. It is an amount of money, property, or wealth paid by the groom or his family to the parents of the bride upon marriage of their daughter to the groom. It signifies the consent of family members to the marriage and also serves as a sign or a token of support for the marriage. The acceptance of the bridewealth by the bride's family represents each family's approval of the other, and it formalises the marriage. Bridewealth symbolises a bond between the bride's and the groom's families.

Table 16.16 presents information on bridewealth among currently married women and men age 15-49. Seventy percent of currently married women in Ghana live in marriages where their bridewealth was negotiated and paid in full, 10 percent had a bridewealth negotiated and partially paid, 2 percent had their bridewealth negotiated but did not pay at all, and 18 percent of the women's bridewealth was not negotiated. Currently married women in rural areas, in the Northern region, those with no education, and women in the lowest wealth quintile are more likely to live in a marriage where their bridewealth was negotiated and paid in full than those in the other categories.

Sixty-eight percent of currently married men age 15-49 have negotiated their bridewealth and paid it in full, while 12 percent negotiated the bridewealth and paid it partially. It is interesting to note that 19 percent of the married men did not negotiate the bridewealth payment.

The proportion of men who negotiated the bridewealth and paid it in full is higher in urban areas (71 percent) than rural areas (64 percent). Men from Northern region (89 percent) are most likely to negotiate the payment of bridewealth and pay it in full, while those in Brong Ahafo region (44 percent) are the least likely to do so. The percentage of men who negotiated the bridewealth and paid it in full fluctuates by wealth; it ranges from 74 percent among men in the fourth quintile to 59 percent for those in the second quintile.

Table 16.16 Bridewealth negotiation

Percent distribution of currently married women and men age 15-49 by payment status of bridewealth, according to background characteristics, Ghana, 2014

	Women						Men					
Background characteristic	Bride-wealth nego-tiated and paid in full	Bride-wealth nego-tiated and partially paid	Bride-wealth nego-tiated and not paid at all	Bride-wealth not nego-tiated	Total	Number of women	Bride-wealth nego-tiated and paid in full	Bride-wealth nego-tiated and partially paid	Bride-wealth nego-tiated and not paid at all	Bride-wealth not nego-tiated	Total	Number of men
Residence												
Urban	68.5	8.2	1.0	22.4	100.0	2,025	71.0	8.5	1.4	19.1	100.0	754
Rural	71.6	12.8	2.6	12.9	100.0	1,944	63.8	17.9	1.1	17.2	100.0	726
Region												
Western	85.5	7.8	1.9	4.8	100.0	389	60.0	10.9	0.0	29.1	100.0	145
Central	67.1	8.3	1.7	22.9	100.0	386	62.5	17.8	0.0	19.7	100.0	157
Greater Accra	58.4	7.4	0.2	34.0	100.0	742	70.0	7.6	0.4	21.9	100.0	314
Volta	64.1	24.4	4.9	6.6	100.0	261	64.6	20.5	0.7	14.2	100.0	124
Eastern	60.0	16.5	1.3	22.3	100.0	317	60.9	22.7	4.2	12.2	100.0	122
Ashanti	68.8	7.9	3.6	19.7	100.0	741	80.1	7.8	2.8	9.3	100.0	230
Brong Ahafo	58.8	10.5	1.2	29.5	100.0	305	44.2	8.5	0.7	46.6	100.0	115
Northern	92.0	5.1	0.3	2.5	100.0	478	89.1	7.4	0.8	2.7	100.0	165
Upper East	72.9	22.8	2.4	1.8	100.0	210	46.5	34.7	0.8	18.0	100.0	67
Upper West	82.1	12.9	0.3	4.4	100.0	140	63.7	25.3	3.3	7.7	100.0	43
Education												
No education	77.9	8.8	1.4	11.9	100.0	1,247	76.6	10.1	1.0	12.4	100.0	260
Primary	63.4	17.4	2.9	16.3	100.0	673	58.4	24.7	1.5	15.4	100.0	196
Middle/JSS/JHS	68.4	11.5	2.3	17.8	100.0	1,383	65.6	14.6	1.7	18.1	100.0	567
Secondary+	65.4	4.3	0.2	30.1	100.0	665	68.5	8.1	0.7	22.7	100.0	456
Wealth quintile												
Lowest	76.4	14.1	2.0	7.5	100.0	841	65.8	19.7	1.4	13.1	100.0	284
Second	66.6	15.8	3.5	14.1	100.0	671	58.5	21.8	0.6	19.2	100.0	242
Middle	68.0	13.3	3.7	15.1	100.0	637	62.6	16.5	0.9	20.0	100.0	255
Fourth	71.1	7.6	0.9	20.3	100.0	773	73.8	9.1	1.0	16.1	100.0	275
Highest	67.5	4.5	0.0	28.1	100.0	1,046	72.6	4.5	1.7	21.2	100.0	425
Total	70.0	10.4	1.8	17.8	100.0	3,968	68.3	11.9	1.2	18.7	100.0	1,480

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SAMPLE DESIGN   *Appendix* A

A.1   INTRODUCTION

T he 2014 Ghana Demographic and Health Survey (GDHS) is the sixth in a series of Demographic
and Health Surveys conducted in Ghana in 1988, 1993, 1998, 2003, and 2008. As with the prior
surveys, the main objective of the 2014 GDHS is to provide up-to-date information on fertility and
childhood mortality levels; fertility preferences; awareness, approval, and use of family planning methods;
maternal and child health; knowledge and attitudes toward HIV/AIDS and other sexually transmitted
infections (STI); and prevalence of HIV among the adult population. All women age 15-49 who are usual
members of the selected households and others who spent the night before the survey in the selected
households were eligible to be interviewed in the survey. In half of the sampled households, all men age
15-49 who were usual members of the selected households and those who spent the night before the survey
in the selected households were eligible to be interviewed in the survey. In the same subsample, all women
who were eligible for the survey and all children under age 5 were eligible for height and weight
measuring and anaemia testing, and all women age 15-49 and men age 15-59 who were eligible for the
individual survey were also eligible for HIV testing. The 2014 GDHS sample is designed to provide
estimates of population and health indicators including fertility and mortality rates for the country as a
whole, for urban and rural areas separately, and for each of the 10 geographical regions in Ghana.

The 2014 GDHS involved a two-stage sample design. This appendix describes the sampling frame
used for the survey, the procedures used at each stage of the sample selection, and the necessity for and the
steps followed in calculating the sample weights.

A.2   SAMPLING FRAME

The sampling frame used for the 2014 GDHS is the frame of the Ghana 2010 Population and
Housing Census (PHC) provided by the Ghana Statistical Service (GSS). The census frame is a complete
list of all census *enumeration areas* (EAs) created for the 2010 PHC. An EA is a geographic area covering
an average of 145 households. The sampling frame contains information about the EA location, type of
residence (urban or rural), and estimated number of residential households. A sketch map that delineates
the EA geographic boundaries is available for each EA.

Administratively, Ghana is divided into ten geographical regions. Each region is further sub-
divided into a number of districts, in total there are 170 districts. After the census, the government changed
the second level administrative units by splitting some of them. Currently, there are 216 districts in Ghana.
Table A.1 indicates the percentage distribution of households in the sampling frame by region and by type
of residence. The regional distribution of households varies from 2 percent in Upper West to 21 percent in
Ashanti. More than half of households in Ghana (56 percent) live in urban areas. The percentage of the
population living in urban areas varies by region from 21 percent in Upper West to 92 percent in Greater
Accra.

Table A.2 shows the distribution of EAs and their average size (average number of households) by
region and by type of residence. There are in total 37,641 EAs in the sampling frame (excluding the
institutional EAs), 16,503 in urban areas and 21,138 in rural areas. The average EA size is 145 households.
Urban EAs have a larger average size than rural EAs (185 households per EA compared with 114
households per EA).

Table A.1 Households

Distribution of the households in the sampling frame by region and residence, Ghana 2014

| Region | Number of households in the frame | | | Percent distribution of households in the frame | |
	Urban	Rural	Total	Region	Urban
Western	248,919	304,716	553,635	10.1	45.0
Central	255,365	271,399	526,764	9.6	48.5
Greater Accra	950,391	86,035	1,036,426	19.0	91.7
Volta	178,817	316,786	495,603	9.1	36.1
Eastern	293,549	338,499	632,048	11.6	46.4
Ashanti	715,470	410,746	1,126,216	20.6	63.5
Brong Ahafo	236,287	254,232	490,519	9.0	48.2
Northern	106,071	212,048	318,119	5.8	33.3
Upper East	41,941	135,690	177,631	3.2	23.6
Upper West	22,628	87,547	110,175	2.0	20.5
Ghana	3,049,438	2,417,698	5,467,136	100.0	55.8

Source: Ghana 2010 Population and Housing Census sampling frame provided by the Ghana Statistical Service

Table A.2 Enumeration areas and enumeration area size

Distribution of the enumeration areas (EAs) in the sampling frame and average number of households in the EAs, by region and residence, Ghana 2014

| Region | Number of enumeration areas in the frame | | | Average number of households in the enumeration area | | |
	Urban	Rural	Total	Urban	Rural	Total
Western	1,239	2,293	3,532	201	133	157
Central	1,350	1,884	3,234	189	144	163
Greater Accra	4,724	698	5,422	201	123	191
Volta	964	2,645	3,609	185	120	137
Eastern	1,708	2,696	4,404	172	126	144
Ashanti	3,618	3,442	7,060	198	119	160
Brong Ahafo	1,425	2,241	3,666	166	113	134
Northern	998	2,867	3,865	106	74	82
Upper East	324	1,403	1,727	129	97	103
Upper West	153	969	1,122	148	90	98
Ghana	16,503	21,138	37,641	185	114	145

Source: Ghana 2010 Population and Housing Census sampling frame provided by the Ghana Statistical Service

A.3   SAMPLE DESIGN AND SELECTION

The 2014 GDHS sample was stratified and selected in two stages. Each region was stratified into urban and rural areas, yielding 20 sampling strata. Samples of EAs were selected independently in each stratum in two stages. Implicit stratification and proportional allocation were achieved at each of the lower administrative levels by sorting the sampling frame within each sampling stratum before sample selection, according to administrative units in different levels, and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 427 EAs were selected with probability proportional to the EA size and with independent selection in each sampling stratum. The EA size is the number of residential households residing in the EA enumerated in the 2010 PHC. A household listing operation was carried out in all the selected EAs, and the resulting lists of households served as a sampling frame for the selection of households in the second stage. To minimize the task of household listing for EAs with more than 200 households, each large EA was segmented. Only one segment was selected for the survey with probability proportional to the segment size. Household listing was conducted only in the selected segment. Therefore, a 2014 GDHS cluster is either an EA or a segment of an EA.

In the second stage of selection, a fixed number of 30 households per cluster was selected with an equal probability systematic selection from the newly created household listing. The survey interviewers visited and interviewed only the selected households. No replacements or changes of the selected

households were allowed during data collection, in order to prevent bias. All women age 15-49 who were usual members of the selected households or who spent the night before the survey in the selected households were eligible for the female survey. In half of the selected households, all men age 15-49 who were usual members of the households or who spent the night before the survey in the households were eligible for the male survey.

Table A.3 shows the allocation of clusters and selected households, and Table A.4 shows the expected number of completed women's and men's interviews, according to region and residence. To ensure that the survey precision is comparable across regions, the sample allocation figures a power allocation between regions and between different types of residence within each region. Based on a fixed sample take of 30 households per cluster, the survey selected 427 EAs, 216 in urban areas and 211 in rural areas. The survey was conducted in 12,810 residential households, 6,480 in urban areas and 6,330 in rural areas. The sample was expected to result in about 10,214 completed interviews with women age 15-49, 5,098 in urban areas and 5,116 in rural areas, and 4,175 completed interviews with men age 15-49, 2,061 in urban areas and 2,114 in rural areas.

Table A.3 Sample allocation of clusters and households

Sample allocation of clusters and households by region, according to residence, Ghana 2014

	Number of clusters			Number of households		
Region	Urban	Rural	Total	Urban	Rural	Total
Western	21	25	46	630	750	1,380
Central	22	23	45	660	690	1,350
Greater Accra	42	6	48	1,260	180	1,440
Volta	17	24	41	510	720	1,230
Eastern	22	25	47	660	750	1,410
Ashanti	32	17	49	960	510	1,470
Brong Ahafo	22	25	47	660	750	1,410
Northern	15	22	37	450	660	1,110
Upper East	13	22	35	390	660	1,050
Upper West	10	22	32	300	660	960
Ghana	216	211	427	6,480	6,330	12,810

Table A.4 Sample allocation of completed interviews with women and men

Sample allocation of expected number of completed interviews with women and men age 15-49 by region, according to residence, Ghana 2014

	Women 15-49			Men 15-49		
Region	Urban	Rural	Total	Urban	Rural	Total
Western	457	552	1,009	203	246	449
Central	476	506	982	178	189	367
Greater Accra	1,009	147	1,156	390	57	447
Volta	404	581	985	172	247	419
Eastern	472	546	1,018	199	230	429
Ashanti	782	422	1,204	295	160	455
Brong Ahafo	467	539	1,006	183	211	394
Northern	420	625	1,045	187	278	465
Upper East	327	562	889	139	239	378
Upper West	284	636	920	115	257	372
Ghana	5,098	5,116	10,214	2,061	2,114	4,175

The preceding calculations are based on the facts obtained from the 2008 GDHS: the average number of women age 15-49 per household is 0.87 in urban areas and 0.88 in rural areas; the average number of men age 15-49 per household is 0.65 in urban areas and 0.70 in rural areas. The household response rate is 94 percent in urban areas and 96 percent in rural areas; the women's response rate is 96 percent in both urban and rural areas, and the men's response rate is 96 percent in both urban and rural areas.

A.4   Sample Probabilities and Sample Weights

Due to the nonproportional allocation of sample to different regions and to their urban and rural areas, and the possible differences in response rates, sampling weights are required for any analysis using the 2014 GDHS data. These ensure the actual representative of the survey results at the national level as well as at the domain level. Because the 2014 GDHS sample is a two-stage stratified cluster sample, sampling weight will be calculated based on sampling probabilities separately for each sampling stage and for each cluster. We use the following notations:

P_{1hi}:   first-stage sampling probability of the ith cluster in stratum h
P_{2hi}:   second-stage sampling probability within the ith cluster (households)

Let a_h be the number of EAs selected in stratum h, M_{hi} the number of households according to the sampling frame in the ith EA, and $\sum M_{hi}$ the total number of households in the stratum. The probability of selecting the ith EA in the 2014 GDHS sample is calculated as follows:

$$\frac{a_h M_{hi}}{\sum M_{hi}}$$

Let b_{hi} be the proportion of households in the selected cluster compared to the total number of households in EA i in stratum h if the EA is segmented, otherwise $b_{hi} = 1$. Then the probability of selecting cluster i in the sample is:

$$P_{1hi} = \frac{a_h M_{hi}}{\sum M_{hi}} \times b_{hi}$$

Let L_{hi} be the number of households listed in the household listing operation in cluster i in stratum h, let g_{hi} be the number of households selected in the cluster. The second stage's selection probability for each household in the cluster is calculated as follows:

$$P_{2hi} = \frac{g_{hi}}{L_{hi}}$$

The overall selection probability of each household in cluster i of stratum h is therefore the production of the two stages of selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

The sampling weight for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of the design weight. Design weight was adjusted for household as well as individual nonresponse to get the sampling weights for households and for women's and men's surveys respectively. The differences between the household sampling weights and the individual sampling weights are introduced by individual nonresponse. The final sampling weights are normalized to give the total number of unweighted cases equal to the total number of weighted cases at the national level, for both household and individual weights, respectively. The normalized weights are relative weights that are valid for estimating means, proportions, and ratios but not population totals and pooled data.

Table A.5 Sample implementation: Women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall women response rates, according to urban-rural residence and region (unweighted), Ghana 2014

	Residence		Region										
Result	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Total
Selected households													
Completed (C)	91.5	93.0	93.9	90.8	92.9	90.4	92.6	89.1	93.8	91.4	95.0	92.9	92.2
Household present but no competent respondent at home (HP)	1.4	0.5	1.6	0.7	1.3	1.2	0.4	1.1	0.1	1.9	0.4	0.3	0.9
Postponed (P)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (R)	0.6	0.1	0.4	0.2	1.3	0.1	0.4	0.6	0.2	0.1	0.0	0.0	0.4
Dwelling not found (DNF)	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.1
Household absent (HA)	3.3	3.5	2.1	5.0	2.5	2.9	3.1	2.8	4.7	3.6	3.3	4.2	3.4
Dwelling vacant/address not a dwelling (DV)	2.7	2.4	1.7	2.5	1.5	5.1	2.8	5.6	0.8	2.4	0.7	2.0	2.6
Dwelling destroyed (DD)	0.1	0.2	0.0	0.1	0.2	0.2	0.0	0.4	0.1	0.1	0.2	0.1	0.1
Other (O)	0.4	0.2	0.4	0.6	0.2	0.1	0.6	0.3	0.1	0.4	0.2	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	6,492	6,339	1,387	1,353	1,440	1,233	1,411	1,471	1,413	1,110	1,050	963	12,831
Household response rate (HRR)[1]	97.8	99.3	97.9	98.8	97.2	98.6	99.1	98.1	99.6	97.8	99.4	99.4	98.5
Eligible women													
Completed (EWC)	96.8	97.8	98.2	96.7	94.9	98.3	96.4	96.9	98.7	97.5	98.4	97.4	97.3
Not at home (EWNH)	1.8	1.2	1.1	1.8	2.9	1.0	1.9	1.5	0.2	2.0	1.2	1.3	1.5
Postponed (EWP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Refused (EWR)	0.8	0.2	0.6	0.3	1.5	0.0	0.9	0.8	0.1	0.0	0.1	0.7	0.5
Partly completed (EWPC)	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
Incapacitated (EWI)	0.4	0.6	0.2	0.9	0.3	0.5	0.7	0.7	0.9	0.4	0.3	0.4	0.5
Other (EWO)	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,753	4,903	1,046	973	1,053	809	941	1,073	1,018	1,069	929	745	9,656
Eligible women response rate (EWRR)[2]	96.8	97.8	98.2	96.7	94.9	98.3	96.4	96.9	98.7	97.5	98.4	97.4	97.3
Overall women response rate (ORR)[3]	94.7	97.1	96.1	95.5	92.2	96.9	95.5	95.0	98.4	95.3	97.8	96.9	95.9

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] The eligible women's response rate (EWRR) is equivalent to the percentage of interviews completed (EWC).
[3] The overall women's response rate (OWRR) is calculated as follows:
OWRR = HRR * EWRR/100

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall men response rates, according to urban-rural residence and region (unweighted), Ghana 2014

	Residence		Region										Total
Result	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	
Selected households													
Completed (C)	91.4	93.3	95.7	90.4	91.9	89.0	92.6	89.5	94.6	92.1	94.9	93.4	92.4
Household present but no competent respondent at home (HP)	1.5	0.4	1.2	0.9	1.5	1.6	0.4	1.2	0.1	2.0	0.4	0.4	1.0
Refused (R)	0.7	0.2	0.6	0.3	1.5	0.2	0.6	0.7	0.1	0.2	0.0	0.0	0.5
Dwelling not found (DNF)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1
Household absent (HA)	3.3	3.4	1.3	4.7	2.9	3.9	3.5	2.4	4.8	2.5	3.2	4.1	3.3
Dwelling vacant/address not a dwelling (DV)	2.6	2.2	1.3	2.7	1.8	5.2	2.3	5.3	0.3	2.7	0.8	1.5	2.4
Dwelling destroyed (DD)	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.4	0.2	0.1
Other (O)	0.4	0.2	0.0	0.7	0.1	0.2	0.6	0.4	0.0	0.4	0.2	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	3,250	3,172	695	677	720	618	706	736	708	555	525	482	6,422
Household response rate (HRR)[1]	97.6	99.2	98.2	98.6	96.8	98.0	98.9	97.9	99.7	97.5	99.4	99.3	98.4
Eligible men													
Completed (EMC)	93.7	96.6	96.9	92.7	90.6	95.9	96.7	93.5	96.2	97.2	98.0	94.2	95.2
Not at home (EMNH)	4.2	2.2	1.5	5.2	6.3	2.4	2.4	4.2	2.0	2.2	0.9	4.1	3.1
Refused (EMR)	1.4	0.5	1.2	1.6	2.1	0.5	0.7	1.9	0.6	0.2	0.0	0.5	1.0
Partly completed (EMPC)	0.1	0.1	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Incapacitated (EMI)	0.7	0.6	0.2	0.5	0.6	1.1	0.2	0.4	1.2	0.4	0.9	1.1	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	2,189	2,420	519	441	523	370	460	480	504	497	450	365	4,609
Eligible men response rate (EMRR)[2]	93.7	96.6	96.9	92.7	90.6	95.9	96.7	93.5	96.2	97.2	98.0	94.2	95.2
Overall men response rate (ORR)[3]	91.4	95.8	95.2	91.4	87.7	94.1	95.7	91.6	95.9	94.8	97.4	93.6	93.7

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * C}{C + HP + P + R + DNF}$$

[2] The eligible men's response rate (EMRR) is equivalent to the percentage of interviews completed (EMC)

[3] The overall men's response rate (OMRR) is calculated as:
OMRR = HRR * EMRR/100

Table A.7 Coverage of HIV testing by social and demographic characteristics: Women

Percent distribution of interviewed women age 15-49 by HIV testing status, according to social and demographic characteristics (unweighted), Ghana 2014

| Characteristic | HIV test status | | | | | |
	DBS tested[1]	Refused to provide blood	Absent at the time of blood collection	Other/missing[2]	Total	Number of women
Marital status						
Never married	97.6	2.0	0.2	0.3	100.0	1,530
Ever had sex	97.5	2.1	0.3	0.1	100.0	913
Never had sex	97.7	1.8	0.0	0.5	100.0	617
Married/living together	97.9	1.8	0.2	0.1	100.0	2,799
Divorced/separated	97.3	2.7	0.0	0.0	100.0	333
Widowed	94.9	4.3	0.7	0.0	100.0	138
Type of union						
In polygynous union	98.2	1.1	0.5	0.2	100.0	555
In non-polygynous union	97.8	2.0	0.1	0.1	100.0	2,224
Not currently in union	97.4	2.2	0.2	0.2	100.0	2,001
Don't know/missing	100.0	0.0	0.0	0.0	100.0	20
Ever had sexual intercourse						
Yes	97.7	2.0	0.2	0.1	100.0	4,181
No	97.7	1.8	0.0	0.5	100.0	618
Missing	0.0	100.0	0.0	0.0	100.0	1
Currently pregnant						
Pregnant	98.0	2.0	0.0	0.0	100.0	358
Not pregnant or not sure	97.6	2.0	0.2	0.2	100.0	4,442
Times slept away from home in past 12 months						
None	97.7	1.8	0.3	0.2	100.0	2,558
1-2	97.6	2.1	0.2	0.1	100.0	1,225
3-4	98.2	1.8	0.0	0.0	100.0	512
5+	96.8	2.8	0.0	0.4	100.0	501
Missing	100.0	0.0	0.0	0.0	100.0	4
Time away in past 12 months						
Away for more than 1 month	97.8	1.9	0.3	0.0	100.0	722
Away for less than 1 month	97.5	2.3	0.0	0.2	100.0	1,516
No away	97.7	1.8	0.3	0.2	100.0	2,561
Missing	100.0	0.0	0.0	0.0	100.0	1
Ethnic group						
Akan	96.8	2.8	0.2	0.2	100.0	1,980
Ga/Dangme	95.4	3.5	0.4	0.8	100.0	260
Ewe	97.7	2.1	0.0	0.2	100.0	572
Guan	97.8	2.2	0.0	0.0	100.0	139
Mole-Dagbani	99.3	0.4	0.3	0.0	100.0	1,156
Grusi	98.2	1.3	0.4	0.0	100.0	224
Gurma	98.8	0.6	0.3	0.3	100.0	331
Mande	96.3	1.9	1.9	0.0	100.0	54
Other	96.4	3.6	0.0	0.0	100.0	83
Missing	0.0	100.0	0.0	0.0	100.0	1
Religion						
Catholic	98.7	0.9	0.4	0.0	100.0	677
Anglican/Methodist/Presbyterian	95.2	4.1	0.2	0.5	100.0	589
Pentecostal/Charismatic	97.5	2.2	0.0	0.2	100.0	1,744
Other Christian	97.2	2.2	0.6	0.0	100.0	639
Muslim	98.7	1.1	0.2	0.0	100.0	909
Traditional/Spiritualist	99.2	0.8	0.0	0.0	100.0	119
No religion	98.3	0.8	0.0	0.8	100.0	121
Other	100.0	0.0	0.0	0.0	100.0	1
Missing	100.0	0.0	0.0	0.0	100.0	1
Total 15-49	97.6	2.0	0.2	0.2	100.0	4,800

[1] Includes all dried blood samples (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

Table A.8 Coverage of HIV testing by social and demographic characteristics: Men

Percent distribution of interviewed men 15-49[59] by HIV testing status, according to social and demographic characteristics (unweighted), Ghana 2014

Characteristic	DBS tested[1]	Refused to provide blood	Absent at the time of blood collection	Other/missing[2]	Total	Number of men
Marital status						
Never married	95.9	3.7	0.1	0.3	100.0	1,866
Ever had sex	95.4	4.1	0.0	0.5	100.0	977
Never had sex	96.4	3.3	0.2	0.1	100.0	889
Married/living together	94.2	5.0	0.5	0.3	100.0	2,302
Divorced or separated	92.3	7.1	0.0	0.5	100.0	182
Widowed	92.1	7.9	0.0	0.0	100.0	38
Type of union						
In polygynous union	95.3	2.7	2.0	0.0	100.0	256
In nonpolygynous union	94.1	5.3	0.3	0.3	100.0	2,046
Not currently in union	95.5	4.1	0.1	0.3	100.0	2,086
Ever had sexual intercourse						
Yes	94.4	4.9	0.3	0.3	100.0	3,499
No	96.4	3.3	0.2	0.1	100.0	889
Male circumcision						
Circumcised	94.7	4.6	0.3	0.3	100.0	4,074
Not circumcised	96.2	3.5	0.0	0.3	100.0	312
DK/Missing	50.0	0.0	0.0	50.0	100.0	2
Times slept away from home in past 12 months						
None	95.3	4.1	0.2	0.4	100.0	2,063
1-2	95.5	4.3	0.1	0.1	100.0	846
3-4	95.8	3.3	0.4	0.5	100.0	552
5+	92.4	6.8	0.7	0.1	100.0	910
Missing	100.0	0.0	0.0	0.0	100.0	17
Time away in past 12 months						
Away for more than 1 month	94.7	4.4	0.6	0.4	100.0	804
Away for less than 1 month	94.2	5.4	0.3	0.1	100.0	1,503
No away	95.3	4.1	0.2	0.4	100.0	2,063
Missing	100.0	0.0	0.0	0.0	100.0	18
Ethnic group						
Akan	93.7	5.7	0.3	0.3	100.0	1,768
Ga/Dangme	94.3	5.0	0.4	0.4	100.0	280
Ewe	96.4	3.2	0.0	0.4	100.0	525
Guan	92.8	6.3	0.0	0.9	100.0	111
Mole-Dagbani	96.3	3.2	0.5	0.0	100.0	1,050
Grusi	94.9	4.1	0.5	0.5	100.0	196
Gurma	96.3	2.7	0.3	0.7	100.0	301
Mande	93.2	5.1	1.7	0.0	100.0	59
Other	90.8	9.2	0.0	0.0	100.0	98
Religion						
Catholic	95.2	4.7	0.0	0.2	100.0	619
Anglican/ Methodist/Presbyterian	92.9	6.1	0.6	0.4	100.0	506
Pentecostal/Charismatic	94.5	4.8	0.1	0.6	100.0	1,128
Other Christian	95.3	4.4	0.1	0.1	100.0	682
Muslim	94.8	4.2	1.0	0.0	100.0	926
Traditional/spiritualist	98.1	1.5	0.0	0.4	100.0	264
No religion	94.6	5.0	0.0	0.4	100.0	261
Other	100.0	0.0	0.0	0.0	100.0	2
Total 15-59	94.8	4.6	0.3	0.3	100.0	4,388

[1] Includes all dried blood=samples (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.

Table A.9 Coverage of HIV testing by sexual behaviour characteristics: Women

Percent distribution of interviewed women age 15-49 who ever had sexual intercourse by HIV test status, according to sexual behaviour characteristics (unweighted), Ghana 2014

Sexual behaviour characteristic	HIV test status				Total	Number of women
	DBS tested[1]	Refused to provide blood	Absent at the time of blood collection	Other/missing[2]		
Age at first sexual intercourse						
<16	98.1	1.7	0.2	0.0	100.0	1,008
16-17	98.3	1.3	0.3	0.1	100.0	1,079
18-19	97.7	1.8	0.3	0.2	100.0	995
20+	96.0	3.5	0.2	0.2	100.0	934
Missing	99.4	0.6	0.0	0.0	100.0	165
Multiple sexual partners and partner concurrency in past 12 months						
0	97.6	2.1	0.3	0.1	100.0	779
1	97.7	2.0	0.2	0.1	100.0	3,348
2+	98.1	1.9	0.0	0.0	100.0	53
Had concurrent partners[3]	87.5	12.5	0.0	0.0	100.0	8
None of the partners were concurrent	100.0	0.0	0.0	0.0	100.0	45
Missing	100.0	0.0	0.0	0.0	100.0	1
Condom use at last sexual intercourse in past 12 months						
Used condom	94.7	4.9	0.0	0.4	100.0	264
Did not use condom	97.9	1.7	0.3	0.1	100.0	3,134
No sexual intercourse in last 12 months	97.6	2.1	0.3	0.1	100.0	780
DK/Missing	100.0	0.0	0.0	0.0	100.0	3
Number of lifetime partners						
1	97.7	2.1	0.2	0.1	100.0	1,674
2	98.0	1.5	0.3	0.2	100.0	1,297
3-4	97.4	2.3	0.3	0.0	100.0	972
5-9	97.6	2.4	0.0	0.0	100.0	207
10+	89.3	7.1	0.0	3.6	100.0	28
Missing	100.0	0.0	0.0	0.0	100.0	3
Prior HIV testing						
Ever tested	97.1	2.6	0.2	0.1	100.0	2,227
Received results	96.9	2.8	0.2	0.1	100.0	1,956
Did not receive results	98.5	1.5	0.0	0.0	100.0	271
Never tested	98.4	1.2	0.3	0.1	100.0	1,952
Missing	50.0	0.0	0.0	50.0	100.0	2
Total 15-49	97.7	2.0	0.2	0.1	100.0	4,181

[1] Includes all dried blood samples (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.
[3] A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey

Table A.10 Coverage of HIV testing by sexual behaviour characteristics: Men

Percent distribution of interviewed men age 15-54[59] who ever had sexual intercourse by HIV test status, according to sexual behaviour characteristics (unweighted), Ghana 2014

Sexual behaviour characteristic	HIV test status				Total	Number of men
	DBS tested[1]	Refused to provide blood	Absent at the time of blood collection	Other/missing[2]		
Age at first sexual intercourse						
<16	95.9	3.3	0.2	0.6	100.0	485
16-17	95.1	3.4	0.7	0.7	100.0	555
18-19	94.3	5.0	0.3	0.3	100.0	933
20+	93.7	5.9	0.3	0.1	100.0	1,468
Missing	96.6	3.4	0.0	0.0	100.0	58
Multiple sexual partners and partner concurrency in past 12 months						
0	94.1	5.4	0.0	0.5	100.0	427
1	94.3	5.1	0.2	0.3	100.0	2,468
2+	95.2	3.5	1.0	0.3	100.0	604
Had concurrent partners[3]	95.0	3.8	1.3	0.0	100.0	320
None of the partners were concurrent	95.4	3.2	0.7	0.7	100.0	284
Condom use at last sexual intercourse in past 12 months						
Used condom	95.1	4.7	0.2	0.0	100.0	491
Did not use condom	94.3	4.8	0.4	0.4	100.0	2,580
No sexual intercourse in last 12 months	94.1	5.4	0.0	0.5	100.0	427
DK/Missing	100.0	0.0	0.0	0.0	100.0	1
Paid for sexual intercourse in past 12 months						
Yes	91.9	6.8	1.4	0.0	100.0	74
Used condom	90.0	10.0	0.0	0.0	100.0	30
Did not use condom	93.2	4.5	2.3	0.0	100.0	44
No (No paid sexual intercourse/no sexual intercourse in last 12 months)	94.5	4.8	0.3	0.4	100.0	3,425
Number of lifetime partners						
1	94.9	4.7	0.2	0.3	100.0	642
2	94.8	4.7	0.3	0.2	100.0	578
3-4	95.3	4.0	0.6	0.1	100.0	856
5-9	93.1	5.9	0.3	0.8	100.0	769
10+	94.1	5.3	0.3	0.3	100.0	624
Missing	93.3	6.7	0.0	0.0	100.0	30
Prior HIV testing						
Ever tested	91.6	7.7	0.6	0.1	100.0	870
Received results	90.8	8.5	0.7	0.1	100.0	768
Did not receive results	98.0	2.0	0.0	0.0	100.0	102
Never tested	95.4	4.0	0.3	0.4	100.0	2,629
Total 15-59	94.4	4.9	0.3	0.3	100.0	3,499

[1] Includes all dried blood samples (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
[2] Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason, not enough blood to complete the algorithm, etc.
[3] A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. (Respondents with concurrent partners include polygynous men who had overlapping sexual partnerships with two or more wives).

ESTIMATES OF SAMPLING ERRORS   *Appendix* **B**

T he estimates from a sample survey are affected by two types of errors: non-sampling errors and sampling errors. Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2014 Ghana DHS (GDHS) to minimize this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2014 GDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

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

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2014 GDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. Sampling errors are computed in either ISSA or SAS, using programs developed by ICF International. These programs use the Taylor linearization method of variance estimation for survey estimates that are means, proportions or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$SE^2(r) = \mathrm{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}, \text{ and } z_h = y_h - rx_h$$

where h represents the stratum which varies from 1 to H,

   m_h is the total number of clusters selected in the hth stratum,

   y_{hi} is the sum of the weighted values of variable y in the ith cluster in the hth stratum,

   x_{hi} is the sum of the weighted number of cases in the ith cluster in the hth stratum, and

   f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2014 GDHS, there were 427 non-empty Primary Sampling Unit (PSU). Hence, 427 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 427 PSUs,
   $r_{(i)}$ is the estimate computed from the reduced sample of 426 PSUs (i^{th} PSU excluded), and
   k is the total number of PSUs.

In addition to the standard error, the design effect (DEFT) for each estimate is also calculated The design effect is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. Relative standard errors and confidence limits for the estimates are also calculated.

Sampling errors for the 2014 GDHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for Ghana as a whole and for various residential categories: urban-rural and region. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 through B.14 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. The sampling errors for mortality rates are presented for the five year period preceding the survey for the whole country and for the ten year period preceding the survey by residence and region. The DEFT is considered undefined when the standard error considering a simple random sample is zero (when the estimate is close to 0 or 1).

The confidence interval (e.g., as calculated for *the number of children ever born for women 40-49 years*) can be interpreted as follows: the overall average from the national sample is 4.830 and its standard error is 0.070. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., $4.830 \pm 2 \times 0.070$. There is a high probability (95 percent) that the true proportion of women 40-49 with children ever born is between 4.691 and 4.969.

For the total sample, the value of the DEFT, averaged over all variables, is 1.484. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.484 over that in an equivalent simple random sample.

Table B.1 List of variables for sampling errors, Ghana DHS 2014

Variable	Estimate	Base population
WOMEN		
Urban residence	Proportion	All women 15-49
No education	Proportion	All women 15-49
Secondary or higher education	Proportion	All women 15-49
Never married/in union	Proportion	All women 15-49
Currently married/in union	Proportion	All women 15-49
Married before age 20	Proportion	Women age 20-49
Had first sexual intercourse before age 18	Proportion	Women age 20-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children surviving	Mean	All women 15-49
Children ever born to women age 40-49	Mean	Women age 40-49
Know any contraceptive method	Proportion	Currently married women 15-49
Know a modern method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using condoms	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using female sterilisation	Proportion	Currently married women 15-49
Currently using rhythm method	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Used public sector source	Proportion	Currently married women 15-49 using modern method
Want no more children	Proportion	Currently married women 15-49
Want to delay birth at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
Mothers received antenatal care for last birth	Proportion	Women with at least 1 live birth in past 5 years
Mothers protected against tetanus for last birth	Proportion	Women with at least 1 live birth in past 5 years
Births with skilled attendant at delivery	Proportion	Women with at least 1 live birth in past 5 years
Had diarrhoea in 2 weeks before survey	Proportion	Children under 5 years
Treated with ORS	Proportion	Children under 5 years with diarrhoea in past two weeks
Sought medical treatment for diarrhea	Proportion	Children under 5 years with diarrhoea in past two weeks
Vaccination card seen	Proportion	Children age 12-23 months
Received BCG vaccination	Proportion	Children age 12-23 months
Received pentavalent vaccination (3 doses)	Proportion	Children age 12-23 months
Received polio vaccination (3 doses)	Proportion	Children age 12-23 months
Received one dose of measles vaccination	Proportion	Children age 12-23 months
Received all basic vaccinations	Proportion	Children age 12-23 months
Height-for-age (-2SD)	Proportion	Children under 5 years who were measured
Weight-for-height (-2SD)	Proportion	Children under 5 years who were measured
Weight-for-age (-2SD)	Proportion	Children under 5 years who were measured
Body Mass Index (BMI) < 18.5	Proportion	All women 15-49 who were measured
Prevalence of anaemia (children 6-59 months)	Proportion	Children 6-59 months who were tested
Prevalence of anaemia (women 15-49)	Proportion	Women 15-49 who were tested
Had 2+ sexual partners in past 12 months	Proportion	All women 15-49
Condom use at last sex	Proportion	All women 15-49 who had sex in past 12 months
Abstinence among youth (never had sex)	Proportion	Never-married women 15-24
Sexually active in past 12 months among never-married youth	Proportion	Never-married women 15-24
Had an HIV test and received results in past 12 months	Proportion	All women 15-49
Accepting attitudes towards people with HIV	Proportion	All women 15-49
Total fertility rate (3 years)	Rate	Women years of exposure to child birth
Neonatal mortality[1]	Rate	Children exposed to the risk of mortality
Post-neonatal mortality[1]	Rate	Children exposed to the risk of mortality
Infant mortality[1]	Rate	Children exposed to the risk of mortality
Child mortality[1]	Rate	Children exposed to the risk of mortality
Under-5 mortality[1]	Rate	Children exposed to the risk of mortality
HIV prevalence among all women 15-49		All women 15-49 tested
MEN		
Urban residence	Proportion	All men 15-49
No education	Proportion	All men 15-49
Secondary or higher education	Proportion	All men 15-49
Never married/in union	Proportion	All men 15-49
Currently married/in union	Proportion	All men 15-49
Had first sexual intercourse before age 18	Proportion	Men age 25-49
Know any contraceptive method	Proportion	Currently married men 15-49
Know any modern contraceptive method	Proportion	Currently married men 15-49
Want no more children	Proportion	Currently married men 15-49
Want to delay birth at least 2 years	Proportion	Currently married men 15-49
Ideal number of children	Mean	All men 15-49
Had 2+ sexual partners in past 12 months	Proportion	All men 15-49
Condom use at last sex	Proportion	All men 15-49 who had sex in past 12 months
Abstinence among never married youth (never had sex)	Proportion	All never married men 15-24
Sexually active in past 12 months among never-married youth	Proportion	All never married men 15-24
Paid for sexual intercourse in past 12 months	Proportion	All men 15-49
Had HIV test and received results in past 12 months		All men 15-49
Accepting attitudes towards people with HIV		All men 15-49
HIV prevalence among all men 15-49		All men 15-49 tested
HIV prevalence among all men 15-59		All men 15-59 tested
WOMEN and MEN		
HIV prevalence among all women and men 15-49		All women and men 15-49 tested

[1] Mortality rates are calculated for 5 years and 10 years before the survey for the national sample regional samples, respectively

Table B.2 Sampling errors for the national sample, Ghana 2014

Variable	Value (R)	Standard error (SE)	Un-weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	R-2SE	R+2SE
			Number of cases				Confidence limits	
WOMEN								
Urban residence	0.538	0.015	9396	9396	2.904	0.028	0.508	0.567
No education	0.191	0.009	9396	9396	2.244	0.048	0.172	0.209
Secondary or higher education	0.631	0.011	9396	9396	2.278	0.018	0.609	0.654
never-married/in union	0.329	0.007	9396	9396	1.489	0.022	0.315	0.344
Currently married/in union	0.566	0.008	9396	9396	1.542	0.014	0.551	0.582
Married before age 20	0.421	0.009	7640	7771	1.630	0.022	0.403	0.439
Had first sexual intercourse before age 18	0.437	0.009	7640	7771	1.509	0.020	0.420	0.454
Currently pregnant	0.071	0.003	9396	9396	1.295	0.048	0.064	0.077
Children ever born	2.356	0.034	9396	9396	1.402	0.015	2.288	2.425
Children surviving	2.144	0.031	9396	9396	1.410	0.014	2.082	2.206
Children ever born to women age 40-49	4.830	0.070	1902	1887	1.271	0.015	4.689	4.970
Know any contraceptive method	0.995	0.001	5456	5321	1.392	0.001	0.992	0.997
Know a modern method	0.992	0.002	5456	5321	1.524	0.002	0.988	0.996
Currently using any method	0.267	0.010	5456	5321	1.647	0.037	0.247	0.286
Currently using a modern method	0.222	0.009	5456	5321	1.582	0.040	0.204	0.240
Currently using pill	0.047	0.004	5456	5321	1.301	0.080	0.039	0.054
Currently using IUD	0.008	0.002	5456	5321	1.356	0.210	0.004	0.011
Currently using condoms	0.012	0.002	5456	5321	1.372	0.171	0.008	0.016
Currently using injectables	0.080	0.005	5456	5321	1.312	0.060	0.070	0.089
Currently using female sterilisation	0.019	0.002	5456	5321	1.352	0.132	0.014	0.024
Currently using rhythm	0.032	0.004	5456	5321	1.625	0.122	0.024	0.039
Currently using withdrawal	0.011	0.002	5456	5321	1.421	0.183	0.007	0.015
Used public sector source	0.628	0.017	1699	1659	1.457	0.027	0.594	0.662
Want no more children	0.371	0.010	5456	5321	1.458	0.026	0.352	0.390
Want to delay birth at least 2 years	0.313	0.011	5456	5321	1.704	0.034	0.292	0.335
Ideal number of children	4.336	0.038	9234	9231	1.936	0.009	4.260	4.411
Mothers received antenatal care for last birth	0.973	0.005	4294	4142	1.851	0.005	0.964	0.982
Mothers protected against tetanus for last birth	0.780	0.010	4294	4142	1.634	0.013	0.759	0.801
Births with skilled attendant at delivery	0.737	0.013	5884	5695	1.898	0.018	0.710	0.763
Had diarrhoea in the last 2 weeks	0.117	0.007	5595	5431	1.439	0.056	0.104	0.131
Treated with ORS	0.486	0.024	671	638	1.162	0.050	0.438	0.535
Sought medical treatment for diarrhoea	0.641	0.026	671	638	1.283	0.040	0.589	0.692
Vaccination card seen	0.882	0.014	1128	1113	1.426	0.016	0.854	0.910
Received BCG vaccination	0.968	0.007	1128	1113	1.231	0.007	0.955	0.981
Received pentavalent vaccination (3 doses)	0.885	0.012	1128	1113	1.234	0.014	0.861	0.909
Received polio vaccination (3 doses)	0.840	0.017	1128	1113	1.545	0.020	0.806	0.875
Received one dose of measles vaccination	0.893	0.011	1128	1113	1.172	0.012	0.871	0.915
Received all vaccinations	0.773	0.019	1128	1113	1.464	0.024	0.736	0.810
Height-for-age (-2SD)	0.188	0.009	3034	2895	1.201	0.049	0.169	0.206
Weight-for-height (-2SD)	0.047	0.007	3034	2895	1.658	0.140	0.034	0.060
Weight-for-age (-2SD)	0.110	0.008	3034	2895	1.258	0.071	0.095	0.126
Body Mass Index (BMI) < 18.5	0.062	0.004	4314	4268	1.148	0.068	0.053	0.070
Prevalence of anaemia (children 6-59 months)	0.657	0.014	2697	2568	1.433	0.022	0.629	0.686
Prevalence of anaemia (women 15-49)	0.424	0.009	4704	4644	1.309	0.022	0.405	0.443
Had 2+ sexual partners in past 12 months	0.013	0.002	9396	9396	1.385	0.126	0.010	0.016
Condom use at last sex	0.113	0.032	104	119	1.036	0.286	0.048	0.178
Abstinence among youth (never had sex)	0.466	0.015	2472	2442	1.486	0.032	0.436	0.496
Sexually active in past 12 months among never-married youth	0.403	0.016	2472	2442	1.573	0.039	0.372	0.434
Had HIV test and received results in past 12 months	0.129	0.004	9396	9396	1.238	0.033	0.120	0.138
Accepting attitudes towards people with HIV	0.080	0.005	9117	9165	1.597	0.057	0.071	0.089
Total fertility rate (3 years)	4.194	0.119	26344	26484	1.606	0.028	3.955	4.433
Neonatal mortality rate (0-4 years)	28.692	2.734	5928	5738	1.114	0.095	23.225	34.160
Post-neonatal mortality rate (0-4 years)	12.552	1.868	5924	5733	1.168	0.149	8.817	16.288
Infant mortality rate (0-4 years)	41.245	3.433	5932	5740	1.162	0.083	34.379	48.111
Child mortality rate (0-4 years)	19.428	2.364	5661	5473	1.192	0.122	14.699	24.157
Under-five mortality rate (0-4 years)	59.872	3.988	5984	5786	1.161	0.067	51.896	67.848
HIV prevalence among women 15-49	0.028	0.003	4687	4444	1.250	0.107	0.022	0.034
MEN								
Urban residence	0.530	0.017	3855	3869	2.057	0.031	0.497	0.563
No education	0.094	0.008	3855	3869	1.660	0.083	0.078	0.109
Secondary or higher education	0.766	0.013	3855	3869	1.859	0.017	0.740	0.791
Never-married/in union	0.478	0.012	3855	3869	1.467	0.025	0.455	0.502
Currently married/in union	0.477	0.012	3855	3869	1.478	0.025	0.453	0.501
Had first sexual intercourse before age 18	0.269	0.013	2346	2425	1.390	0.047	0.244	0.295
Know any contraceptive method	0.995	0.001	1836	1846	0.943	0.001	0.993	0.998
Know a modern method	0.995	0.002	1836	1846	0.937	0.002	0.991	0.998
Want no more children	0.314	0.014	1836	1846	1.335	0.046	0.285	0.343
Want to delay birth at least 2 years	0.376	0.019	1836	1846	1.675	0.050	0.339	0.414
Ideal number of children	4.528	0.079	3833	3841	1.739	0.017	4.370	4.685
Had 2+ sexual partners in past 12 months	0.142	0.009	3855	3869	1.634	0.065	0.123	0.160
Condom use at last sex	0.189	0.024	508	548	1.375	0.127	0.141	0.237
Abstinence among youth (never had sex)	0.555	0.019	1428	1369	1.407	0.033	0.518	0.592
Sexually active in past 12 months among never-married youth	0.323	0.018	1428	1369	1.487	0.057	0.286	0.360
Had paid sex in past 12 months	0.025	0.003	3855	3869	1.249	0.127	0.018	0.031
Had HIV test and received results in past 12 months	0.061	0.006	3855	3869	1.495	0.095	0.049	0.072
Accepting attitudes towards people with HIV	0.141	0.010	3792	3822	1.706	0.068	0.122	0.160
HIV prevalence among men 15-49	0.011	0.002	3656	3883	1.215	0.188	0.007	0.016
HIV prevalence among men 15-59	0.011	0.002	4161	4404	1.204	0.175	0.007	0.015
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.020	0.002	8343	8326	1.270	0.096	0.016	0.024

Table B.3 Sampling errors for the urban sample, Ghana 2014

Variable	Value (R)	Standard error (SE)	Un-weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	R-2SE	R+2SE
WOMEN								
Urban residence	1.000	0.000	4602	5051	NA	NA	1.000	1.000
No education	0.110	0.008	4602	5051	1.840	0.077	0.093	0.127
Secondary or higher education	0.752	0.013	4602	5051	1.965	0.017	0.727	0.777
never-married/in union	0.362	0.011	4602	5051	1.522	0.030	0.341	0.384
Currently married/in union	0.527	0.012	4602	5051	1.583	0.022	0.504	0.551
Married before age 20	0.323	0.012	3824	4255	1.615	0.038	0.298	0.347
Had first sexual intercourse before age 18	0.366	0.012	3824	4255	1.548	0.033	0.342	0.391
Currently pregnant	0.065	0.005	4602	5051	1.326	0.074	0.056	0.075
Children ever born	1.941	0.043	4602	5051	1.411	0.022	1.854	2.027
Children surviving	1.782	0.040	4602	5051	1.444	0.022	1.702	1.862
Children ever born to women age 40-49	4.093	0.096	899	976	1.272	0.023	3.902	4.284
Know any contraceptive method	0.999	0.001	2459	2664	0.902	0.001	0.998	1.000
Know a modern method	0.998	0.001	2459	2664	1.037	0.001	0.996	1.000
Currently using any method	0.258	0.015	2459	2664	1.673	0.057	0.229	0.288
Currently using a modern method	0.198	0.012	2459	2664	1.483	0.060	0.174	0.222
Currently using pill	0.041	0.005	2459	2664	1.185	0.115	0.032	0.051
Currently using IUD	0.009	0.002	2459	2664	1.150	0.246	0.004	0.013
Currently using condoms	0.017	0.004	2459	2664	1.375	0.212	0.010	0.024
Currently using injectables	0.059	0.006	2459	2664	1.286	0.104	0.046	0.071
Currently using female sterilisation	0.019	0.004	2459	2664	1.310	0.191	0.012	0.026
Currently using rhythm	0.043	0.006	2459	2664	1.551	0.147	0.031	0.056
Currently using withdrawal	0.015	0.004	2459	2664	1.462	0.243	0.007	0.022
Used public sector source	0.562	0.030	745	773	1.631	0.053	0.502	0.621
Want no more children	0.366	0.014	2459	2664	1.451	0.039	0.338	0.394
Want to delay birth at least 2 years	0.279	0.012	2459	2664	1.345	0.044	0.254	0.303
Ideal number of children	4.016	0.043	4552	4985	1.718	0.011	3.929	4.103
Mothers received antenatal care for last birth	0.986	0.003	1778	1914	1.110	0.003	0.980	0.992
Mothers protected against tetanus for last birth	0.801	0.015	1778	1914	1.616	0.019	0.770	0.832
Births with skilled attendant at delivery	0.901	0.011	2344	2563	1.585	0.013	0.878	0.924
Had diarrhoea in the last 2 weeks	0.105	0.009	2230	2450	1.310	0.086	0.087	0.122
Treated with ORS	0.482	0.036	261	256	1.070	0.075	0.409	0.555
Sought medical treatment for diarrhoea	0.604	0.040	261	256	1.201	0.066	0.524	0.684
Vaccination card seen	0.863	0.022	452	499	1.354	0.026	0.818	0.907
Received BCG vaccination	0.972	0.008	452	499	0.998	0.008	0.957	0.987
Received pentavalent vaccination (3 doses)	0.881	0.019	452	499	1.215	0.021	0.843	0.919
Received polio vaccination (3 doses)	0.830	0.022	452	499	1.236	0.027	0.786	0.874
Received one dose of measles vaccination	0.883	0.016	452	499	1.049	0.018	0.851	0.915
Received all vaccinations	0.760	0.027	452	499	1.321	0.035	0.707	0.814
Height-for-age (-2SD)	0.148	0.013	1230	1320	1.152	0.086	0.123	0.174
Weight-for-height (-2SD)	0.035	0.006	1230	1320	1.204	0.183	0.022	0.048
Weight-for-age (-2SD)	0.086	0.010	1230	1320	1.205	0.120	0.066	0.107
Body Mass Index (BMI) < 18.5	0.052	0.006	2145	2340	1.143	0.106	0.041	0.063
Prevalence of anaemia (children 6-59 months)	0.583	0.023	1095	1180	1.428	0.039	0.538	0.629
Prevalence of anaemia (women 15-49)	0.418	0.014	2297	2505	1.339	0.033	0.390	0.446
Had 2+ sexual partners in past 12 months	0.015	0.002	4602	5051	1.332	0.159	0.010	0.020
Condom use at last sex	0.110	0.042	60	76	1.020	0.378	0.027	0.193
Abstinence among youth (never had sex)	0.480	0.021	1254	1333	1.482	0.044	0.438	0.522
Sexually active in past 12 months among never-married youth	0.389	0.021	1254	1333	1.545	0.055	0.347	0.432
Had HIV test and received results in past 12 months	0.151	0.006	4602	5051	1.145	0.040	0.139	0.163
Accepting attitudes towards people with HIV	0.097	0.006	4552	5011	1.453	0.066	0.085	0.110
Total fertility rate (3 years)	3.440	0.130	13028	14352	1.443	0.038	3.181	3.699
Neonatal mortality rate (0-4 years)	33.370	3.321	4494	4855	1.067	0.100	26.728	40.013
Post-neonatal mortality rate (0-4 years)	15.686	2.321	4495	4875	1.194	0.148	11.045	20.328
Infant mortality rate (0-4 years)	49.057	4.493	4497	4858	1.235	0.092	40.071	58.042
Child mortality rate (0-4 years)	15.930	2.298	4413	4771	1.042	0.144	11.335	20.526
Under-five mortality rate (0-4 years)	64.206	4.994	4518	4873	1.209	0.078	54.218	74.194
HIV prevalence among women 15-49	0.031	0.004	2283	2378	1.199	0.139	0.023	0.040
MEN								
Urban residence	1.000	0.000	1826	2050	NA	NA	1.000	1.000
No education	0.041	0.006	1826	2050	1.343	0.153	0.028	0.053
Secondary or higher education	0.871	0.012	1826	2050	1.475	0.013	0.847	0.894
Never-married/in union	0.505	0.018	1826	2050	1.509	0.035	0.469	0.540
Currently married/in union	0.456	0.019	1826	2050	1.613	0.041	0.418	0.494
Had first sexual intercourse before age 18	0.266	0.017	1150	1318	1.311	0.064	0.232	0.300
Know any contraceptive method	0.997	0.002	823	935	1.045	0.002	0.992	1.001
Know a modern method	0.997	0.002	823	935	1.045	0.002	0.992	1.001
Want no more children	0.312	0.023	823	935	1.413	0.073	0.266	0.358
Want to delay birth at least 2 years	0.339	0.025	823	935	1.501	0.073	0.290	0.389
Ideal number of children	4.031	0.104	1814	2034	1.634	0.026	3.823	4.239
Had 2+ sexual partners in past 12 months	0.134	0.012	1826	2050	1.496	0.089	0.110	0.158
Condom use at last sex	0.236	0.042	230	275	1.483	0.177	0.153	0.320
Abstinence among youth (never had sex)	0.521	0.028	653	705	1.437	0.054	0.465	0.578
Sexually active in past 12 months among never-married youth	0.344	0.028	653	705	1.527	0.083	0.287	0.401
Had paid sex in past 12 months	0.023	0.004	1826	2050	1.262	0.192	0.014	0.032
Had HIV test and received results in past 12 months	0.079	0.009	1826	2050	1.422	0.114	0.061	0.096
Accepting attitudes towards people with HIV	0.148	0.012	1815	2042	1.387	0.078	0.125	0.171
HIV prevalence among men 15-49	0.013	0.003	1698	2045	1.245	0.259	0.006	0.020
HIV prevalence among men 15-59	0.014	0.003	1908	2284	1.219	0.236	0.007	0.020
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.023	0.003	3981	4423	1.278	0.132	0.017	0.029

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
WOMEN								
Urban residence	0.000	0.000	4794	4345	NA	NA	0.000	0.000
No education	0.285	0.016	4794	4345	2.456	0.056	0.253	0.317
Secondary or higher education	0.491	0.019	4794	4345	2.644	0.039	0.453	0.529
never-married/in union	0.291	0.009	4794	4345	1.376	0.031	0.273	0.309
Currently married/in union	0.612	0.011	4794	4345	1.501	0.017	0.590	0.633
Married before age 20	0.540	0.012	3816	3516	1.544	0.023	0.515	0.565
Had first sexual intercourse before age 18	0.523	0.011	3816	3516	1.369	0.021	0.501	0.545
Currently pregnant	0.077	0.005	4794	4345	1.266	0.063	0.067	0.087
Children ever born	2.839	0.053	4794	4345	1.424	0.019	2.732	2.946
Children surviving	2.564	0.046	4794	4345	1.383	0.018	2.472	2.657
Children ever born to women age 40-49	5.618	0.102	1003	911	1.377	0.018	5.415	5.821
Know any contraceptive method	0.990	0.003	2997	2657	1.503	0.003	0.985	0.996
Know a modern method	0.986	0.004	2997	2657	1.650	0.004	0.978	0.993
Currently using any method	0.275	0.013	2997	2657	1.602	0.047	0.249	0.301
Currently using a modern method	0.246	0.013	2997	2657	1.653	0.053	0.220	0.272
Currently using pill	0.052	0.006	2997	2657	1.379	0.108	0.041	0.063
Currently using IUD	0.006	0.002	2997	2657	1.626	0.371	0.002	0.011
Currently using condoms	0.006	0.002	2997	2657	1.156	0.261	0.003	0.010
Currently using injectables	0.101	0.007	2997	2657	1.322	0.072	0.086	0.115
Currently using female sterilisation	0.019	0.003	2997	2657	1.388	0.184	0.012	0.026
Currently using rhythm	0.020	0.004	2997	2657	1.599	0.206	0.012	0.028
Currently using withdrawal	0.007	0.002	2997	2657	1.154	0.246	0.004	0.011
Used public sector source	0.686	0.019	954	887	1.284	0.028	0.647	0.724
Want no more children	0.376	0.013	2997	2657	1.459	0.034	0.350	0.401
Want to delay birth at least 2 years	0.348	0.016	2997	2657	1.894	0.047	0.315	0.381
Ideal number of children	4.711	0.065	4682	4246	2.236	0.014	4.581	4.840
Mothers received antenatal care for last birth	0.962	0.008	2516	2228	2.129	0.009	0.946	0.979
Mothers protected against tetanus for last birth	0.762	0.014	2516	2228	1.671	0.019	0.733	0.791
Births with skilled attendant at delivery	0.602	0.020	3540	3132	2.057	0.034	0.562	0.643
Had diarrhoea in the last 2 weeks	0.128	0.009	3365	2981	1.526	0.074	0.109	0.147
Treated with ORS	0.489	0.032	410	382	1.237	0.066	0.425	0.553
Sought medical treatment for diarrhoea	0.665	0.033	410	382	1.330	0.049	0.600	0.731
Vaccination card seen	0.897	0.018	676	615	1.542	0.021	0.860	0.934
Received BCG vaccination	0.964	0.010	676	615	1.401	0.010	0.944	0.984
Received pentavalent vaccination (3 doses)	0.888	0.016	676	615	1.249	0.018	0.857	0.920
Received polio vaccination (3 doses)	0.848	0.026	676	615	1.833	0.030	0.797	0.900
Received one dose of measles vaccination	0.900	0.015	676	615	1.288	0.017	0.870	0.930
Received all vaccinations	0.784	0.026	676	615	1.611	0.033	0.732	0.836
Height-for-age (-2SD)	0.221	0.013	1804	1575	1.228	0.057	0.196	0.246
Weight-for-height (-2SD)	0.056	0.010	1804	1575	1.884	0.185	0.035	0.077
Weight-for-age (-2SD)	0.131	0.011	1804	1575	1.267	0.084	0.109	0.153
Body Mass Index (BMI) < 18.5	0.074	0.007	2169	1929	1.156	0.089	0.060	0.087
Prevalence of anaemia (children 6-59 months)	0.720	0.017	1602	1388	1.371	0.024	0.686	0.754
Prevalence of anaemia (women 15-49)	0.430	0.013	2407	2139	1.255	0.030	0.405	0.456
Had 2+ sexual partners in past 12 months	0.010	0.002	4794	4345	1.417	0.203	0.006	0.014
Condom use at last sex	0.119	0.051	44	44	1.033	0.430	0.017	0.221
Abstinence among youth (never had sex)	0.449	0.021	1218	1108	1.472	0.047	0.407	0.491
Sexually active in past 12 months among never-married youth	0.419	0.023	1218	1108	1.592	0.054	0.374	0.464
Had HIV test and received results in past 12 months	0.104	0.006	4794	4345	1.356	0.058	0.092	0.115
Accepting attitudes towards people with HIV	0.058	0.006	4565	4155	1.647	0.098	0.047	0.069
Total fertility rate (3 years)	5.089	0.173	13317	12132	1.665	0.034	4.743	5.435
Neonatal mortality rate (0-4 years)	28.864	2.642	6919	6131	1.153	0.092	23.579	34.148
Post-neonatal mortality rate (0-4 years)	17.244	1.999	6945	6139	1.149	0.116	13.246	21.243
Infant mortality rate (0-4 years)	46.108	2.852	6927	6139	1.017	0.062	40.404	51.812
Child mortality rate (0-4 years)	29.912	3.108	6837	6030	1.340	0.104	23.696	36.129
Under-five mortality rate (0-4 years)	74.641	4.162	6981	6180	1.160	0.056	66.317	82.966
HIV prevalence among women 15-49	0.025	0.004	2404	2066	1.316	0.168	0.017	0.033
MEN								
Urban residence	0.000	0.000	2029	1819	NA	NA	0.000	0.000
No education	0.153	0.015	2029	1819	1.838	0.096	0.124	0.183
Secondary or higher education	0.648	0.024	2029	1819	2.280	0.037	0.599	0.696
Never-married/in union	0.449	0.015	2029	1819	1.329	0.033	0.419	0.478
Currently married/in union	0.501	0.014	2029	1819	1.223	0.027	0.474	0.528
Had first sexual intercourse before age 18	0.274	0.019	1196	1108	1.478	0.070	0.235	0.312
Know any contraceptive method	0.994	0.002	1013	911	0.872	0.002	0.990	0.998
Know a modern method	0.992	0.002	1013	911	0.896	0.002	0.988	0.997
Want no more children	0.316	0.018	1013	911	1.204	0.056	0.281	0.351
Want to delay birth at least 2 years	0.415	0.028	1013	911	1.778	0.066	0.360	0.470
Ideal number of children	5.086	0.109	2019	1807	1.763	0.021	4.867	5.305
Had 2+ sexual partners in past 12 months	0.150	0.014	2029	1819	1.747	0.092	0.122	0.178
Condom use at last sex	0.141	0.024	278	273	1.155	0.171	0.093	0.190
Abstinence among youth (never had sex)	0.591	0.024	775	664	1.365	0.041	0.543	0.639
Sexually active in past 12 months among never-married youth	0.301	0.023	775	664	1.393	0.076	0.255	0.347
Had paid sex in past 12 months	0.026	0.004	2029	1819	1.216	0.165	0.018	0.035
Had HIV test and received results in past 12 months	0.040	0.007	2029	1819	1.562	0.169	0.027	0.054
Accepting attitudes towards people with HIV	0.133	0.016	1977	1781	2.074	0.119	0.101	0.165
HIV prevalence among men 15-49	0.009	0.002	1958	1837	1.069	0.256	0.004	0.013
HIV prevalence among men 15-59	0.009	0.002	2253	2120	1.092	0.248	0.004	0.013
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.017	0.002	4362	3903	1.233	0.141	0.012	0.022

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Un-weighted (N)	Weighted (WN)			R-2SE	R+2SE
WOMEN								
Urban residence	0.420	0.035	1027	1038	2.288	0.084	0.349	0.491
No education	0.142	0.015	1027	1038	1.333	0.102	0.113	0.171
Secondary or higher education	0.659	0.024	1027	1038	1.639	0.037	0.611	0.708
never-married/in union	0.358	0.015	1027	1038	1.014	0.042	0.328	0.389
Currently married/in union	0.527	0.018	1027	1038	1.131	0.033	0.491	0.562
Married before age 20	0.464	0.023	833	842	1.338	0.050	0.418	0.510
Had first sexual intercourse before age 18	0.460	0.022	833	842	1.281	0.048	0.416	0.504
Currently pregnant	0.069	0.009	1027	1038	1.151	0.132	0.050	0.087
Children ever born	2.187	0.090	1027	1038	1.264	0.041	2.007	2.367
Children surviving	2.010	0.080	1027	1038	1.247	0.040	1.850	2.170
Children ever born to women age 40-49	4.818	0.217	186	187	1.247	0.045	4.384	5.251
Know any contraceptive method	0.996	0.003	545	547	0.922	0.003	0.991	1.001
Know a modern method	0.996	0.003	545	547	0.922	0.003	0.991	1.001
Currently using any method	0.271	0.027	545	547	1.426	0.100	0.217	0.325
Currently using a modern method	0.233	0.027	545	547	1.475	0.115	0.180	0.287
Currently using pill	0.052	0.013	545	547	1.373	0.252	0.026	0.078
Currently using IUD	0.004	0.003	545	547	0.916	0.597	0.000	0.009
Currently using condoms	0.018	0.006	545	547	1.004	0.315	0.007	0.030
Currently using injectables	0.071	0.010	545	547	0.910	0.141	0.051	0.091
Currently using female sterilisation	0.027	0.007	545	547	1.022	0.264	0.013	0.041
Currently using rhythm	0.026	0.008	545	547	1.209	0.315	0.010	0.043
Currently using withdrawal	0.011	0.004	545	547	0.934	0.372	0.003	0.020
Used public sector source	0.541	0.063	210	209	1.815	0.116	0.415	0.667
Want no more children	0.376	0.027	545	547	1.290	0.071	0.322	0.429
Want to delay birth at least 2 years	0.278	0.022	545	547	1.153	0.080	0.234	0.323
Ideal number of children	4.071	0.051	1006	1014	1.009	0.012	3.969	4.172
Mothers received antenatal care for last birth	0.993	0.004	431	427	0.919	0.004	0.985	1.000
Mothers protected against tetanus for last birth	0.820	0.029	431	427	1.570	0.036	0.762	0.879
Births with skilled attendant at delivery	0.753	0.034	582	574	1.564	0.045	0.685	0.821
Had diarrhoea in the last 2 weeks	0.068	0.016	564	557	1.297	0.231	0.036	0.099
Treated with ORS	0.619	0.083	41	38	0.973	0.134	0.453	0.786
Sought medical treatment for diarrhoea	0.799	0.055	41	38	0.782	0.069	0.688	0.909
Vaccination card seen	0.859	0.038	99	104	1.045	0.044	0.784	0.935
Received BCG vaccination	0.968	0.016	99	104	0.943	0.017	0.935	1.000
Received pentavalent vaccination (3 doses)	0.835	0.035	99	104	0.898	0.042	0.765	0.906
Received polio vaccination (3 doses)	0.787	0.041	99	104	0.977	0.052	0.705	0.869
Received one dose of measles vaccination	0.856	0.035	99	104	0.981	0.041	0.785	0.927
Received all vaccinations	0.694	0.055	99	104	1.161	0.080	0.584	0.805
Height-for-age (-2SD)	0.177	0.028	310	306	1.195	0.156	0.122	0.232
Weight-for-height (-2SD)	0.039	0.011	310	306	1.027	0.288	0.016	0.061
Weight-for-age (-2SD)	0.106	0.017	310	306	0.903	0.157	0.073	0.139
Body Mass Index (BMI) < 18.5	0.051	0.009	498	501	0.956	0.186	0.032	0.070
Prevalence of anaemia (children 6-59 months)	0.646	0.039	275	273	1.291	0.060	0.568	0.725
Prevalence of anaemia (women 15-49)	0.426	0.022	538	542	1.050	0.053	0.381	0.471
Had 2+ sexual partners in past 12 months	0.013	0.006	1027	1038	1.756	0.487	0.000	0.025
Condom use at last sex	0.127	0.127	10	13	1.129	1.003	0.000	0.381
Abstinence among youth (never had sex)	0.349	0.028	288	300	1.012	0.082	0.292	0.406
Sexually active in past 12 months among never-married youth	0.494	0.041	288	300	1.390	0.083	0.412	0.576
Had HIV test and received results in past 12 months	0.124	0.014	1027	1038	1.406	0.117	0.095	0.153
Accepting attitudes towards people with HIV	0.054	0.007	1004	1015	0.948	0.125	0.041	0.068
Total fertility rate (3 years)	3.647	0.275	2871	2902	1.329	0.075	3.096	4.198
Neonatal mortality rate (0-4 years)	27.766	5.652	1120	1107	0.950	0.204	16.462	39.070
Post-neonatal mortality rate (0-4 years)	12.059	2.825	1125	1110	0.810	0.234	6.410	17.709
Infant mortality rate (0-4 years)	39.826	5.782	1123	1109	0.872	0.145	28.263	51.389
Child mortality rate (0-4 years)	16.496	5.264	1124	1108	1.321	0.319	5.968	27.024
Under-five mortality rate (0-4 years)	55.664	8.132	1128	1115	1.066	0.146	39.401	71.928
HIV prevalence among women 15-49	0.033	0.008	538	524	1.025	0.240	0.017	0.049
MEN								
Urban residence	0.403	0.043	447	447	1.829	0.106	0.318	0.489
No education	0.051	0.016	447	447	1.562	0.321	0.018	0.083
Secondary or higher education	0.804	0.027	447	447	1.439	0.034	0.750	0.858
Never-married/in union	0.478	0.025	447	447	1.052	0.052	0.428	0.528
Currently married/in union	0.464	0.029	447	447	1.215	0.062	0.406	0.521
Had first sexual intercourse before age 18	0.282	0.037	280	279	1.381	0.132	0.207	0.356
Know any contraceptive method	1.000	0.000	215	207	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	215	207	NA	NA	1.000	1.000
Want no more children	0.326	0.032	215	207	0.993	0.098	0.263	0.390
Want to delay birth at least 2 years	0.325	0.038	215	207	1.187	0.117	0.249	0.401
Ideal number of children	4.157	0.114	446	446	1.187	0.027	3.929	4.385
Had 2+ sexual partners in past 12 months	0.203	0.021	447	447	1.083	0.102	0.162	0.244
Condom use at last sex	0.173	0.043	93	91	1.093	0.249	0.087	0.259
Abstinence among youth (never had sex)	0.524	0.051	158	161	1.271	0.097	0.423	0.626
Sexually active in past 12 months among never-married youth	0.368	0.054	158	161	1.388	0.146	0.260	0.475
Had paid sex in past 12 months	0.047	0.009	447	447	0.944	0.202	0.028	0.065
Had HIV test and received results in past 12 months	0.053	0.013	447	447	1.177	0.235	0.028	0.078
Accepting attitudes towards people with HIV	0.166	0.024	443	443	1.349	0.144	0.118	0.214
HIV prevalence among men 15-49	0.021	0.007	418	447	0.982	0.332	0.007	0.034
HIV prevalence among men 15-59	0.020	0.006	473	503	0.985	0.314	0.008	0.033
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.027	0.006	956	971	1.081	0.209	0.016	0.039

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Un-weighted (N)	Weighted (WN)			R-2SE	R+2SE
WOMEN								
Urban residence	0.384	0.066	941	937	4.124	0.172	0.252	0.516
No education	0.151	0.017	941	937	1.496	0.116	0.116	0.186
Secondary or higher education	0.670	0.024	941	937	1.562	0.036	0.622	0.718
never-married/in union	0.290	0.022	941	937	1.489	0.076	0.246	0.335
Currently married/in union	0.568	0.020	941	937	1.256	0.036	0.527	0.608
Married before age 20	0.465	0.022	774	784	1.225	0.047	0.421	0.509
Had first sexual intercourse before age 18	0.456	0.023	774	784	1.278	0.050	0.410	0.502
Currently pregnant	0.078	0.009	941	937	1.027	0.115	0.060	0.096
Children ever born	2.596	0.102	941	937	1.265	0.039	2.392	2.799
Children surviving	2.352	0.098	941	937	1.358	0.041	2.157	2.547
Children ever born to women age 40-49	5.232	0.163	202	204	0.957	0.031	4.906	5.557
Know any contraceptive method	1.000	0.000	529	532	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	529	532	NA	NA	1.000	1.000
Currently using any method	0.311	0.020	529	532	1.010	0.065	0.270	0.351
Currently using a modern method	0.275	0.023	529	532	1.175	0.083	0.229	0.320
Currently using pill	0.065	0.015	529	532	1.436	0.237	0.034	0.096
Currently using IUD	0.017	0.009	529	532	1.585	0.533	0.000	0.034
Currently using condoms	0.011	0.004	529	532	0.999	0.416	0.002	0.020
Currently using injectables	0.056	0.008	529	532	0.832	0.148	0.040	0.073
Currently using female sterilisation	0.040	0.009	529	532	1.073	0.228	0.022	0.059
Currently using rhythm	0.024	0.009	529	532	1.385	0.385	0.006	0.042
Currently using withdrawal	0.006	0.004	529	532	1.101	0.629	0.000	0.013
Used public sector source	0.710	0.039	190	214	1.177	0.055	0.632	0.788
Want no more children	0.420	0.022	529	532	1.046	0.053	0.375	0.465
Want to delay birth at least 2 years	0.316	0.050	529	532	2.465	0.159	0.216	0.417
Ideal number of children	4.018	0.050	928	922	1.018	0.013	3.918	4.119
Mothers received antenatal care for last birth	0.980	0.007	436	455	1.103	0.008	0.965	0.995
Mothers protected against tetanus for last birth	0.840	0.020	436	455	1.137	0.024	0.800	0.880
Births with skilled attendant at delivery	0.720	0.025	603	622	1.189	0.035	0.669	0.770
Had diarrhoea in the last 2 weeks	0.087	0.018	572	588	1.446	0.203	0.052	0.122
Treated with ORS	0.676	0.077	53	51	1.096	0.113	0.523	0.829
Sought medical treatment for diarrhoea	0.674	0.081	53	51	1.188	0.120	0.511	0.836
Vaccination card seen	0.821	0.046	120	133	1.357	0.056	0.728	0.913
Received BCG vaccination	0.959	0.019	120	133	1.096	0.020	0.921	0.998
Received pentavalent vaccination (3 doses)	0.895	0.027	120	133	0.980	0.030	0.842	0.949
Received polio vaccination (3 doses)	0.772	0.072	120	133	1.933	0.094	0.627	0.916
Received one dose of measles vaccination	0.902	0.024	120	133	0.905	0.026	0.855	0.950
Received all vaccinations	0.709	0.058	120	133	1.437	0.082	0.593	0.825
Height-for-age (-2SD)	0.220	0.026	323	340	1.179	0.119	0.168	0.273
Weight-for-height (-2SD)	0.077	0.037	323	340	2.555	0.480	0.003	0.151
Weight-for-age (-2SD)	0.139	0.027	323	340	1.446	0.193	0.085	0.192
Body Mass Index (BMI) < 18.5	0.035	0.010	450	431	1.082	0.272	0.016	0.055
Prevalence of anaemia (children 6-59 months)	0.702	0.035	292	304	1.174	0.050	0.632	0.772
Prevalence of anaemia (women 15-49)	0.467	0.035	478	461	1.504	0.075	0.397	0.537
Had 2+ sexual partners in past 12 months	0.016	0.005	941	937	1.262	0.324	0.006	0.026
Condom use at last sex	0.105	0.072	16	15	0.907	0.678	0.000	0.249
Abstinence among youth (never had sex)	0.406	0.047	235	218	1.462	0.116	0.312	0.500
Sexually active in past 12 months among never-married youth	0.488	0.062	235	218	1.888	0.127	0.364	0.612
Had HIV test and received results in past 12 months	0.136	0.008	941	937	0.733	0.060	0.120	0.153
Accepting attitudes towards people with HIV	0.044	0.011	938	934	1.705	0.258	0.021	0.067
Total fertility rate (3 years)	4.724	0.593	2647	2663	2.133	0.125	3.538	5.909
Neonatal mortality rate (0-4 years)	35.776	5.537	1145	1199	1.004	0.155	24.702	46.851
Post-neonatal mortality rate (0-4 years)	12.225	4.527	1150	1197	1.220	0.370	3.172	21.278
Infant mortality rate (0-4 years)	48.001	6.207	1145	1199	0.973	0.129	35.587	60.416
Child mortality rate (0-4 years)	21.605	4.750	1120	1147	0.912	0.220	12.104	31.105
Under-five mortality rate (0-4 years)	68.569	8.330	1151	1203	1.053	0.121	51.909	85.228
HIV prevalence among women 15-49	0.028	0.011	472	438	1.503	0.410	0.005	0.051
MEN								
Urban residence	0.378	0.076	363	380	2.938	0.200	0.227	0.530
No education	0.051	0.018	363	380	1.527	0.346	0.016	0.087
Secondary or higher education	0.824	0.045	363	380	2.217	0.054	0.735	0.913
Never-married/in union	0.432	0.037	363	380	1.429	0.086	0.358	0.507
Currently married/in union	0.515	0.029	363	380	1.097	0.056	0.457	0.572
Had first sexual intercourse before age 18	0.314	0.035	219	248	1.112	0.111	0.244	0.384
Know any contraceptive method	1.000	0.000	178	196	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	178	196	NA	NA	1.000	1.000
Want no more children	0.376	0.040	178	196	1.109	0.107	0.296	0.457
Want to delay birth at least 2 years	0.468	0.068	178	196	1.797	0.145	0.332	0.604
Ideal number of children	4.095	0.099	363	380	1.158	0.024	3.896	4.293
Had 2+ sexual partners in past 12 months	0.216	0.040	363	380	1.829	0.184	0.137	0.296
Condom use at last sex	0.194	0.040	60	82	0.781	0.207	0.114	0.274
Abstinence among youth (never had sex)	0.548	0.054	136	126	1.253	0.098	0.440	0.655
Sexually active in past 12 months among never-married youth	0.258	0.054	136	126	1.438	0.211	0.149	0.366
Had paid sex in past 12 months	0.040	0.011	363	380	1.065	0.274	0.018	0.062
Had HIV test and received results in past 12 months	0.041	0.015	363	380	1.408	0.361	0.011	0.070
Accepting attitudes towards people with HIV	0.088	0.029	360	378	1.919	0.328	0.030	0.145
HIV prevalence among men 15-49	0.013	0.006	339	383	1.050	0.505	0.000	0.025
HIV prevalence among men 15-59	0.011	0.006	381	422	1.049	0.500	0.000	0.023
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.021	0.006	811	821	1.162	0.281	0.009	0.032

Table B.7 Sampling errors for the Greater Accra region sample, Ghana 2014

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
WOMEN								
Urban residence	0.892	0.019	999	1898	1.929	0.021	0.854	0.930
No education	0.083	0.012	999	1898	1.356	0.143	0.060	0.107
Secondary or higher education	0.775	0.022	999	1898	1.642	0.028	0.731	0.818
never-married/in union	0.353	0.023	999	1898	1.493	0.064	0.308	0.399
Currently married/in union	0.530	0.025	999	1898	1.553	0.046	0.481	0.579
Married before age 20	0.280	0.019	858	1650	1.232	0.068	0.242	0.318
Had first sexual intercourse before age 18	0.343	0.024	858	1650	1.474	0.070	0.295	0.391
Currently pregnant	0.069	0.010	999	1898	1.208	0.141	0.049	0.088
Children ever born	1.725	0.062	999	1898	1.069	0.036	1.600	1.850
Children surviving	1.620	0.060	999	1898	1.111	0.037	1.499	1.741
Children ever born to women age 40-49	3.370	0.172	183	332	1.101	0.051	3.027	3.713
Know any contraceptive method	0.998	0.002	514	1005	0.916	0.002	0.995	1.002
Know a modern method	0.998	0.002	514	1005	0.916	0.002	0.995	1.002
Currently using any method	0.287	0.032	514	1005	1.619	0.113	0.223	0.352
Currently using a modern method	0.194	0.023	514	1005	1.310	0.118	0.149	0.240
Currently using pill	0.035	0.008	514	1005	0.988	0.229	0.019	0.051
Currently using IUD	0.010	0.004	514	1005	0.907	0.389	0.002	0.019
Currently using condoms	0.020	0.008	514	1005	1.311	0.402	0.004	0.037
Currently using injectables	0.048	0.012	514	1005	1.278	0.252	0.024	0.072
Currently using female sterilisation	0.013	0.005	514	1005	1.033	0.395	0.003	0.024
Currently using rhythm	0.062	0.015	514	1005	1.365	0.234	0.033	0.091
Currently using withdrawal	0.027	0.008	514	1005	1.126	0.296	0.011	0.044
Used public sector source	0.522	0.050	153	286	1.242	0.097	0.421	0.623
Want no more children	0.384	0.028	514	1005	1.311	0.073	0.327	0.440
Want to delay birth at least 2 years	0.257	0.024	514	1005	1.231	0.092	0.210	0.305
Ideal number of children	3.748	0.075	982	1865	1.498	0.020	3.598	3.897
Mothers received antenatal care for last birth	0.985	0.007	354	674	1.029	0.007	0.972	0.998
Mothers protected against tetanus for last birth	0.782	0.028	354	674	1.263	0.035	0.727	0.837
Births with skilled attendant at delivery	0.921	0.017	460	880	1.213	0.018	0.888	0.955
Had diarrhoea in the last 2 weeks	0.073	0.015	447	858	1.235	0.210	0.043	0.104
Treated with ORS	0.419	0.100	33	63	1.151	0.239	0.219	0.620
Sought medical treatment for diarrhoea	0.586	0.106	33	63	1.223	0.181	0.374	0.799
Vaccination card seen	0.852	0.037	94	179	1.017	0.044	0.778	0.926
Received BCG vaccination	0.984	0.013	94	179	0.991	0.013	0.958	1.009
Received pentavalent vaccination (3 doses)	0.911	0.032	94	179	1.106	0.036	0.846	0.975
Received polio vaccination (3 doses)	0.863	0.037	94	179	1.044	0.043	0.790	0.937
Received one dose of measles vaccination	0.922	0.027	94	179	0.984	0.029	0.867	0.976
Received all vaccinations	0.823	0.046	94	179	1.174	0.056	0.731	0.915
Height-for-age (-2SD)	0.104	0.023	228	424	1.001	0.217	0.059	0.149
Weight-for-height (-2SD)	0.037	0.013	228	424	1.064	0.359	0.010	0.063
Weight-for-age (-2SD)	0.087	0.020	228	424	1.010	0.225	0.048	0.126
Body Mass Index (BMI) < 18.5	0.045	0.010	469	877	0.991	0.213	0.026	0.064
Prevalence of anaemia (children 6-59 months)	0.596	0.046	207	389	1.328	0.078	0.503	0.689
Prevalence of anaemia (women 15-49)	0.424	0.028	496	939	1.250	0.066	0.369	0.480
Had 2+ sexual partners in past 12 months	0.015	0.004	999	1898	1.100	0.286	0.006	0.023
Condom use at last sex	0.122	0.089	15	28	1.019	0.732	0.000	0.301
Abstinence among youth (never had sex)	0.515	0.036	252	459	1.143	0.070	0.442	0.587
Sexually active in past 12 months among never-married youth	0.339	0.036	252	459	1.219	0.107	0.266	0.412
Had HIV test and received results in past 12 months	0.148	0.010	999	1898	0.909	0.069	0.128	0.169
Accepting attitudes towards people with HIV	0.163	0.013	996	1891	1.137	0.082	0.136	0.190
Total fertility rate (3 years)	2.823	0.180	2865	5465	1.223	0.064	2.463	3.183
Neonatal mortality rate (0-4 years)	24.978	4.970	883	1680	0.923	0.199	15.037	34.918
Post-neonatal mortality rate (0-4 years)	11.703	3.645	883	1690	1.001	0.311	4.413	18.993
Infant mortality rate (0-4 years)	36.680	7.096	884	1682	1.113	0.193	22.488	50.872
Child mortality rate (0-4 years)	10.762	3.563	874	1678	0.988	0.331	3.636	17.889
Under-five mortality rate (0-4 years)	47.048	6.794	886	1684	0.989	0.144	33.460	60.635
HIV prevalence among women 15-49	0.038	0.009	492	877	1.039	0.236	0.020	0.056
MEN								
Urban residence	0.887	0.015	422	831	0.989	0.017	0.857	0.918
No education	0.029	0.009	422	831	1.109	0.311	0.011	0.047
Secondary or higher education	0.872	0.024	422	831	1.495	0.028	0.823	0.920
Never-married/in union	0.486	0.038	422	831	1.559	0.078	0.410	0.562
Currently married/in union	0.476	0.041	422	831	1.665	0.085	0.394	0.557
Had first sexual intercourse before age 18	0.287	0.028	280	558	1.052	0.099	0.230	0.343
Know any contraceptive method	1.000	0.000	195	395	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	195	395	NA	NA	1.000	1.000
Want no more children	0.357	0.041	195	395	1.192	0.115	0.275	0.439
Want to delay birth at least 2 years	0.273	0.036	195	395	1.138	0.133	0.200	0.346
Ideal number of children	3.749	0.194	419	824	1.457	0.052	3.361	4.136
Had 2+ sexual partners in past 12 months	0.186	0.027	422	831	1.434	0.146	0.132	0.241
Condom use at last sex	0.288	0.069	79	155	1.338	0.240	0.150	0.426
Abstinence among youth (never had sex)	0.469	0.062	133	260	1.428	0.133	0.344	0.593
Sexually active in past 12 months among never-married youth	0.377	0.064	133	260	1.506	0.169	0.250	0.505
Had paid sex in past 12 months	0.024	0.008	422	831	1.130	0.352	0.007	0.041
Had HIV test and received results in past 12 months	0.085	0.019	422	831	1.380	0.220	0.048	0.123
Accepting attitudes towards people with HIV	0.169	0.019	422	831	1.036	0.112	0.131	0.207
HIV prevalence among men 15-49	0.011	0.006	381	826	1.052	0.509	0.000	0.022
HIV prevalence among men 15-59	0.010	0.005	432	926	1.052	0.506	0.000	0.020
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.025	0.005	873	1703	0.948	0.200	0.015	0.035

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
WOMEN								
Urban residence	0.396	0.030	795	720	1.742	0.077	0.335	0.456
No education	0.191	0.034	795	720	2.413	0.177	0.123	0.258
Secondary or higher education	0.587	0.044	795	720	2.527	0.075	0.498	0.676
never-married/in union	0.320	0.022	795	720	1.314	0.068	0.277	0.364
Currently married/in union	0.562	0.027	795	720	1.521	0.048	0.509	0.616
Married before age 20	0.425	0.023	658	598	1.196	0.054	0.379	0.471
Had first sexual intercourse before age 18	0.495	0.029	658	598	1.491	0.059	0.437	0.554
Currently pregnant	0.061	0.008	795	720	0.997	0.139	0.044	0.078
Children ever born	2.453	0.106	795	720	1.267	0.043	2.241	2.665
Children surviving	2.251	0.096	795	720	1.254	0.043	2.059	2.444
Children ever born to women age 40-49	4.761	0.213	175	157	1.161	0.045	4.335	5.187
Know any contraceptive method	1.000	0.000	443	405	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	443	405	NA	NA	1.000	1.000
Currently using any method	0.322	0.029	443	405	1.305	0.090	0.264	0.380
Currently using a modern method	0.295	0.029	443	405	1.358	0.100	0.236	0.354
Currently using pill	0.067	0.012	443	405	0.995	0.176	0.044	0.091
Currently using IUD	0.000	0.000	443	405	NA	NA	0.000	0.000
Currently using condoms	0.022	0.008	443	405	1.150	0.366	0.006	0.038
Currently using injectables	0.145	0.026	443	405	1.538	0.178	0.094	0.197
Currently using female sterilisation	0.008	0.004	443	405	0.990	0.520	0.000	0.017
Currently using rhythm	0.013	0.007	443	405	1.254	0.527	0.000	0.026
Currently using withdrawal	0.011	0.005	443	405	0.949	0.423	0.002	0.021
Used public sector source	0.576	0.044	174	170	1.183	0.077	0.487	0.665
Want no more children	0.478	0.035	443	405	1.489	0.074	0.407	0.549
Want to delay birth at least 2 years	0.266	0.030	443	405	1.435	0.113	0.206	0.327
Ideal number of children	3.900	0.077	783	709	1.332	0.020	3.746	4.054
Mothers received antenatal care for last birth	0.939	0.020	346	315	1.596	0.022	0.898	0.980
Mothers protected against tetanus for last birth	0.808	0.026	346	315	1.245	0.033	0.755	0.861
Births with skilled attendant at delivery	0.663	0.049	481	436	1.784	0.074	0.565	0.761
Had diarrhoea in the last 2 weeks	0.069	0.015	459	417	1.113	0.214	0.039	0.098
Treated with ORS	0.413	0.121	33	29	1.292	0.293	0.171	0.656
Sought medical treatment for diarrhoea	0.580	0.098	33	29	1.028	0.169	0.384	0.777
Vaccination card seen	0.860	0.064	94	86	1.631	0.075	0.731	0.988
Received BCG vaccination	0.964	0.018	94	86	0.950	0.019	0.927	1.000
Received pentavalent vaccination (3 doses)	0.856	0.049	94	86	1.241	0.057	0.758	0.954
Received polio vaccination (3 doses)	0.864	0.037	94	86	0.952	0.043	0.790	0.938
Received one dose of measles vaccination	0.838	0.039	94	86	0.957	0.047	0.760	0.917
Received all vaccinations	0.788	0.051	94	86	1.148	0.065	0.686	0.891
Height-for-age (-2SD)	0.193	0.027	236	215	1.026	0.140	0.139	0.247
Weight-for-height (-2SD)	0.025	0.011	236	215	1.085	0.437	0.003	0.048
Weight-for-age (-2SD)	0.105	0.017	236	215	0.862	0.157	0.072	0.138
Body Mass Index (BMI) < 18.5	0.072	0.017	356	323	1.270	0.241	0.037	0.107
Prevalence of anaemia (children 6-59 months)	0.699	0.027	207	189	0.792	0.039	0.644	0.753
Prevalence of anaemia (women 15-49)	0.487	0.026	388	352	1.010	0.053	0.436	0.538
Had 2+ sexual partners in past 12 months	0.014	0.004	795	720	0.966	0.293	0.006	0.021
Condom use at last sex	0.297	0.151	13	10	1.133	0.510	0.000	0.599
Abstinence among youth (never had sex)	0.406	0.046	197	179	1.312	0.114	0.314	0.498
Sexually active in past 12 months among never-married youth	0.474	0.040	197	179	1.133	0.085	0.393	0.555
Had HIV test and received results in past 12 months	0.132	0.013	795	720	1.076	0.098	0.106	0.157
Accepting attitudes towards people with HIV	0.099	0.013	751	677	1.236	0.136	0.072	0.126
Total fertility rate (3 years)	4.308	0.327	2251	2046	1.410	0.076	3.655	4.961
Neonatal mortality rate (0-4 years)	29.526	7.968	947	872	1.048	0.270	13.590	45.461
Post-neonatal mortality rate (0-4 years)	12.350	3.551	950	877	0.941	0.288	5.248	19.453
Infant mortality rate (0-4 years)	41.876	8.391	947	872	1.002	0.200	25.094	58.658
Child mortality rate (0-4 years)	20.189	5.557	930	855	1.093	0.275	9.075	31.304
Under-five mortality rate (0-4 years)	61.220	9.362	949	874	0.964	0.153	42.497	79.943
HIV prevalence among women 15-49	0.032	0.009	388	344	1.032	0.288	0.014	0.051
MEN								
Urban residence	0.351	0.045	312	295	1.671	0.129	0.260	0.442
No education	0.047	0.020	312	295	1.663	0.425	0.007	0.087
Secondary or higher education	0.725	0.037	312	295	1.443	0.050	0.652	0.798
Never-married/in union	0.451	0.028	312	295	1.001	0.063	0.395	0.508
Currently married/in union	0.510	0.032	312	295	1.146	0.064	0.445	0.575
Had first sexual intercourse before age 18	0.396	0.051	190	180	1.420	0.128	0.295	0.497
Know any contraceptive method	1.000	0.000	158	150	NA	NA	1.000	1.000
Know a modern method	0.989	0.008	158	150	0.909	0.008	0.973	1.004
Want no more children	0.428	0.036	158	150	0.918	0.085	0.355	0.500
Want to delay birth at least 2 years	0.334	0.031	158	150	0.837	0.094	0.271	0.397
Ideal number of children	4.495	0.206	311	294	1.498	0.046	4.083	4.906
Had 2+ sexual partners in past 12 months	0.135	0.021	312	295	1.107	0.159	0.092	0.177
Condom use at last sex	0.079	0.043	41	40	1.013	0.547	0.000	0.166
Abstinence among youth (never had sex)	0.552	0.055	114	107	1.175	0.100	0.442	0.662
Sexually active in past 12 months among never-married youth	0.360	0.042	114	107	0.936	0.117	0.275	0.444
Had paid sex in past 12 months	0.018	0.007	312	295	0.989	0.418	0.003	0.032
Had HIV test and received results in past 12 months	0.056	0.014	312	295	1.060	0.248	0.028	0.083
Accepting attitudes towards people with HIV	0.134	0.023	306	289	1.186	0.173	0.088	0.180
HIV prevalence among men 15-49	0.009	0.006	305	296	1.088	0.662	0.000	0.020
HIV prevalence among men 15-59	0.011	0.006	346	338	1.052	0.537	0.000	0.023
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.021	0.006	693	640	1.155	0.298	0.009	0.034

Variable	Value (R)	Standard error (SE)	Un-weighted (N)	Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	R-2SE	R+2SE
							Confidence limits	
WOMEN								
Urban residence	0.479	0.029	907	878	1.716	0.060	0.422	0.536
No education	0.104	0.014	907	878	1.350	0.132	0.076	0.131
Secondary or higher education	0.680	0.024	907	878	1.566	0.036	0.632	0.729
never-married/in union	0.317	0.016	907	878	1.032	0.050	0.285	0.348
Currently married/in union	0.570	0.017	907	878	1.051	0.030	0.535	0.604
Married before age 20	0.444	0.025	746	727	1.366	0.056	0.394	0.493
Had first sexual intercourse before age 18	0.455	0.022	746	727	1.230	0.049	0.410	0.500
Currently pregnant	0.079	0.010	907	878	1.146	0.130	0.058	0.099
Children ever born	2.518	0.102	907	878	1.256	0.040	2.314	2.722
Children surviving	2.307	0.088	907	878	1.200	0.038	2.131	2.483
Children ever born to women age 40-49	4.916	0.191	200	197	1.182	0.039	4.533	5.299
Know any contraceptive method	0.998	0.002	511	500	0.925	0.002	0.995	1.002
Know a modern method	0.998	0.002	511	500	0.925	0.002	0.995	1.002
Currently using any method	0.294	0.026	511	500	1.272	0.087	0.242	0.345
Currently using a modern method	0.256	0.023	511	500	1.209	0.091	0.209	0.303
Currently using pill	0.050	0.011	511	500	1.113	0.216	0.028	0.071
Currently using IUD	0.014	0.005	511	500	1.007	0.377	0.003	0.024
Currently using condoms	0.009	0.004	511	500	0.975	0.461	0.001	0.017
Currently using injectables	0.092	0.014	511	500	1.095	0.152	0.064	0.120
Currently using female sterilisation	0.028	0.009	511	500	1.198	0.311	0.011	0.046
Currently using rhythm	0.029	0.009	511	500	1.216	0.311	0.011	0.047
Currently using withdrawal	0.006	0.003	511	500	0.967	0.541	0.000	0.013
Used public sector source	0.713	0.033	160	157	0.922	0.046	0.646	0.779
Want no more children	0.483	0.020	511	500	0.908	0.042	0.443	0.523
Want to delay birth at least 2 years	0.244	0.025	511	500	1.318	0.103	0.194	0.294
Ideal number of children	4.041	0.086	898	871	1.702	0.021	3.869	4.213
Mothers received antenatal care for last birth	0.966	0.014	397	389	1.500	0.014	0.939	0.993
Mothers protected against tetanus for last birth	0.688	0.028	397	389	1.192	0.040	0.633	0.744
Births with skilled attendant at delivery	0.672	0.034	545	532	1.439	0.050	0.605	0.740
Had diarrhoea in the last 2 weeks	0.157	0.017	514	506	1.024	0.107	0.124	0.191
Treated with ORS	0.601	0.062	78	80	1.080	0.103	0.478	0.724
Sought medical treatment for diarrhoea	0.611	0.062	78	80	1.105	0.101	0.487	0.735
Vaccination card seen	0.928	0.026	105	103	1.011	0.028	0.877	0.979
Received BCG vaccination	0.945	0.021	105	103	0.965	0.023	0.902	0.988
Received pentavalent vaccination (3 doses)	0.898	0.031	105	103	1.057	0.035	0.835	0.960
Received polio vaccination (3 doses)	0.900	0.027	105	103	0.929	0.030	0.845	0.954
Received one dose of measles vaccination	0.869	0.042	105	103	1.266	0.048	0.785	0.953
Received all vaccinations	0.795	0.051	105	103	1.277	0.064	0.693	0.896
Height-for-age (-2SD)	0.170	0.028	279	273	1.165	0.164	0.115	0.226
Weight-for-height (-2SD)	0.032	0.012	279	273	1.166	0.371	0.008	0.056
Weight-for-age (-2SD)	0.079	0.021	279	273	1.232	0.269	0.036	0.122
Body Mass Index (BMI) < 18.5	0.071	0.015	386	373	1.128	0.208	0.042	0.101
Prevalence of anaemia (children 6-59 months)	0.661	0.044	246	238	1.292	0.066	0.574	0.748
Prevalence of anaemia (women 15-49)	0.389	0.027	428	413	1.144	0.069	0.335	0.443
Had 2+ sexual partners in past 12 months	0.007	0.003	907	878	1.006	0.397	0.001	0.013
Condom use at last sex	0.000	0.000	6	6	NA	NA	0.000	0.000
Abstinence among youth (never had sex)	0.408	0.033	233	224	1.025	0.081	0.342	0.474
Sexually active in past 12 months among never-married youth	0.429	0.032	233	224	0.979	0.074	0.366	0.493
Had HIV test and received results in past 12 months	0.156	0.015	907	878	1.267	0.098	0.126	0.187
Accepting attitudes towards people with HIV	0.066	0.009	894	866	1.073	0.135	0.048	0.084
Total fertility rate (3 years)	4.155	0.291	2580	2500	1.306	0.070	3.573	4.736
Neonatal mortality rate (0-4 years)	30.462	5.203	1086	1048	0.990	0.171	20.056	40.868
Post-neonatal mortality rate (0-4 years)	12.648	3.469	1087	1048	0.951	0.274	5.710	19.586
Infant mortality rate (0-4 years)	43.110	7.155	1086	1048	1.103	0.166	28.801	57.419
Child mortality rate (0-4 years)	26.238	5.362	1066	1029	0.959	0.204	15.514	36.961
Under-five mortality rate (0-4 years)	68.217	8.485	1095	1057	0.960	0.124	51.247	85.186
HIV prevalence among women 15-49	0.041	0.011	424	394	1.185	0.281	0.018	0.063
MEN								
Urban residence	0.464	0.032	377	362	1.230	0.068	0.400	0.527
No education	0.018	0.007	377	362	1.061	0.399	0.004	0.033
Secondary or higher education	0.804	0.028	377	362	1.344	0.034	0.749	0.859
Never-married/in union	0.482	0.031	377	362	1.212	0.065	0.419	0.544
Currently married/in union	0.439	0.026	377	362	1.007	0.059	0.387	0.491
Had first sexual intercourse before age 18	0.273	0.037	213	204	1.192	0.134	0.200	0.346
Know any contraceptive method	1.000	0.000	166	159	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	166	159	NA	NA	1.000	1.000
Want no more children	0.488	0.038	166	159	0.977	0.078	0.412	0.564
Want to delay birth at least 2 years	0.268	0.040	166	159	1.168	0.150	0.187	0.349
Ideal number of children	4.023	0.111	377	362	1.137	0.027	3.802	4.244
Had 2+ sexual partners in past 12 months	0.129	0.020	377	362	1.139	0.153	0.090	0.169
Condom use at last sex	0.167	0.068	51	47	1.276	0.406	0.031	0.302
Abstinence among youth (never had sex)	0.519	0.043	153	144	1.049	0.082	0.434	0.604
Sexually active in past 12 months among never-married youth	0.386	0.041	153	144	1.044	0.107	0.303	0.468
Had paid sex in past 12 months	0.022	0.010	377	362	1.257	0.432	0.003	0.041
Had HIV test and received results in past 12 months	0.078	0.018	377	362	1.300	0.231	0.042	0.114
Accepting attitudes towards people with HIV	0.129	0.023	376	361	1.337	0.180	0.083	0.175
HIV prevalence among men 15-49	0.014	0.006	365	367	0.927	0.409	0.003	0.025
HIV prevalence among men 15-59	0.016	0.006	427	430	1.035	0.392	0.003	0.029
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.028	0.008	789	760	1.309	0.276	0.012	0.043

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
			WOMEN					
Urban residence	0.632	0.032	1040	1798	2.106	0.050	0.569	0.695
No education	0.108	0.016	1040	1798	1.698	0.152	0.075	0.141
Secondary or higher education	0.738	0.027	1040	1798	1.960	0.036	0.684	0.791
never-married/in union	0.353	0.015	1040	1798	1.043	0.044	0.322	0.384
Currently married/in union	0.539	0.018	1040	1798	1.185	0.034	0.502	0.576
Married before age 20	0.402	0.026	861	1490	1.579	0.066	0.349	0.455
Had first sexual intercourse before age 18	0.421	0.021	861	1490	1.236	0.049	0.379	0.463
Currently pregnant	0.058	0.009	1040	1798	1.283	0.160	0.039	0.077
Children ever born	2.432	0.103	1040	1798	1.355	0.042	2.227	2.637
Children surviving	2.200	0.093	1040	1798	1.365	0.042	2.015	2.386
Children ever born to women age 40-49	4.813	0.178	232	415	1.174	0.037	4.458	5.169
Know any contraceptive method	1.000	0.000	553	969	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	553	969	NA	NA	1.000	1.000
Currently using any method	0.264	0.025	553	969	1.317	0.094	0.215	0.314
Currently using a modern method	0.208	0.026	553	969	1.498	0.124	0.156	0.260
Currently using pill	0.054	0.010	553	969	1.058	0.188	0.034	0.075
Currently using IUD	0.008	0.004	553	969	1.027	0.487	0.000	0.016
Currently using condoms	0.005	0.003	553	969	0.862	0.515	0.000	0.010
Currently using injectables	0.060	0.012	553	969	1.181	0.200	0.036	0.084
Currently using female sterilisation	0.021	0.007	553	969	1.229	0.359	0.006	0.036
Currently using rhythm	0.044	0.009	553	969	1.056	0.209	0.026	0.063
Currently using withdrawal	0.012	0.005	553	969	1.024	0.398	0.002	0.021
Used public sector source	0.616	0.053	145	262	1.311	0.087	0.509	0.722
Want no more children	0.399	0.023	553	969	1.096	0.057	0.354	0.445
Want to delay birth at least 2 years	0.252	0.017	553	969	0.934	0.069	0.217	0.286
Ideal number of children	4.421	0.073	1010	1747	1.245	0.017	4.274	4.568
Mothers received antenatal care for last birth	0.988	0.006	420	738	1.178	0.006	0.975	1.000
Mothers protected against tetanus for last birth	0.818	0.026	420	738	1.388	0.032	0.765	0.870
Births with skilled attendant at delivery	0.863	0.022	599	1065	1.426	0.026	0.818	0.908
Had diarrhoea in the last 2 weeks	0.142	0.018	560	995	1.169	0.130	0.105	0.178
Treated with ORS	0.393	0.044	76	141	0.741	0.112	0.305	0.481
Sought medical treatment for diarrhoea	0.571	0.066	76	141	1.116	0.116	0.438	0.704
Vaccination card seen	0.903	0.033	103	180	1.127	0.037	0.837	0.968
Received BCG vaccination	0.981	0.013	103	180	0.988	0.014	0.954	1.008
Received pentavalent vaccination (3 doses)	0.925	0.031	103	180	1.212	0.034	0.863	0.988
Received polio vaccination (3 doses)	0.848	0.045	103	180	1.261	0.053	0.758	0.937
Received one dose of measles vaccination	0.951	0.023	103	180	1.064	0.024	0.906	0.996
Received all vaccinations	0.789	0.045	103	180	1.120	0.057	0.699	0.879
Height-for-age (-2SD)	0.161	0.026	293	496	1.165	0.160	0.109	0.212
Weight-for-height (-2SD)	0.035	0.013	293	496	1.194	0.361	0.010	0.060
Weight-for-age (-2SD)	0.094	0.022	293	496	1.140	0.232	0.050	0.138
Body Mass Index (BMI) < 18.5	0.061	0.012	456	781	1.066	0.197	0.037	0.085
Prevalence of anaemia (children 6-59 months)	0.537	0.042	258	432	1.271	0.079	0.452	0.622
Prevalence of anaemia (women 15-49)	0.405	0.022	492	843	0.993	0.055	0.361	0.449
Had 2+ sexual partners in past 12 months	0.014	0.004	1040	1798	1.103	0.285	0.006	0.022
Condom use at last sex	0.038	0.040	15	26	0.800	1.066	0.000	0.118
Abstinence among youth (never had sex)	0.513	0.038	295	499	1.308	0.074	0.437	0.590
Sexually active in past 12 months among never-married youth	0.363	0.032	295	499	1.144	0.089	0.298	0.427
Had HIV test and received results in past 12 months	0.124	0.012	1040	1798	1.125	0.093	0.101	0.147
Accepting attitudes towards people with HIV	0.055	0.008	1036	1791	1.185	0.152	0.038	0.072
Total fertility rate (3 years)	4.177	0.228	2909	5022	1.039	0.055	3.721	4.633
Neonatal mortality rate (0-4 years)	41.861	6.889	1156	2056	0.957	0.165	28.084	55.639
Post-neonatal mortality rate (0-4 years)	21.618	5.184	1161	2068	1.180	0.240	11.249	31.986
Infant mortality rate (0-4 years)	63.479	8.508	1158	2060	1.037	0.134	46.463	80.496
Child mortality rate (0-4 years)	17.445	4.514	1148	2032	1.213	0.259	8.416	26.474
Under-five mortality rate (0-4 years)	79.817	9.613	1163	2067	1.090	0.120	60.592	99.042
HIV prevalence among women 15-49	0.026	0.008	488	804	1.068	0.294	0.011	0.042
			MEN					
Urban residence	0.623	0.034	390	680	1.371	0.054	0.555	0.690
No education	0.046	0.014	390	680	1.359	0.315	0.017	0.075
Secondary or higher education	0.865	0.035	390	680	2.009	0.040	0.795	0.935
Never-married/in union	0.531	0.025	390	680	1.005	0.048	0.480	0.582
Currently married/in union	0.438	0.024	390	680	0.949	0.055	0.390	0.486
Had first sexual intercourse before age 18	0.277	0.034	249	429	1.188	0.122	0.209	0.344
Know any contraceptive method	1.000	0.000	171	298	NA	NA	1.000	1.000
Know a modern method	1.000	0.000	171	298	NA	NA	1.000	1.000
Want no more children	0.285	0.042	171	298	1.210	0.147	0.201	0.369
Want to delay birth at least 2 years	0.354	0.055	171	298	1.504	0.156	0.243	0.465
Ideal number of children	4.191	0.138	384	666	1.463	0.033	3.914	4.467
Had 2+ sexual partners in past 12 months	0.052	0.014	390	680	1.225	0.265	0.024	0.080
Condom use at last sex	0.124	0.085	19	35	1.082	0.680	0.000	0.293
Abstinence among youth (never had sex)	0.569	0.045	137	244	1.065	0.080	0.478	0.659
Sexually active in past 12 months among never-married youth	0.297	0.041	137	244	1.035	0.137	0.215	0.378
Had paid sex in past 12 months	0.027	0.008	390	680	1.003	0.306	0.010	0.043
Had HIV test and received results in past 12 months	0.055	0.014	390	680	1.234	0.259	0.027	0.084
Accepting attitudes towards people with HIV	0.101	0.026	389	679	1.714	0.260	0.048	0.153
HIV prevalence among men 15-49	0.011	0.006	363	689	1.023	0.515	0.000	0.022
HIV prevalence among men 15-59	0.009	0.005	414	794	1.021	0.517	0.000	0.019
			WOMEN AND MEN					
HIV prevalence among women and men 15-49	0.019	0.005	851	1492	1.134	0.278	0.008	0.030

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
WOMEN								
Urban residence	0.505	0.033	1005	769	2.118	0.066	0.438	0.572
No education	0.205	0.028	1005	769	2.193	0.136	0.149	0.261
Secondary or higher education	0.570	0.035	1005	769	2.215	0.061	0.500	0.639
never-married/in union	0.350	0.024	1005	769	1.597	0.069	0.302	0.398
Currently married/in union	0.571	0.024	1005	769	1.522	0.042	0.523	0.618
Married before age 20	0.384	0.025	785	602	1.456	0.066	0.334	0.435
Had first sexual intercourse before age 18	0.496	0.018	785	602	1.008	0.036	0.460	0.532
Currently pregnant	0.076	0.008	1005	769	0.997	0.110	0.059	0.093
Children ever born	2.411	0.099	1005	769	1.304	0.041	2.214	2.608
Children surviving	2.212	0.089	1005	769	1.303	0.040	2.034	2.389
Children ever born to women age 40-49	5.140	0.209	185	137	1.136	0.041	4.721	5.558
Know any contraceptive method	0.993	0.004	583	439	1.228	0.004	0.984	1.001
Know a modern method	0.988	0.008	583	439	1.771	0.008	0.971	1.004
Currently using any method	0.301	0.027	583	439	1.412	0.089	0.247	0.355
Currently using a modern method	0.262	0.026	583	439	1.433	0.100	0.210	0.315
Currently using pill	0.054	0.010	583	439	1.057	0.184	0.034	0.074
Currently using IUD	0.008	0.004	583	439	0.942	0.427	0.001	0.015
Currently using condoms	0.011	0.004	583	439	0.961	0.385	0.002	0.019
Currently using injectables	0.113	0.016	583	439	1.221	0.142	0.081	0.145
Currently using female sterilisation	0.022	0.009	583	439	1.450	0.398	0.005	0.040
Currently using rhythm	0.032	0.008	583	439	1.102	0.250	0.016	0.048
Currently using withdrawal	0.002	0.002	583	439	0.829	0.710	0.000	0.006
Used public sector source	0.631	0.039	239	180	1.232	0.061	0.554	0.708
Want no more children	0.342	0.020	583	439	0.995	0.057	0.303	0.381
Want to delay birth at least 2 years	0.329	0.022	583	439	1.135	0.067	0.285	0.374
Ideal number of children	4.387	0.101	999	765	1.924	0.023	4.184	4.590
Mothers received antenatal care for last birth	0.989	0.005	490	374	1.129	0.005	0.979	1.000
Mothers protected against tetanus for last birth	0.837	0.030	490	374	1.793	0.036	0.777	0.897
Births with skilled attendant at delivery	0.790	0.037	653	497	2.061	0.047	0.716	0.864
Had diarrhoea in the last 2 weeks	0.171	0.019	628	478	1.150	0.108	0.134	0.208
Treated with ORS	0.397	0.047	110	82	0.987	0.118	0.303	0.491
Sought medical treatment for diarrhoea	0.679	0.049	110	82	1.037	0.073	0.580	0.777
Vaccination card seen	0.916	0.025	141	117	1.034	0.027	0.867	0.965
Received BCG vaccination	1.000	0.000	141	117	NA	NA	1.000	1.000
Received pentavalent vaccination (3 doses)	0.882	0.024	141	117	0.887	0.028	0.833	0.930
Received polio vaccination (3 doses)	0.851	0.034	141	117	1.122	0.039	0.784	0.919
Received one dose of measles vaccination	0.930	0.024	141	117	1.152	0.026	0.882	0.978
Received all vaccinations	0.822	0.036	141	117	1.130	0.044	0.750	0.894
Height-for-age (-2SD)	0.172	0.020	361	284	0.995	0.119	0.131	0.213
Weight-for-height (-2SD)	0.045	0.012	361	284	1.076	0.269	0.021	0.069
Weight-for-age (-2SD)	0.059	0.015	361	284	1.102	0.253	0.029	0.089
Body Mass Index (BMI) < 18.5	0.064	0.012	458	349	1.043	0.187	0.040	0.088
Prevalence of anaemia (children 6-59 months)	0.625	0.037	330	260	1.436	0.059	0.551	0.699
Prevalence of anaemia (women 15-49)	0.364	0.024	505	386	1.116	0.066	0.316	0.411
Had 2+ sexual partners in past 12 months	0.020	0.007	1005	769	1.501	0.332	0.007	0.033
Condom use at last sex	0.047	0.052	15	15	0.916	1.093	0.000	0.151
Abstinence among youth (never had sex)	0.326	0.052	288	225	1.857	0.158	0.223	0.429
Sexually active in past 12 months among never-married youth	0.554	0.060	288	225	2.043	0.109	0.434	0.675
Had HIV test and received results in past 12 months	0.120	0.016	1005	769	1.517	0.130	0.089	0.151
Accepting attitudes towards people with HIV	0.054	0.010	978	748	1.384	0.186	0.034	0.074
Total fertility rate (3 years)	4.785	0.288	2770	2121	1.461	0.060	4.209	5.360
Neonatal mortality rate (0-4 years)	27.165	4.168	1266	950	0.898	0.153	18.829	35.501
Post-neonatal mortality rate (0-4 years)	10.459	2.861	1266	950	0.919	0.274	4.738	16.180
Infant mortality rate (0-4 years)	37.624	4.716	1267	951	0.856	0.125	28.192	47.056
Child mortality rate (0-4 years)	19.763	5.001	1245	935	1.079	0.253	9.762	29.765
Under-five mortality rate (0-4 years)	56.644	6.628	1275	956	0.951	0.117	43.387	69.900
HIV prevalence among women 15-49	0.029	0.007	507	378	0.985	0.253	0.014	0.044
MEN								
Urban residence	0.458	0.031	422	320	1.279	0.068	0.395	0.520
No education	0.101	0.015	422	320	1.027	0.149	0.071	0.132
Secondary or higher education	0.739	0.036	422	320	1.657	0.048	0.668	0.810
Never-married/in union	0.451	0.025	422	320	1.034	0.056	0.401	0.501
Currently married/in union	0.496	0.028	422	320	1.158	0.057	0.440	0.552
Had first sexual intercourse before age 18	0.210	0.028	256	194	1.112	0.135	0.153	0.266
Know any contraceptive method	0.984	0.012	204	159	1.356	0.012	0.960	1.008
Know a modern method	0.984	0.012	204	159	1.356	0.012	0.960	1.008
Want no more children	0.251	0.034	204	159	1.122	0.136	0.183	0.320
Want to delay birth at least 2 years	0.356	0.045	204	159	1.334	0.126	0.266	0.446
Ideal number of children	4.705	0.165	421	319	1.345	0.035	4.374	5.035
Had 2+ sexual partners in past 12 months	0.109	0.016	422	320	1.073	0.150	0.076	0.142
Condom use at last sex	0.179	0.045	47	35	0.804	0.253	0.088	0.269
Abstinence among youth (never had sex)	0.528	0.046	156	117	1.134	0.086	0.437	0.619
Sexually active in past 12 months among never-married youth	0.364	0.048	156	117	1.238	0.132	0.268	0.460
Had paid sex in past 12 months	0.004	0.003	422	320	0.901	0.707	0.000	0.009
Had HIV test and received results in past 12 months	0.038	0.010	422	320	1.092	0.266	0.018	0.059
Accepting attitudes towards people with HIV	0.089	0.016	411	312	1.116	0.177	0.057	0.120
HIV prevalence among men 15-49	0.014	0.009	410	321	1.561	0.648	0.000	0.032
HIV prevalence among men 15-59	0.017	0.009	472	365	1.516	0.530	0.000	0.035
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.022	0.007	917	699	1.521	0.334	0.007	0.037

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
WOMEN								
Urban residence	0.257	0.041	1042	786	3.021	0.160	0.175	0.339
No education	0.658	0.035	1042	786	2.349	0.053	0.588	0.727
Secondary or higher education	0.231	0.031	1042	786	2.336	0.133	0.170	0.292
never-married/in union	0.248	0.018	1042	786	1.359	0.073	0.212	0.285
Currently married/in union	0.713	0.022	1042	786	1.572	0.031	0.669	0.758
Married before age 20	0.611	0.026	857	640	1.586	0.043	0.558	0.664
Had first sexual intercourse before age 18	0.539	0.020	857	640	1.153	0.036	0.500	0.578
Currently pregnant	0.089	0.012	1042	786	1.329	0.132	0.065	0.112
Children ever born	3.103	0.126	1042	786	1.476	0.041	2.851	3.356
Children surviving	2.703	0.096	1042	786	1.313	0.036	2.510	2.896
Children ever born to women age 40-49	6.416	0.176	212	151	1.193	0.027	6.064	6.769
Know any contraceptive method	0.972	0.011	737	561	1.793	0.011	0.950	0.994
Know a modern method	0.951	0.015	737	561	1.863	0.016	0.921	0.980
Currently using any method	0.112	0.015	737	561	1.291	0.134	0.082	0.142
Currently using a modern method	0.108	0.014	737	561	1.252	0.133	0.080	0.137
Currently using pill	0.022	0.006	737	561	1.138	0.278	0.010	0.035
Currently using IUD	0.000	0.000	737	561	NA	NA	0.000	0.000
Currently using condoms	0.001	0.001	737	561	0.742	1.018	0.000	0.002
Currently using injectables	0.069	0.010	737	561	1.047	0.141	0.050	0.089
Currently using female sterilisation	0.003	0.002	737	561	1.099	0.726	0.000	0.008
Currently using rhythm	0.001	0.001	737	561	0.799	1.015	0.000	0.003
Currently using withdrawal	0.002	0.001	737	561	0.866	0.774	0.000	0.004
Used public sector source	0.754	0.048	100	73	1.098	0.063	0.659	0.849
Want no more children	0.172	0.018	737	561	1.285	0.104	0.136	0.208
Want to delay birth at least 2 years	0.544	0.032	737	561	1.736	0.059	0.480	0.608
Ideal number of children	6.353	0.137	1041	786	1.884	0.022	6.079	6.628
Mothers received antenatal care for last birth	0.920	0.031	622	480	2.886	0.034	0.857	0.982
Mothers protected against tetanus for last birth	0.690	0.045	622	480	2.441	0.065	0.600	0.780
Births with skilled attendant at delivery	0.364	0.057	902	709	2.985	0.157	0.249	0.478
Had diarrhoea in the last 2 weeks	0.160	0.024	842	670	1.833	0.148	0.113	0.207
Treated with ORS	0.487	0.080	124	107	1.802	0.163	0.328	0.646
Sought medical treatment for diarrhoea	0.663	0.067	124	107	1.574	0.101	0.530	0.797
Vaccination card seen	0.889	0.040	174	140	1.742	0.045	0.808	0.969
Received BCG vaccination	0.921	0.036	174	140	1.839	0.040	0.849	0.994
Received pentavalent vaccination (3 doses)	0.807	0.054	174	140	1.855	0.067	0.699	0.915
Received polio vaccination (3 doses)	0.797	0.055	174	140	1.845	0.069	0.688	0.906
Received one dose of measles vaccination	0.794	0.054	174	140	1.798	0.068	0.687	0.901
Received all vaccinations	0.690	0.071	174	140	2.072	0.102	0.549	0.832
Height-for-age (-2SD)	0.331	0.025	464	360	1.157	0.075	0.281	0.381
Weight-for-height (-2SD)	0.063	0.015	464	360	1.358	0.232	0.034	0.092
Weight-for-age (-2SD)	0.200	0.023	464	360	1.180	0.113	0.155	0.246
Body Mass Index (BMI) < 18.5	0.112	0.013	484	371	0.880	0.112	0.087	0.137
Prevalence of anaemia (children 6-59 months)	0.821	0.037	411	313	1.830	0.045	0.747	0.895
Prevalence of anaemia (women 15-49)	0.475	0.032	546	417	1.486	0.066	0.412	0.538
Had 2+ sexual partners in past 12 months	0.003	0.002	1042	786	1.038	0.581	0.000	0.007
Condom use at last sex	0.383	0.249	5	2	1.019	0.650	0.000	0.880
Abstinence among youth (never had sex)	0.645	0.042	229	177	1.323	0.065	0.561	0.729
Sexually active in past 12 months among never-married youth	0.225	0.025	229	177	0.892	0.110	0.175	0.274
Had HIV test and received results in past 12 months	0.078	0.012	1042	786	1.465	0.156	0.054	0.102
Accepting attitudes towards people with HIV	0.036	0.007	912	685	1.166	0.201	0.021	0.050
Total fertility rate (3 years)	6.580	0.269	2910	2184	1.356	0.041	6.041	7.119
Neonatal mortality rate (0-4 years)	23.943	5.552	1714	1314	1.331	0.232	12.840	35.047
Post-neonatal mortality rate (0-4 years)	28.772	4.313	1716	1312	0.983	0.150	20.147	37.397
Infant mortality rate (0-4 years)	52.715	7.275	1716	1315	1.290	0.138	38.165	67.266
Child mortality rate (0-4 years)	61.413	8.704	1682	1274	1.487	0.142	44.005	78.821
Under-five mortality rate (0-4 years)	110.891	11.550	1738	1330	1.629	0.104	87.792	133.990
HIV prevalence among women 15-49	0.006	0.003	546	404	0.954	0.519	0.000	0.013
MEN								
Urban residence	0.292	0.045	431	316	2.045	0.154	0.202	0.382
No education	0.474	0.040	431	316	1.652	0.084	0.394	0.554
Secondary or higher education	0.404	0.033	431	316	1.386	0.081	0.339	0.470
Never-married/in union	0.446	0.025	431	316	1.028	0.055	0.396	0.495
Currently married/in union	0.533	0.026	431	316	1.100	0.050	0.480	0.586
Had first sexual intercourse before age 18	0.126	0.029	273	201	1.443	0.231	0.068	0.185
Know any contraceptive method	0.977	0.010	230	168	0.973	0.010	0.958	0.996
Know a modern method	0.977	0.010	230	168	0.973	0.010	0.958	0.996
Want no more children	0.087	0.028	230	168	1.494	0.321	0.031	0.143
Want to delay birth at least 2 years	0.627	0.064	230	168	1.984	0.102	0.500	0.755
Ideal number of children	7.511	0.336	431	316	1.573	0.045	6.840	8.183
Had 2+ sexual partners in past 12 months	0.133	0.025	431	316	1.548	0.191	0.082	0.183
Condom use at last sex	0.021	0.016	61	42	0.871	0.774	0.000	0.052
Abstinence among youth (never had sex)	0.678	0.041	153	112	1.073	0.060	0.596	0.759
Sexually active in past 12 months among never-married youth	0.235	0.042	153	112	1.224	0.180	0.150	0.319
Had paid sex in past 12 months	0.015	0.007	431	316	1.127	0.443	0.002	0.028
Had HIV test and received results in past 12 months	0.040	0.010	431	316	1.053	0.248	0.020	0.060
Accepting attitudes towards people with HIV	0.245	0.053	408	298	2.460	0.215	0.140	0.351
HIV prevalence among men 15-49	0.000	0.000	417	317	NA	NA	0.000	0.000
HIV prevalence among men 15-59	0.000	0.000	468	357	NA	NA	0.000	0.000
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.003	0.002	963	721	0.936	0.513	0.000	0.007

Variable	Value (R)	Standard error (SE)	Un-weighted (N)	Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	R-2SE	R+2SE
WOMEN								
Urban residence	0.228	0.024	914	358	1.753	0.107	0.179	0.276
No education	0.400	0.031	914	358	1.898	0.077	0.338	0.461
Secondary or higher education	0.329	0.033	914	358	2.139	0.101	0.263	0.396
never-married/in union	0.305	0.024	914	358	1.547	0.077	0.258	0.352
Currently married/in union	0.609	0.026	914	358	1.599	0.042	0.558	0.661
Married before age 20	0.586	0.023	696	269	1.210	0.039	0.541	0.632
Had first sexual intercourse before age 18	0.437	0.024	696	269	1.282	0.055	0.389	0.486
Currently pregnant	0.079	0.010	914	358	1.075	0.121	0.060	0.099
Children ever born	2.569	0.095	914	358	1.178	0.037	2.379	2.758
Children surviving	2.308	0.087	914	358	1.202	0.038	2.134	2.481
Children ever born to women age 40-49	5.716	0.197	182	71	1.494	0.034	5.323	6.109
Know any contraceptive method	0.991	0.005	555	218	1.174	0.005	0.981	1.000
Know a modern method	0.990	0.005	555	218	1.106	0.005	0.980	0.999
Currently using any method	0.237	0.021	555	218	1.153	0.088	0.195	0.279
Currently using a modern method	0.233	0.020	555	218	1.139	0.088	0.192	0.274
Currently using pill	0.019	0.005	555	218	0.933	0.286	0.008	0.030
Currently using IUD	0.002	0.002	555	218	0.948	1.016	0.000	0.005
Currently using condoms	0.011	0.004	555	218	0.883	0.361	0.003	0.018
Currently using injectables	0.152	0.013	555	218	0.879	0.088	0.125	0.179
Currently using female sterilisation	0.000	0.000	555	218	NA	NA	0.000	0.000
Currently using rhythm	0.004	0.002	555	218	0.872	0.596	0.000	0.008
Currently using withdrawal	0.000	0.000	555	218	NA	NA	0.000	0.000
Used public sector source	0.806	0.034	177	65	1.141	0.042	0.738	0.874
Want no more children	0.238	0.028	555	218	1.527	0.116	0.183	0.294
Want to delay birth at least 2 years	0.467	0.028	555	218	1.299	0.059	0.412	0.522
Ideal number of children	5.240	0.139	914	358	2.088	0.027	4.961	5.519
Mothers received antenatal care for last birth	0.984	0.006	434	178	0.984	0.006	0.973	0.996
Mothers protected against tetanus for last birth	0.680	0.029	434	178	1.321	0.043	0.622	0.738
Births with skilled attendant at delivery	0.846	0.019	551	227	1.181	0.023	0.807	0.885
Had diarrhoea in the last 2 weeks	0.120	0.013	534	219	0.925	0.110	0.094	0.146
Treated with ORS	0.578	0.055	57	26	0.903	0.095	0.468	0.687
Sought medical treatment for diarrhoea	0.748	0.074	57	26	1.328	0.098	0.601	0.895
Vaccination card seen	0.921	0.028	106	43	1.097	0.031	0.865	0.978
Received BCG vaccination	0.979	0.015	106	43	1.094	0.015	0.949	1.009
Received pentavalent vaccination (3 doses)	0.933	0.027	106	43	1.147	0.029	0.879	0.988
Received polio vaccination (3 doses)	0.907	0.037	106	43	1.337	0.041	0.833	0.981
Received one dose of measles vaccination	0.921	0.026	106	43	1.023	0.029	0.868	0.974
Received all vaccinations	0.850	0.040	106	43	1.174	0.047	0.769	0.930
Height-for-age (-2SD)	0.144	0.017	281	118	0.819	0.117	0.110	0.178
Weight-for-height (-2SD)	0.094	0.014	281	118	0.894	0.153	0.065	0.122
Weight-for-age (-2SD)	0.108	0.015	281	118	0.760	0.141	0.078	0.139
Body Mass Index (BMI) < 18.5	0.093	0.013	423	165	0.882	0.135	0.068	0.118
Prevalence of anaemia (children 6-59 months)	0.738	0.046	246	105	1.671	0.063	0.646	0.830
Prevalence of anaemia (women 15-49)	0.396	0.031	461	181	1.360	0.078	0.334	0.458
Had 2+ sexual partners in past 12 months	0.007	0.004	914	358	1.354	0.523	0.000	0.015
Condom use at last sex	0.531	0.176	6	3	0.815	0.331	0.179	0.883
Abstinence among youth (never had sex)	0.604	0.041	259	102	1.355	0.068	0.521	0.687
Sexually active in past 12 months among never-married youth	0.309	0.042	259	102	1.457	0.136	0.225	0.393
Had HIV test and received results in past 12 months	0.110	0.015	914	358	1.430	0.135	0.080	0.140
Accepting attitudes towards people with HIV	0.075	0.014	893	347	1.594	0.188	0.047	0.103
Total fertility rate (3 years)	4.934	0.335	2524	986	1.655	0.068	4.265	5.603
Neonatal mortality rate (0-4 years)	24.183	4.643	1086	453	0.935	0.192	14.897	33.468
Post-neonatal mortality rate (0-4 years)	22.066	6.332	1083	451	1.317	0.287	9.402	34.730
Infant mortality rate (0-4 years)	46.248	8.743	1087	453	1.226	0.189	28.762	63.735
Child mortality rate (0-4 years)	27.099	4.728	1042	436	0.910	0.174	17.643	36.554
Under-five mortality rate (0-4 years)	72.094	10.388	1093	456	1.272	0.144	51.317	92.871
HIV prevalence among women 15-49	0.008	0.004	460	175	0.941	0.476	0.000	0.016
MEN								
Urban residence	0.231	0.029	382	146	1.351	0.126	0.173	0.290
No education	0.235	0.024	382	146	1.123	0.104	0.186	0.284
Secondary or higher education	0.427	0.035	382	146	1.390	0.083	0.356	0.498
Never-married/in union	0.485	0.037	382	146	1.434	0.076	0.411	0.558
Currently married/in union	0.472	0.038	382	146	1.496	0.081	0.395	0.548
Had first sexual intercourse before age 18	0.181	0.036	218	80	1.384	0.200	0.108	0.253
Know any contraceptive method	0.976	0.016	181	69	1.407	0.016	0.945	1.008
Know a modern method	0.976	0.016	181	69	1.407	0.016	0.945	1.008
Want no more children	0.139	0.028	181	69	1.094	0.203	0.082	0.195
Want to delay birth at least 2 years	0.622	0.040	181	69	1.117	0.065	0.541	0.702
Ideal number of children	6.323	0.572	375	143	2.841	0.091	5.178	7.468
Had 2+ sexual partners in past 12 months	0.095	0.019	382	146	1.230	0.194	0.058	0.132
Condom use at last sex	0.188	0.075	32	14	1.066	0.399	0.038	0.338
Abstinence among youth (never had sex)	0.821	0.040	152	60	1.281	0.049	0.741	0.901
Sexually active in past 12 months among never-married youth	0.137	0.033	152	60	1.186	0.243	0.070	0.203
Had paid sex in past 12 months	0.009	0.007	382	146	1.403	0.745	0.000	0.023
Had HIV test and received results in past 12 months	0.089	0.016	382	146	1.102	0.180	0.057	0.121
Accepting attitudes towards people with HIV	0.164	0.028	369	140	1.451	0.171	0.108	0.220
HIV prevalence among men 15-49	0.004	0.003	362	146	0.793	0.682	0.000	0.009
HIV prevalence among men 15-59	0.004	0.002	418	168	0.735	0.562	0.000	0.009
WOMEN AND MEN								
HIV prevalence among women and men 15-49	0.006	0.003	822	321	0.965	0.423	0.001	0.012

Variable	Value (R)	Standard error (SE)	Number of cases Un-weighted (N)	Number of cases Weighted (WN)	Design effect (DEFT)	Rela-tive error (SE/R)	Confidence limits R-2SE	Confidence limits R+2SE
			WOMEN					
Urban residence	0.223	0.039	726	215	2.537	0.176	0.144	0.302
No education	0.487	0.027	726	215	1.443	0.055	0.433	0.540
Secondary or higher education	0.313	0.026	726	215	1.524	0.084	0.261	0.366
never-married/in union	0.290	0.024	726	215	1.402	0.082	0.242	0.337
Currently married/in union	0.680	0.024	726	215	1.391	0.035	0.631	0.728
Married before age 20	0.586	0.039	572	168	1.885	0.067	0.508	0.664
Had first sexual intercourse before age 18	0.416	0.033	572	168	1.592	0.079	0.350	0.482
Currently pregnant	0.068	0.007	726	215	0.779	0.107	0.053	0.082
Children ever born	2.801	0.181	726	215	1.806	0.065	2.440	3.163
Children surviving	2.446	0.150	726	215	1.737	0.061	2.147	2.746
Children ever born to women age 40-49	6.431	0.193	145	38	1.241	0.030	6.045	6.818
Know any contraceptive method	0.981	0.014	486	146	2.249	0.014	0.953	1.009
Know a modern method	0.981	0.014	486	146	2.249	0.014	0.953	1.009
Currently using any method	0.252	0.027	486	146	1.352	0.106	0.199	0.306
Currently using a modern method	0.248	0.026	486	146	1.341	0.106	0.195	0.301
Currently using pill	0.037	0.008	486	146	0.948	0.221	0.020	0.053
Currently using IUD	0.000	0.000	486	146	NA	NA	0.000	0.000
Currently using condoms	0.002	0.002	486	146	0.886	1.011	0.000	0.005
Currently using injectables	0.154	0.022	486	146	1.323	0.141	0.111	0.197
Currently using female sterilisation	0.010	0.004	486	146	0.929	0.422	0.002	0.018
Currently using rhythm	0.003	0.003	486	146	1.054	0.810	0.000	0.009
Currently using withdrawal	0.001	0.001	486	146	0.712	1.015	0.000	0.003
Used public sector source	0.827	0.030	151	42	0.971	0.036	0.767	0.887
Want no more children	0.260	0.039	486	146	1.930	0.148	0.183	0.337
Want to delay birth at least 2 years	0.427	0.025	486	146	1.118	0.059	0.377	0.477
Ideal number of children	4.975	0.141	673	194	1.932	0.028	4.693	5.257
Mothers received antenatal care for last birth	0.983	0.012	364	111	1.744	0.012	0.959	1.006
Mothers protected against tetanus for last birth	0.709	0.042	364	111	1.775	0.059	0.625	0.793
Births with skilled attendant at delivery	0.637	0.066	508	152	2.576	0.103	0.506	0.768
Had diarrhoea in the last 2 weeks	0.152	0.025	475	143	1.460	0.163	0.103	0.202
Treated with ORS	0.508	0.059	66	22	0.999	0.117	0.390	0.626
Sought medical treatment for diarrhoea	0.708	0.054	66	22	0.957	0.076	0.600	0.815
Vaccination card seen	0.966	0.019	92	29	1.016	0.019	0.929	1.004
Received BCG vaccination	0.986	0.014	92	29	1.144	0.014	0.959	1.013
Received pentavalent vaccination (3 doses)	0.967	0.020	92	29	1.075	0.020	0.928	1.006
Received polio vaccination (3 doses)	0.946	0.027	92	29	1.157	0.028	0.892	0.999
Received one dose of measles vaccination	0.964	0.022	92	29	0.960	0.022	0.921	1.007
Received all vaccinations	0.912	0.033	92	29	1.073	0.037	0.845	0.978
Height-for-age (-2SD)	0.222	0.030	259	78	1.101	0.136	0.161	0.283
Weight-for-height (-2SD)	0.044	0.014	259	78	0.978	0.312	0.016	0.071
Weight-for-age (-2SD)	0.135	0.026	259	78	1.171	0.193	0.083	0.187
Body Mass Index (BMI) < 18.5	0.070	0.011	334	98	0.798	0.159	0.048	0.092
Prevalence of anaemia (children 6-59 months)	0.738	0.030	225	66	1.035	0.041	0.678	0.798
Prevalence of anaemia (women 15-49)	0.356	0.027	372	110	1.098	0.077	0.301	0.410
Had 2+ sexual partners in past 12 months	0.009	0.005	726	215	1.455	0.572	0.000	0.019
Condom use at last sex	0.000	0.000	3	2	NA	NA	0.000	0.000
Abstinence among youth (never had sex)	0.667	0.057	196	58	1.686	0.086	0.553	0.781
Sexually active in past 12 months among never-married youth	0.257	0.052	196	58	1.669	0.204	0.152	0.362
Had HIV test and received results in past 12 months	0.121	0.015	726	215	1.198	0.120	0.092	0.150
Accepting attitudes towards people with HIV	0.050	0.008	715	211	0.993	0.163	0.033	0.066
Total fertility rate (3 years)	5.224	0.343	2017	595	1.293	0.066	4.538	5.910
Neonatal mortality rate (0-4 years)	37.144	7.266	1010	309	1.115	0.196	22.612	51.676
Post-neonatal mortality rate (0-4 years)	26.955	6.069	1019	311	1.101	0.225	14.816	39.093
Infant mortality rate (0-4 years)	64.099	7.691	1011	309	0.940	0.120	48.716	79.481
Child mortality rate (0-4 years)	29.344	7.185	1019	307	1.298	0.245	14.974	43.714
Under-five mortality rate (0-4 years)	91.562	10.277	1021	312	1.106	0.112	71.007	112.116
HIV prevalence among women 15-49	0.003	0.004	372	106	1.156	1.016	0.000	0.011
			MEN					
Urban residence	0.224	0.030	309	91	1.258	0.133	0.164	0.284
No education	0.307	0.045	309	91	1.706	0.147	0.217	0.397
Secondary or higher education	0.501	0.053	309	91	1.845	0.105	0.395	0.606
Never-married/in union	0.489	0.061	309	91	2.133	0.125	0.367	0.611
Currently married/in union	0.484	0.063	309	91	2.213	0.131	0.357	0.611
Had first sexual intercourse before age 18	0.211	0.046	168	52	1.446	0.217	0.120	0.303
Know any contraceptive method	0.992	0.008	138	44	1.041	0.008	0.977	1.008
Know a modern method	0.992	0.008	138	44	1.041	0.008	0.977	1.008
Want no more children	0.142	0.043	138	44	1.427	0.300	0.057	0.228
Want to delay birth at least 2 years	0.557	0.043	138	44	1.024	0.078	0.470	0.644
Ideal number of children	5.998	0.265	306	90	1.251	0.044	5.468	6.529
Had 2+ sexual partners in past 12 months	0.082	0.017	309	91	1.075	0.206	0.048	0.115
Condom use at last sex	0.305	0.148	25	7	1.529	0.485	0.009	0.600
Abstinence among youth (never had sex)	0.666	0.057	136	38	1.392	0.085	0.552	0.779
Sexually active in past 12 months among never-married youth	0.236	0.061	136	38	1.647	0.257	0.115	0.357
Had paid sex in past 12 months	0.006	0.004	309	91	0.988	0.727	0.000	0.015
Had HIV test and received results in past 12 months	0.044	0.009	309	91	0.815	0.218	0.025	0.062
Accepting attitudes towards people with HIV	0.153	0.027	308	91	1.311	0.176	0.099	0.207
HIV prevalence among men 15-49	0.004	0.004	296	91	1.040	0.991	0.000	0.011
HIV prevalence among men 15-59	0.003	0.003	330	100	1.044	0.988	0.000	0.010
			WOMEN AND MEN					
HIV prevalence among women and men 15-49	0.004	0.003	668	197	1.097	0.708	0.000	0.009

DATA QUALITY TABLES

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Ghana 2014

Age	Male Number	Male Percent	Female Number	Female Percent	Age	Male Number	Male Percent	Female Number	Female Percent
0	637	3.3	558	2.7	36	172	0.9	228	1.1
1	591	3.1	555	2.6	37	174	0.9	247	1.2
2	584	3.0	541	2.6	38	233	1.2	293	1.4
3	608	3.1	548	2.6	39	166	0.9	216	1.0
4	626	3.2	552	2.6	40	259	1.3	323	1.5
5	484	2.5	503	2.4	41	118	0.6	144	0.7
6	585	3.0	567	2.7	42	257	1.3	265	1.3
7	601	3.1	642	3.1	43	147	0.8	153	0.7
8	580	3.0	559	2.7	44	139	0.7	171	0.8
9	526	2.7	527	2.5	45	211	1.1	240	1.1
10	608	3.2	556	2.6	46	152	0.8	175	0.8
11	458	2.4	446	2.1	47	116	0.6	133	0.6
12	575	3.0	514	2.4	48	128	0.7	192	0.9
13	502	2.6	553	2.6	49	146	0.8	118	0.6
14	556	2.9	577	2.7	50	191	1.0	242	1.1
15	415	2.1	386	1.8	51	108	0.6	175	0.8
16	340	1.8	361	1.7	52	157	0.8	220	1.0
17	328	1.7	285	1.4	53	79	0.4	150	0.7
18	418	2.2	341	1.6	54	109	0.6	203	1.0
19	313	1.6	289	1.4	55	122	0.6	189	0.9
20	331	1.7	337	1.6	56	91	0.5	122	0.6
21	252	1.3	303	1.4	57	98	0.5	111	0.5
22	264	1.4	350	1.7	58	104	0.5	111	0.5
23	253	1.3	316	1.5	59	70	0.4	76	0.4
24	265	1.4	331	1.6	60	123	0.6	203	1.0
25	275	1.4	370	1.8	61	82	0.4	51	0.2
26	219	1.1	270	1.3	62	109	0.6	121	0.6
27	224	1.2	332	1.6	63	84	0.4	76	0.4
28	292	1.5	353	1.7	64	113	0.6	66	0.3
29	245	1.3	295	1.4	65	111	0.6	140	0.7
30	290	1.5	366	1.7	66	43	0.2	55	0.3
31	210	1.1	267	1.3	67	49	0.3	76	0.4
32	257	1.3	304	1.4	68	49	0.3	54	0.3
33	180	0.9	212	1.0	69	37	0.2	41	0.2
34	207	1.1	238	1.1	70+	547	2.8	830	3.9
35	303	1.6	315	1.5	Don't know/missing	3	0.0	3	0.0
					Total	19,302	100.0	21,035	100.0

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview.

Table C.2.1 Age distribution of eligible and interviewed women

De facto household population of women age 10-54 and interviewed women age 15-49; and percent distribution and percentage of eligible women who were interviewed (weighted), by five-year age groups, Ghana 2014

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percentage	
10-14	2,646	na	na	na
15-19	1,661	1,609	17.4	96.9
20-24	1,637	1,588	17.2	97.0
25-29	1,622	1,578	17.1	97.3
30-34	1,387	1,353	14.6	97.5
35-39	1,300	1,267	13.7	97.5
40-44	1,056	1,015	11.0	96.2
45-49	859	833	9.0	97.1
50-54	990	na	na	na
15-49	9,520	9,243	100.0	97.1

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the Household Questionnaire.
na = Not applicable

Table C.2.2 Age distribution of eligible and interviewed men

De facto household population of men age 10-64 and interviewed men age 15-59; and percent distribution and percentage of eligible men who were interviewed (weighted), by five-year age groups, Ghana 2014

Age group	Household population of men age 10-59	Interviewed men age 15-59		Percentage of eligible men interviewed
		Number	Percentage	
10-14	1,392	na	na	na
15-19	870	839	19.6	96.4
20-24	598	568	13.3	94.9
25-29	612	582	13.6	95.1
30-34	570	529	12.4	92.8
35-39	495	464	10.9	93.9
40-44	464	436	10.2	93.9
45-49	377	351	8.2	93.1
50-54	313	296	6.9	94.3
55-59	222	211	4.9	95.0
60-64	261	na	na	na
15-59	4,521	4,275	100.0	94.6

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of men and interviewed men are household weights. Age is based on the Household Questionnaire.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Ghana 2014

Subject	Reference group	Percentage with information missing	Number of cases
Birth date	Births in the 15 years preceding the survey		
Month only		1.46	15,421
Month and year		0.03	15,421
Age at death	Deceased children born in the 15 years preceding the survey	0.00	1,098
Age/date at first union[1]	Ever married women age 15-49	0.18	6,302
	Ever married men age 15-59	0.16	2,524
Respondent's education	All women age 15-49	0.00	9,396
	All men age 15-59	0.00	4,388
Diarrhoea in past 2 weeks	Living children 0-59 months	1.18	5,431
Anthropometry of children	Living children age 0-59 months (from the Household Questionnaire)		
Height		2.53	2,992
Weight		2.39	2,992
Height or weight		2.54	2,992
Anthropometry of women	Women age 15-49 (from the Household Questionnaire)		
Height		3.99	4,821
Weight		3.98	4,821
Height or weight		4.03	4,821
Anthropometry of men	Men age 15-59 (from the Household Questionnaire)		
Height		7.57	3,976
Weight		7.55	3,976
Height or weight		7.57	3,976
Anaemia			
Children	Living children age 6-59 months (from the Household Questionnaire)	3.53	2,662
Women	All women 15-49 (from the Household Questionnaire)	5.17	4,821

[1] Both year and age missing

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Ghana 2014

Calendar year	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2014	1,109	71	1,179	100.0	100.0	100.0	108.0	133.6	109.4	na	na	na
2013	998	63	1,061	100.0	100.0	100.0	114.2	178.2	117.2	na	na	na
2012	859	63	922	99.9	98.9	99.9	92.2	105.1	93.0	82.9	74.1	82.2
2011	1,077	106	1,182	98.8	92.5	98.2	99.7	133.3	102.3	114.8	157.8	117.7
2010	1,016	71	1,087	99.3	91.7	98.8	95.1	127.3	96.9	97.3	73.5	95.3
2009	1,011	89	1,100	97.7	94.5	97.5	103.0	148.2	106.0	107.2	106.9	107.2
2008	870	95	965	98.8	88.3	97.8	93.3	112.0	95.0	86.8	114.9	88.9
2007	994	76	1,070	97.8	91.8	97.4	100.0	118.7	101.2	124.2	88.3	120.7
2006	730	78	807	97.5	80.5	95.9	104.2	114.6	105.2	79.2	97.5	80.7
2005	849	83	932	98.3	90.7	97.6	136.1	87.0	130.7	117.3	108.0	116.4
2010-2014	5,059	374	5,432	99.6	96.1	99.3	101.9	133.2	103.7	na	na	na
2005-2009	4,455	420	4,875	98.0	89.3	97.3	106.0	114.6	106.7	na	na	na
2000-2004	3,355	399	3,753	97.1	88.1	96.1	109.4	156.6	113.5	na	na	na
1995-1999	2,432	308	2,740	95.6	83.8	94.3	108.0	100.2	107.1	na	na	na
<1995	1,643	370	2,013	95.4	80.4	92.7	83.8	133.1	91.2	na	na	na
All	16,943	1,870	18,813	97.7	87.7	96.7	103.3	127.0	105.4	na	na	na

NA = Not applicable
[1] Both year and month of birth given
[2] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[3] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under age 1 month by age at death in days and the percentage of neonatal deaths reported to occur at age 0-6 days, for five-year periods of birth preceding the survey (weighted), Ghana 2014

| Age at death (days) | Number of years preceding the survey | | | | Total 0-19 |
	0-4	5-9	10-14	15-19	
<1	34	41	19	13	107
1	80	77	48	46	251
2	9	7	17	11	44
3	12	15	15	12	54
4	1	6	2	6	15
5	4	6	6	6	23
6	0	0	4	1	5
7	9	13	13	13	48
8	2	3	0	0	6
9	0	1	0	0	1
10	0	0	0	1	1
11	0	1	0	0	1
13	0	0	0	0	0
14	3	3	9	10	25
15	0	0	1	0	1
18	1	0	1	0	2
20	0	2	0	0	2
21	3	3	0	2	8
24	1	0	0	0	1
28	0	1	0	0	1
30	0	2	0	0	2
Total 0-30	160	179	136	121	595
Percentage early neonatal[1]	88.0	84.3	82.6	78.8	83.8

[1] ≤6 days/≤30 days

Table C.6 Reporting of age at death in months

Distribution of reported deaths under age 2 by age at death in months and the percentage of infant deaths reported to occur at age under 1 month, for five-year periods of birth preceding the survey, Ghana 2014

| Age at death (months) | Number of years preceding the survey | | | | Total 0-19 |
	0-4	5-9	10-14	15-19	
<1[a]	160	179	136	121	595
1	11	17	14	9	51
2	5	14	11	9	40
3	6	14	7	19	46
4	11	9	6	5	30
5	6	4	9	2	21
6	6	11	16	12	44
7	6	12	5	6	29
8	3	11	7	4	24
9	5	5	11	5	26
10	2	5	6	4	17
11	3	3	3	3	13
12	10	40	43	30	123
14	0	2	2	0	3
15	0	5	0	0	5
16	1	0	1	0	2
17	0	3	0	0	3
18	4	2	3	4	13
20	0	0	0	0	0
1 Year	0	2	0	2	4
Total 0-11	223	281	231	201	936
Percentage neonatal[1]	71.4	63.5	58.8	60.4	63.6

[a] Includes deaths under 1 month reported in days
[1] Under 1 month/under 1 year

Table C.7 Nutritional status of children based on the NCHS/CDC/WHO International Reference Population

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, based on the NCHS/CDC/WHO International Reference Population, Ghana 2014

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				Number of children
	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	
Age (in months)												
<6	0.5	4.1	- 0.0	0.3	2.4	1.5	0.1	0.8	1.4	2.7	0.2	299
6-8	0.6	5.2	- 0.4	0.0	7.2	3.2	- 0.3	1.7	9.7	2.1	- 0.5	139
9-11	0.4	9.6	- 0.5	0.0	10.7	1.5	- 0.7	2.5	14.8	1.2	- 1.0	142
12-17	3.6	11.5	- 0.8	0.9	8.8	1.7	- 0.8	3.6	19.5	1.6	- 1.2	303
18-23	4.8	18.3	- 1.0	0.0	16.3	1.5	- 0.8	3.0	24.4	1.3	- 1.1	285
24-35	3.0	14.8	- 0.9	0.1	4.5	0.9	- 0.5	2.4	18.8	1.1	- 1.1	575
36-47	4.3	18.6	- 0.9	0.1	0.8	1.6	- 0.3	0.9	13.4	1.2	- 0.8	573
48-59	4.9	16.6	- 1.0	0.1	2.1	0.5	- 0.4	0.9	10.8	0.0	- 0.9	576
Sex												
Male	3.1	14.5	- 0.8	0.3	4.8	1.3	- 0.4	1.7	13.4	1.2	- 0.9	1,510
Female	3.7	13.6	- 0.8	0.1	5.5	1.3	- 0.4	1.8	15.3	1.2	- 0.8	1,381
Birth interval in months[3]												
First birth[4]	2.3	12.7	- 0.7	0.3	5.4	1.1	- 0.5	1.7	14.0	0.8	- 0.9	610
<24	6.8	21.4	- 1.1	0.3	5.9	0.6	- 0.4	5.7	21.6	0.7	- 1.0	239
24-47	3.7	14.5	- 0.8	0.1	4.4	1.2	- 0.4	1.0	12.8	1.2	- 0.8	975
48+	2.3	9.8	- 0.7	0.2	5.5	2.0	- 0.5	1.4	12.8	1.6	- 0.8	767
Size at birth[3]												
Very small	6.0	27.1	- 1.5	0.0	3.5	0.8	- 0.7	2.8	32.8	0.0	- 1.5	107
Small	5.1	15.2	- 1.0	0.9	7.6	1.0	- 0.7	4.8	22.5	0.8	- 1.2	271
Average or larger	2.9	12.3	- 0.7	0.1	4.9	1.4	- 0.4	1.3	11.9	1.3	- 0.8	2,209
Missing	*	*	*	*	*	*	*	*	*	*	*	3
Mother's interview status												
Interviewed	3.2	13.3	- 0.8	0.2	5.1	1.3	- 0.4	1.7	13.9	1.2	- 0.8	2,591
Not interviewed but in household	2.8	12.3	- 0.9	0.0	4.4	0.0	- 0.4	2.8	11.9	0.0	- 0.9	60
Not interviewed and not in the household[5]	5.0	22.9	- 0.9	0.1	5.5	1.2	- 0.5	1.8	19.5	1.2	- 0.9	240
Mother's nutritional status[6]												
Thin (BMI<18.5)	5.8	18.2	- 1.2	1.3	11.6	1.1	- 0.9	5.1	25.2	0.0	- 1.4	110
Normal (BMI 18.5-24.9)	4.2	17.5	- 0.9	0.1	6.5	1.2	- 0.5	2.0	17.8	0.8	- 1.0	1,252
Overweight/ obese (BMI≥25)	1.7	5.9	- 0.5	0.2	3.6	1.5	- 0.3	1.0	7.9	1.8	- 0.6	873
Residence												
Urban	1.8	10.4	- 0.6	0.2	4.5	1.7	- 0.4	1.6	11.1	1.6	- 0.7	1,319
Rural	4.7	17.2	- 0.9	0.2	5.6	0.9	- 0.5	1.9	17.0	0.8	- 1.0	1,572
Region												
Western	4.4	14.0	- 0.9	0.0	3.6	0.9	- 0.5	1.9	13.7	1.4	- 0.9	305
Central	5.9	18.4	- 0.9	0.2	9.5	2.0	- 0.4	2.2	18.6	1.2	- 1.0	339
Greater Accra	1.2	5.6	- 0.4	0.4	4.5	1.9	- 0.3	0.8	11.0	2.2	- 0.5	423
Volta	4.3	14.2	- 0.9	0.4	4.7	3.2	- 0.4	2.2	14.7	2.8	- 0.9	215
Eastern	1.9	11.9	- 0.7	0.0	4.2	1.2	- 0.3	0.6	11.4	0.8	- 0.8	273
Ashanti	0.8	11.2	- 0.6	0.0	3.5	1.1	- 0.4	1.9	10.7	0.9	- 0.8	495
Brong Ahafo	1.7	12.9	- 0.7	0.2	4.7	0.2	- 0.5	0.4	11.1	0.8	- 0.9	284
Northern	8.7	26.5	- 1.2	0.2	6.0	0.6	- 0.5	3.7	22.7	0.4	- 1.2	361
Upper East	2.1	11.0	- 0.8	0.0	6.9	0.1	- 0.7	2.3	16.5	0.0	- 1.0	118
Upper West	2.9	19.5	- 0.9	0.9	5.1	2.0	- 0.5	1.8	18.4	0.5	- 0.9	77
Mother's education[7]												
No education	6.1	20.4	- 1.1	0.2	4.9	0.7	- 0.5	2.5	17.4	0.6	- 1.0	780
Primary	3.3	15.3	- 0.9	0.2	5.4	1.5	- 0.4	1.1	15.9	0.9	- 0.9	515
Middle/JSS/JHS	1.6	8.5	- 0.6	0.2	5.1	1.6	- 0.4	1.6	11.0	1.6	- 0.7	1,353
Secondary+	*	*	*	*	*	*	*	*	*	*	*	2
Wealth quintile												
Lowest	6.2	20.1	- 1.1	0.3	5.9	0.7	- 0.5	2.7	19.9	0.6	- 1.1	665
Second	4.8	20.5	- 1.1	0.1	5.0	1.5	- 0.4	2.0	16.7	0.7	- 1.0	588
Middle	2.7	12.1	- 0.8	0.2	3.6	0.8	- 0.4	1.1	9.9	0.8	- 0.8	603
Fourth	1.6	9.8	- 0.6	0.0	6.6	1.8	- 0.5	1.1	15.6	1.7	- 0.8	540
Highest	0.8	5.6	- 0.2	0.4	4.5	2.0	- 0.3	1.8	8.1	2.5	- 0.4	494
Total	3.4	14.1	- 0.8	0.2	5.1	1.3	- 0.4	1.8	14.3	1.2	- 0.8	2,891

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] 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 85cm; standing height is measured for all other children" to be consistent with table 11.1.1.
[2] Includes children who are below -3 standard deviations (SD) from the International Reference Population median
[3] Excludes children whose mothers were not interviewed
[4] First born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval
[5] Includes children whose mothers are deceased
[6] Excludes children whose mothers were not interviewed, children whose mothers were not weighed and measured, and children whose mothers are pregnant or gave birth within the preceding 2 months. Mother's nutritional status in terms of BMI (Body Mass Index) is presented in Table 11.10.1.
[7] For women who were not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

PARTICIPANTS IN THE 2014 GHANA DEMOGRAPHIC AND HEALTH SURVEY

Appendix **D**

PROJECT IMPLEMENTATION TEAM
Senior Project Management

Dr. Philomena Nyarko	Government Statistician/Project Director (GSS)
Baah Wadieh	Deputy Government Statistician/Deputy Project Director (GSS)
Anthony Amuzu	Acting Deputy Government Statistician/ Survey Director (GSS)
Sylvester Gyamfi	Director/Field Monitor (GSS)
David Kombat	Director/Field Monitor (GSS)
Peter Takyi Peprah	Project Coordinator (GSS)
Johnson Owusu Kagya	Trainer/Field Monitor (GSS)
Anthony Amuzu Pharin	Trainer/Field Monitor (GSS)
Godwin Odei Gyebi	Trainer/Field Monitor (GSS)
Emmanuel Boateng	Trainer/Field Monitor (GSS)
Abena Osei-Akoto	Data Processing Expert/Field Monitor (GSS)
Kwamena Arkafra	Data Processing Supervisor (GSS)
Betty-Love Hemans-Cobbinah	Internal Auditor (GSS)
Ben Gadzekpo	Senior Project Accountant (GSS)
Elizabeth Arhin Donkor	Assistant Project Accountant (GSS)

Regional Statisticians (GSS)

Ernest Nyarku	Abaka Ansah	Salifu Amadu
Isaac Addae	Samuel Brefo Darkwah	Festus Manuh
Chris Asem	Amatus S. Nobabuma	Sixtus Dery
Chris Amewu		

DATA PROCESSING
Secondary Editors

Caroline Oklah	Wilson Albert Riis	James Opoku Mensah
Michael Nartey		

Data Entry Clerks

Vida Gyamfi	Rose Addey	Juliana Boahene
Betty Laryea	Patrick Attoh	Gifty Tagoe
Sophia Nyan	Aurelia Hotor	Gladys Adiki

IT Support

Emmanuel Nana Debrah	Christopher Masugbordzi

LISTING EXERCISE
Supervisors

Nana Addo Ogyiri	Yaw Kyei	Emmanuel Okpoti Mensah
Douglas Opoku Yeboah	Richard Boakye Yiadom	Amedzrator Mark
John Adotey Saka	Charles Okyere-Larbi	Emmanuel Xefu
Michael Opoku Ayete	John Kwame Diaba	Salifu Abdulai
Samuel Brefo Darkwa		

Listers

Benjamin Koomson	Alex Ntim	Abdul Salami Latif
Samuel Ackah Cudjoe	Michael Agyinor Aboagye	Eric Kunutsor
Ruby Damenshie-Brown	Linda Akoto	Cletus Kum
Millecent Owusu Animah	Clarissa Kakra Nyan	Augustine Agyapong
Seth Ohene Okae	Michael Nartey	Augustine Abaka Sam
Emmanuel Kyei	JohnYaw Boateng	Alfred Adjei Anum
Shirley Yaa Brago	Bridget Gyamfi	Charity Frimpong
Anthony Ankomah	Yaw Owusu-Ansah	Nicholas Lutterodt
Emmanuel Osae	Bernard Badu-Peprah	Michael Amui
Emmanuel Percy Odei	Alberta Boakye	Essinam Amaglo
Felix Osafo	Nobert Krakah	Jerry Paa-Kwesi Swatson
Patience Ansah	Daniel Owusu Appiah	Emmanuel Sarsah
Robert Kabutey	Francis Offeh	Paul Amuzu

Drivers

Joseph Agbodo	Ebenezer Amankwa	Peter Ayensu
Samuel Ayikwei	Nathaniel Neequaye	Danso Antepem
Emmanuel Ohene	Joseph Afedzie	Isaac Opare
Ebenezer Abrokwa	Kofi Marfo	Felix Osei
Ernest Annan		

FIELD WORK
Supervisors

Richard Sackey	Felix Geli	Emmanuel Owusu Boateng
John Botchwey	Richard Kuadamah	Victor Owusu Boateng
William Ofosu	Michael Opoku Acheampong	Vitus Bobrnuo
Douglas Opoku Yeboah	Andrews Nii Sowah-Adjetey	Valentine Victor-Mensah
Ernest Kpentey	Bernard Oduro	Haruna Mustapha
Emmanuel Baidoo	Isaac Frank Arhin	Bawa Abdul-Kadir
Sarah Woode	Fritz Adom	Abdulai Salifu
William Pharin	Patrick Adjovor	John Gambo
Judith Attipoe		

Editors

Ernest Nutakor	Judith Addo	Maame Gyesiwa Sam
Georgia Yeboah	Priscilla Opoku	Francis Obeng-Adu
Felicity Kuwornu	Charles Kofi Som	Seth Opoku
Phylicia Saforo	Caroline Anipah	Joyce Yeboah Amponsah
Hellen Mensah-fio	Evelyn Amassah	Umul Klusun Arimiyaw
Jolene Mantey Amoo	Dennis Addo	Comfort Sulemana
Michael Agyarkwa	Freda Annette Attoh	Kanyiri Yakubu
Happy Krah Mawuse	Laud Ani	Mohammed Abdallah
Benson Akpah	Boakye Asiamah	Akurubila

Interviewers

Jacob Hagan Mensah
Nana Yaa Asabea Owiredu
Salome Apanfo
Eric Kunutsor
Evelyn A. T. Agyekum
Onai-Komla Albert
Emma Kyei Frimpong
Isaac Antwi Adjei
Maame Aba Quentin Arthur
Essinam Amaglo
Ruby Damenshie Brown
Ernest Gyedu-Acheampong
Nancy Kesewaa Nyarko
Lisa Forson Agyinor
George Osafo Frempong
Frank Agyei
Emmanuel Kyei
Lawrencia Oppong Yeboah
Millicent Owusu Animah
Emmanuel Osae
Myra Akua Asantewaa Danso
Gladys Ataa Dabison
Haruna Mahama
Shakira Mohammed Awal
Ruth Koyiri Ngmenirima
Awal Alabira Mohammed
Rabiatu Seidu

Franklina Christian
Kwame Dankwa
Patience Dadzie
Akua Korankyewaa Otempong
Dorcas Manu-Larbi
Mark Ato Larbi
Sandra Amartey
Emma Akweley Amarh
Eunice Ama Amoabeng
Linda Ntiamoah
Emmanuel Xefu
Juliet Esi Mensah
Clarissa K. Nyan
Evans Worlanyo Attoh
Getrude Elleamoh
Akua Kwakyewaa Boakye
Eugene Adu Asabere
Charles Arthur
Vida Akuamoah Boateng
Esther Adwoa Amoah
Yussif Anass
Shirley Amuzu
Gladys Lambon Fant
Theresa Segkpeb
Sherifa Abubakar
Bawa Vitus
Jabrine Suweba

Daniel Amos Abanyie
Marian Donkor
Patience Lokko
Lady Talata Bawa
Isaac Essilfie Whyte
Mercy Vanderpuye
Benedicta Allotey
Robert Kabutey
Mercy Naa Quarshie
Afu Anita Elorm
Isaac Kwame Yeboah
Elizabeth Abgenyagah
Essie Forgive Mawuenyegah
Kombat Loama
Bernice Boakye
Nancy Baiden
Richard Kwame Asare
Alex Ntim
Mavis Adeborna
Millicent Appiah Kubi
Rebecca Emma Dosi
Joe Befaa Hanoi
Patience Adongo
Priscilla Alakawon
Abdallah Mogtar
Sukah Rukaya

Biomarkers

Ofotsu Andrews Atruku
Love Adom
Martin Asiedu
Lilian Impraim
Bright Ayensu
Constance Ama Yeboah
Dickson Acolatse
Sabina Wilson
Cyril Asare Korang
Richard Kutame
Shadrack Okaijah
Evelyn Annang
Mary N. Quaynor
Godfred Owusu-Okyere
Prosper Dedzo
Grace Yaa Amenu
Angela Opare
Regina Quakumey
Kwashie Adamah
Christian Hotorvi

Alfred Asare Nana Yao
Patricia Yankey
Amissah Emmanuel Stanley
Mavis Yeboah Addo
Felix Kissi
Samuel Holdbrooke Dutch
Darling Anita Eshun
Michael Abgoter
Sabina Aryee
Gifty Owusu Ansah
Francis Davis
Ebenezer Abaidoo
Dorcas Osei Young
Anita Adusei Mensah
Dorcas Osei Young
Anita Adusei Mensah
Duncan Atsu Titiati
Francisca Andoh
Raymond Nii Kpakpo
  Acquaye

Lawrencia Nsiah Akoto
Prosper Kpodo Tetteh
Abdulai Mutala
Raph Osei Owusu
Agnes Anyele
Eric Aborgah
James Aninyinga
Rabi Musah
Odotei Dennis Winfred
Beatrice Buobu
Richard Agbenyo
Philomena Osei
Abdellah Yussif Ibn Yahaya
Zeinab Ibrahim Seiku

Drivers

John Wesley Okai	Jonathan Lawluvi	Ebenezer Amankwa
Kwesi Donkor	Justice Nortey	Joseph Agbodo
Nathaniel Neequaye	Osei K. Felix	Michael Adokwei Saka
Isaac Addae	Simon K. Kasakwa	Vincent K. Afful
Emmanuel Acquah	Godfred Forson	Jonathan Gogovie
Samuel Ayikwei	Stephen Otoo	Peter Ayensu
Emmanuel Ohene	Isaac Opare	Ronald Akrong
David Agyeman	Kwaku Adom	Danso Antepim
Ebenezer Abrokwa	Akamaboro William	George Karikari
William Terezina	Gershon Nornyibey	Emmanuel Chartey
Justice Afedzie	Tweneboah Gyasi	Victor Mensah
James Nii Laryea	Philip Andoh	Jacob Jabotir
Eugene Aniapam	Joseph Afedzie	Stephen Sombonaa

HIV/MALARIA TESTING STAFF
National Public Health Reference Laboratory (NPHRL)

Dr. David Opare	Director, Biomarker Field Monitoring and Supervision
Esther Aryee	Deputy Director, Laboratory Manager, Malaria and HIV Testing
Gifty Boateng	Laboratory Scientist
Loretta Antwi	Laboratory Scientist
Florence Agyeman-Bio	Laboratory Scientist
Lawrence Henry Ofosu- Appiah	Laboratory Scientist
Rowland Adukpo	Laboratory Scientist, Malaria Supervisor
Ebenezer Ayiku	Laboratory Scientist
Michael Amakye	Laboratory Scientist, Biomarker Field Monitoring Supervisor/HIV Supervisor
Rexford B. Adade	Laboratory Scientist, Biomarker Field Monitoring Supervisor
Rebecca Quaye	Data Manager, Malaria Testing
Mariama Abubakar	Data Manager, HIV Testing
David B. Nartey	Laboratory Scientist
J. T. Addo	Laboratory Scientist

EXTERNAL QUALITY ASSURANCE FOR HIV/MALARIA TESTING
Noguchi Memorial Institute for Medical Research (NMIMR)
University of Ghana, Legon

Jacob Arthur-Quarm	Chief Technologist, Virology Department
Evelyn Bonney	Research Fellow, Virology Department
Esinam Agbosu	Senior Research Assistant, Virology Department
Angela Frimpong	Senior Research Assistant, Virology Department
Prof. William K. Ampofo	Associate Professor and Head, Virology Department
Prof. Kwadwo Ansah Koram	Professor and Director
Dr. Collins K. Ahorlu	Senior Research Fellow and Head, Epidemiology Department
Dr. Benjamin Abuaku	Research Fellow, Epidemiology Department
Abdul Haruna	Chief Technologist, Epidemiology Department
Charles Attiogbe	Chief Technologist, Epidemiology Department
Joseph Otchere	Chief Technologist, Epidemiology Department

REPORT WRITING

Peter Takyi Peprah	Ghana Statistical Service
Emmanuel Boateng	Ghana Statistical Service
Gershon Togoh	Ghana Statistical Service
Stephen Amoah	Ghana Statistical Service
Abakah Ansah	Ghana Statistical Service
Emmanuel George Ossei	Ghana Statistical Service
Jeremiah Sixtus Dery	Ghana Statistical Service
Anthony Amuzu Pharin	Ghana Statistical Service
Johnson Owusu Kagya	Ghana Statistical Service
Godwin Odei Gyebi	Ghana Statistical Service
Philomena Nyarko	Ghana Statistical Service
Baah Wadieh	Ghana Statistical Service
Anthony Amuzu	Ghana Statistical Service
Sylvester Gyamfi	Ghana Statistical Service
Emmanuel Cobbinah	Ghana Statistical Service
Francis Bright Mensah	Ghana Statistical Service
Joyce Amedoe	National Population Council
Yaa Osei Asante	Ghana Health Service
Doris Amarteifio	Ghana Health Service
Esi Amoaful	Ghana Health Service
Atsu Seake-Kwawu	Ghana Health Service
Marion Okoh-Owusu	Ghana Health Service
Yaw Adusi-Poku	Ghana Health Service
Alberta Britwum Nyarko	Ghana Health Service
Kwame Amponsa-Achiano	Ghana Health Service
David Opare	Ghana Health Service
Aba Baffoe-Wilmot	National Malaria Control Programme
Eunice Mintah-Agyemang	National Malaria Control Programme
Emmanuel Larbi	Ghana AIDS Commission

TECHNICAL SUPPORT: ICF INTERNATIONAL

Gulnara Semenov	Regional Coordinator/Survey Manager
Zhuzhi Moore	Survey Specialist
Velma Lopez	Survey/Biomarker Specialist
Kimberly Peven	Survey Specialist
Sri Poedjastoeti	Survey Specialist
Joy Fishel	Technical Reviewer
Blake Zachary	Technical Reviewer
Monica Kothari	Technical Reviewer
Kia Reinis	Technical Reviewer
Mercy Guech-Ongey	Biomarker Specialist
Eleanor Brindle	Biomarker Specialist (Consultant)
Sam Nsobya Lubwama	Biomarker Specialist (Consultant)
Mahmoud Elkasabi	Sampling Specialist
Ruilin Ren	Sampling Specialist
Guillermo Rojas	Data Processing Specialist
Mianmian Yu	Data Processing Specialist
Han Raggers	Data Processing Specialist
Nancy Johnson	Editor
Sidney Moore	Editor (Consultant)
Natalie La Roche	Report Production Specialist
Chris Gramer	Report Production Specialist
Sally Zweimueller	Dissemination Specialist

2014 GHANA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE

MINISTRY OF HEALTH, GHANA   GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . .

STRUCTURE NUMBER . . . .

HOUSEHOLD NUMBER . . . .

REGION . . . .

DISTRICT . . . .

URBAN/RURAL (URBAN = 1; RURAL = 2) . . . .

HOUSEHOLD SELECTED FOR MEN SURVEY (YES = 1; NO = 2) . . . .

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY
				MONTH
				YEAR 2 0 1 4
INTERVIEWER'S NAME	_____	_____	_____	INT. NUMBER
RESULT*	_____	_____	_____	RESULT
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS
TIME	_____	_____		

*RESULT CODES:
- 1 COMPLETED
- 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
- 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
- 4 POSTPONED
- 5 REFUSED
- 6 DWELLING VACANT OR ADDRESS NOT A DWELLING
- 7 DWELLING DESTROYED
- 8 DWELLING NOT FOUND
- 9 OTHER _____
  (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD

TOTAL ELIGIBLE WOMEN

TOTAL ELIGIBLE MEN

LINE NO. OF RESPONDENT TO HOUSEHOLD QUESTIONNAIRE

LANGUAGE OF QUESTIONNAIRE:	1	LANGUAGE OF INTERVIEW:		LANGUAGE OF RESPONDENT:		TRANSLATOR USED: (YES = 1, NO = 2)	

LANGUAGE OF QUESTIONNAIRE: **English**

LANGUAGE CODES: ENGLISH = 1, AKAN = 2, GA = 3, EWE = 4, NZEMA = 5, DAGBANI = 6, OTHER = 7 (SPECIFY)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

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INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with Ghana Statistical Service and the Ministry of Health. We are conducting a survey about health all over Ghana. The information we collect will help the government to plan health services. Your household was selected for the survey. I would like to ask you some questions about your household. The questions usually take about 15 to 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the person listed on this card.

GIVE CARD WITH CONTACT INFORMATION

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____   DATE: _____

RESPONDENT AGREES TO BE
      INTERVIEWED. 1
          ↓

RESPONDENT DOES NOT AGREE
      TO BE INTERVIEWED. . . . . 2 → END

HOUSEHOLD SCHEDULE

							IF AGE 15 OR OLDER		
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY		
1	2	3	4	5	6	7	8	9	10	11
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.\n\nAFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE.\n\nTHEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-20 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household?\n\nSEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)?\n\nIF 95 OR MORE RECORD '95'.	What is (NAME)'s current marital status?\n\n1 = MARRIED OR LIVING TOGETHER\n2 = DIVORCED/ SEPARATED\n3 = WIDOWED\n4 = NEVER-MARRIED AND NEVER LIVED TOGETHER	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL MEN AGE 15-59	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5
			M 1 F 2	Y 1 N 2	Y 1 N 2	IN YEARS				
1		☐☐	1 2	1 2	1 2	☐☐	☐	1	1	1
2		☐☐	1 2	1 2	1 2	☐☐	☐	2	2	2
3		☐☐	1 2	1 2	1 2	☐☐	☐	3	3	3
4		☐☐	1 2	1 2	1 2	☐☐	☐	4	4	4
5		☐☐	1 2	1 2	1 2	☐☐	☐	5	5	5
6		☐☐	1 2	1 2	1 2	☐☐	☐	6	6	6
7		☐☐	1 2	1 2	1 2	☐☐	☐	7	7	7
8		☐☐	1 2	1 2	1 2	☐☐	☐	8	8	8
9		☐☐	1 2	1 2	1 2	☐☐	☐	9	9	9
10		☐☐	1 2	1 2	1 2	☐☐	☐	10	10	10

2A) Just to make sure that I have a complete listing: are there any other persons such as small children or infants that we have not listed?   YES ☐ → ADD TO TABLE   NO ☐

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here?   YES ☐ → ADD TO TABLE   NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed?   YES ☐ → ADD TO TABLE   NO ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = OTHER RELATIVE
10 = ADOPTED/FOSTER/ STEPCHILD
11 = NOT RELATED
98 = DON'T KNOW

LINE NO.	IF AGE 0-17 YEARS				IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS		IF AGE 0-4 YEARS
	SURVIVORSHIP AND RESIDENCE OF BIOLOGICAL PARENTS				EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE		BIRTH REGIS-TRATION
	12	13	14	15	16	17	18	19	20
	Is (NAME)'s natural mother alive?	Does (NAME)'s natural mother usually live in this household or was she a guest last night? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER. IF NO, RECORD '00'.	Is (NAME)'s natural father alive?	Does (NAME)'s natural father usually live in this household or was he a guest last night? IF YES: What is his name? RECORD FATHER'S LINE NUMBER. IF NO, RECORD '00'.	Has (NAME) ever attended school or pre-school?	What is the highest level of school or pre-school (NAME) has attended? SEE CODES BELOW. What is the highest grade (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school or pre-school at any time during the (2014-2015) school year?	During this/that school year, what level and grade [is/was] (NAME) attending? SEE CODES BELOW.	Does (NAME) have a birth certificate? IF NO, PROBE: Has (NAME)'s birth ever been registered with the civil authority? 1 = HAS CERTIFICATE 2 = REGISTERED 3 = NEITHER 8 = DON'T KNOW
1	Y 1 N 2 DK 8 GO TO 14	☐☐	Y 1 N 2 DK 8 GO TO 16	☐☐	Y 1 N 2 GO TO 20	LEVEL GRADE ☐☐	Y 1 N 2 GO TO 20	LEVEL GRADE ☐☐	☐
2	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
3	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
4	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
5	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
6	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
7	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
8	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
9	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐
10	1 2 8 GO TO 14	☐☐	1 2 8 GO TO 16	☐☐	1 2 GO TO 20	☐☐	1 2 GO TO 20	☐☐	☐

CODES FOR Qs. 17 AND 19: EDUCATION

LEVEL
0 =PRE- PRIMARY 4=SECONDARY
1 = PRIMARY 5=SSS/SHS
2 = MIDDLE 6=HIGHER
3= JSS/JHS 8=DON'T KNOW

GRADE
00 = LESS THAN 1 YEAR COMPLETED
(USE '00' FOR Q. 17 ONLY.
THIS CODE IS NOT ALLOWED
FOR Q. 19)
98 = DON'T KNOW

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	ELIGIBILITY		
							IF AGE 15 OR OLDER			
1	2	3	4	5	6	7	8	9	10	11
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-20 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF 95 OR MORE RECORD '95'.	What is (NAME)'s current marital status? 1 = MARRIED OR LIVING TOGETHER 2 = DIVORCED/ SEPARATED 3 = WIDOWED 4 = NEVER-MARRIED AND NEVER LIVED TOGETHER	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL MEN AGE 15-59	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5
			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS				
11		☐ ☐	1 2	1 2	1 2	☐☐	☐	11	11	11
12		☐ ☐	1 2	1 2	1 2	☐☐	☐	12	12	12
13		☐ ☐	1 2	1 2	1 2	☐☐	☐	13	13	13
14		☐ ☐	1 2	1 2	1 2	☐☐	☐	14	14	14
15		☐ ☐	1 2	1 2	1 2	☐☐	☐	15	15	15
16		☐ ☐	1 2	1 2	1 2	☐☐	☐	16	16	16
17		☐ ☐	1 2	1 2	1 2	☐☐	☐	17	17	17
18		☐ ☐	1 2	1 2	1 2	☐☐	☐	18	18	18
19		☐ ☐	1 2	1 2	1 2	☐☐	☐	19	19	19
20		☐ ☐	1 2	1 2	1 2	☐☐	☐	20	20	20

TICK HERE IF CONTINUATION SHEET USED ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

2A) Just to make sure that I have a complete listing: are there any other persons such as small children or infants that we have not listed? YES ☐ ADD TO TABLE NO ☐

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here? YES ☐ ADD TO TABLE NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed? YES ☐ ADD TO TABLE NO ☐

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = OTHER RELATIVE
10 = ADOPTED/FOSTER/ STEPCHILD
11 = NOT RELATED
98 = DON'T KNOW

	IF AGE 0-17 YEARS				IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS		IF AGE 0-4 YEARS
LINE NO.	SURVIVORSHIP AND RESIDENCE OF BIOLOGICAL PARENTS				EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE		BIRTH REGIS-TRATION
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
	Is (NAME)'s natural mother alive?	Does (NAME)'s natural mother usually live in this household or was she a guest last night? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER. IF NO, RECORD '00'.	Is (NAME)'s natural father alive?	Does (NAME)'s natural father usually live in this household or was he a guest last night? IF YES: What is his name? RECORD FATHER'S LINE NUMBER. IF NO, RECORD '00'.	Has (NAME) ever attended school or pre-school?	What is the highest level of school or pre-school (NAME) has attended? SEE CODES BELOW. What is the highest grade (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school or pre-school at any time during the (2014-2015) school year?	During this/that school year, what level and grade [is/was] (NAME) attending? SEE CODES BELOW.	Does (NAME) have a birth certificate? IF NO, PROBE: Has (NAME)'s birth ever been registered with the civil authority? 1 = HAS CERTIFICATE 2 = REGISTERED 3 = NEITHER 8 = DON'T KNOW

LINE	Q12 (Y/N/DK)	Q13	Q14 (Y/N/DK)	Q15	Q16 (Y/N)	Q17 LEVEL GRADE	Q18 (Y/N)	Q19 LEVEL GRADE	Q20
11	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
12	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
13	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
14	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
15	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
16	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
17	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
18	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
19	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐
20	1 2→ 8 GO TO 14	☐☐	1 2→ 8 GO TO 16	☐☐	1 2 ↓ GO TO 20	☐☐ ☐	1 2 ↓ GO TO 20	☐☐ ☐	☐

CODES FOR Qs. 17 AND 19: EDUCATION

LEVEL		GRADE
0 = PRE-PRIMARY	4 = SECONDARY	00 = LESS THAN 1 YEAR COMPLETED
1 = PRIMARY	5 = SSS/SHS	(USE '00' FOR Q. 17 ONLY.
2 = MIDDLE	6 = HIGHER	THIS CODE IS NOT ALLOWED
3 = JSS/JHS	8 = DON'T KNOW	FOR Q. 19)
		98 = DON'T KNOW

TABLE FOR SELECTION OF ONE CHILD FOR THE CHILD EDUCATION QUESTIONS

| 31 | CHECK COLUMN 7: | MORE THAN ONE CHILD AGE 4-15: ENTER TOTAL NUMBER IN BOX AND GO TO INSTRUCTIONS | ONLY ONE CHILD AGE 4-15 ☐ → 32 |
| | | | NO CHILDREN AGE 4-15 ☐ → 101 |

INSTRUCTIONS HOW TO USE THE SELECTION TABLE

LOOK AT THE LAST DIGIT OF THE EA (CLUSTER) NUMBER ON THE COVER PAGE. THIS IS THE ROW NUMBER YOU SHOULD CIRCLE IN THE TABLE. LOOK AT THE COLUM 7 AND COUNT THE TOTAL NUMBER OF ELIGIBLE CHILDREN AGE 4-15. THIS IS THE COLUMN NUMBER YOU SHOULD CIRCLE. FIND THE BOX WHERE THE CIRCLED ROW AND THE CIRCLED COLUMN MEET AND CIRCLE THE NUMBER THAT APPEARS IN THE BOX. THIS IS THE NUMBER OF THE ELIGIBLE CHILD WHOSE PARENT OR CARETAKER WILL BE ASKED THE QUESTIONS ON CHILD EDUCATION. THEN, GO TO COLUMN (1) AND PUT A * NEXT TO THE HOUSEHOLD LINE NUMBER OF THE SELECTED CHILD AND RECORD CHILD'S NAME AND HOUSEHOLD LINE NUMBER IN Q.32, AND RECORD CHILD'S PARENT OR OTHER MOST KNOWLEDGEABLE ADULT'S NAME AND LINE NUMBER IN Q.33.

FOR EXAMPLE, IF THE CLUSTER NUMBER IS '316', GO TO ROW 6 AND CIRCLE THE ROW NUMBER ('6'). IF THERE ARE THREE ELIGIBLE CHILDREN AGE 4-15 IN THE HOUSEHOLD, GO TO COLUMN 3 AND CIRCLE THE COLUMN NUMBER ('3'). DRAW LINES FROM ROW 6 AND COLUMN 3 AND FIND THE BOX WHERE THE TWO MEET, AND CIRCLE THE NUMBER IN IT ('2'). THIS MEANS YOU HAVE TO SELECT THE SECOND ELIGIBLE CHILD. SUPPOSE THE HOUSEHOLD LINE NUMBERS OF THE THREE ELIGIBLE CHILDREN ARE '02', '03', AND '07'; THEN THE ELIGIBLE CHILD FOR THE QUESTIONS ON CHILD EDUCATION IS THE SECOND ELIGIBLE CHILD, I.E., THE CHILD WITH HOUSEHOLD LINE NUMBER '03'. PUT A * NEXT TO THIS CHILD'S LINE NUMBER IN COLUMN (1) OF THE HOUSEHOLD SCHEDULE AND ALSO ENTER THE TWO DIGIT LINE NUMBER AND CHILD'S NAME IN Q.32. THEN, RECORD THE LINE NUMBER AND A NAME OF CHILD'S PARENT OT OTHER MOST, OR OTHER MOST KNOWLEDGEABLE ADULT IN Q.33.

LAST DIGIT OF THE EA (CLUSTER) NUMBER	TOTAL NUMBER OF CHILDREN AGE 4-15 IN THE HOUSEHOLD							
	1	2	3	4	5	6	7	8
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

CHILD EDUCATION FOR SELECTED CHILD AGE 4-15

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
32	CHECK COLUMN 1 AND RECORD LINE NUMBER AND NAME OF THE SELECTED CHILD AGE 4-15 YEARS.	LINE NUMBER OF SELECTED CHILD . . . . ☐☐ NAME OF SELECTED CHILD _____	
33	CHECK COLUMNS 1, 13 AND 15 AND RECORD LINE NUMBER AND NAME OF CHILD'S MOTHER, FATHER OR OTHER CARETAKER.	LINE NUMBER OF PARENT/CARETAKER . . . . ☐☐ NAME OF PARENT/CARETAKER _____ IF MOTHER, FATHER OR CARETAKER OF SELECTED CHILD IS NOT LISTED IN HH RECORD "00" AND SKIP TO Q. 101	

<table>
<tr><td colspan="4" align="center">CHILD EDUCATION MODULE
ASK MOTHER/FATHER OR CARETAKER QUESTIONS 34 THROUGH 41 ABOUT SELECTED</td></tr>
</table>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
34	How often do you or someone in your household read to (NAME)? Would you say that you or someone in your household read to (NAME) a few times a week, about once a week, about once a month, about every six months or not at all?	FEW TIMES A WEEK . . . . 1 ONCE A WEEK . . . . 2 ONCE A MONTH . . . . 3 EVERY SIX MONTHS . . . . 4 NOBODY READS . . . . 5 OTHER _____ 6 SPECIFY DON'T KNOW 8	

35	During the past seven days, did you or someone in your household help (NAME) learn in the following ways:		YES	NO	DK/NA
	a) Help (NAME) with homework?	HOMEWORK	1	2	8
	b) Buy or borrow books for (NAME) to read?	BUY BOOKS	1	2	8
	c) Take (NAME) to the library?	LIBRARY	1	2	8
	d) Take (NAME) to a reading event?	READING EVENT	1	2	8
	e) Talk with (NAME) teacher or head teacher about the (NAME) learning progress?	TALK TO TEACHER . . .	1	2	8
	f) Participate in the Parent Teacher Association?	PT ASSOCIATION . . .	1	2	8
	g) Participate in the School Management Committee?	COMMITTEE	1	2	8
	h) Regularly read to (NAME)?	READ REGULARLY .	1	2	8
	i) Encourage (NAME) to read?	ENCOURAGE READ .	1	2	8
	j) Communicate to (NAME) that you have high expectations for him/her?	EXPECTATIONS	1	2	8
	k) Provide (NAME) with a lantern/torch/lamp?	LANTERN	1	2	8
	l) Relieve (NAME) of some household chores?	RELIEVE OF CHORES .	1	2	8
	x) Other?	OTHER	1	2	8

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
36	How many children's books and reading materials do you have in the house today?	1 TO 10 BOOKS . . . . 1 11 TO 20 BOOKS . . . . 2 21 OR MORE . . . . 3 NONE . . . . 4 DON'T KNOW 8	
37	Do you want (NAME) to be taught in their home language or in English?	HOME LANGUAGE OTHER THAN ENGLISH . . . . 1 ENGLISH . . . . 2 BOTH LANGUAGES . . . . 3 DON'T KNOW 8	

38	CHECK 18: CHILD EVER ATTENDED SCHOOL: YES, CHILD IS ☐ ATTENDING SCHOOL	NO ☐	101
39	How often does (NAME) bring textbooks and other reading materials home from school?	ALWAYS . . . . 1 OFTEN . . . . 2 SOMETIMES . . . . 3 NEVER . . . . 4 DON'T KNOW 8	
40	How does (NAME) usually get to school?	BY FOOT . . . . 1 BY BICYCLE . . . . 2 BY BUS/ CAR . . . . 3 BY MOTORBIKE . . . . 4 OTHER _____ 6 SPECIFY	
41	How long does it take (NAME) to get to school?	0 TO 20 MINUTES . . . . 1 21 TO 40 MINUTES . . . . 2 41 TO 60 MINUTES . . . . 3 61 TO 90 MINUTES (1.5 HOURS) . . . 4 1.5 TO 3 HOURS . . . . 5 MORE THAN 3 HOURS . . . . 6 DON'T KNOW 8	

HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	How often does anyone smoke inside your house? Would you say daily, weekly, monthly, less than monthly, or never?	DAILY . . . . 1 WEEKLY . . . . 2 MONTHLY . . . . 3 LESS THAN MONTHLY . . . . 4 NEVER 5	

102	What is the main source of drinking water for members of your household?	PIPED WATER
		   PIPED INTO DWELLING 11
		   PIPED TO YARD/PLOT 12
		   PUBLIC TAP/STANDPIPE 13
		TUBE WELL OR BOREHOLE 21
		DUG WELL
		   PROTECTED WELL 31
		   UNPROTECTED WELL 32
		WATER FROM SPRING
		   PROTECTED SPRING 41
		   UNPROTECTED SPRING 42
		RAINWATER 51
		TANKER TRUCK 61
		CART WITH SMALL TANK 71
		SURFACE WATER (RIVER/DAM/
		   LAKE/POND/STREAM/CANAL/
		   IRRIGATION CHANNEL) 81
		BOTTLED WATER 91
		SACHET WATER 92
		
		OTHER _____ 96
		           (SPECIFY)
			→ 105
			
			→ 105

103	Where is that water source located?	IN OWN DWELLING . . . . 1 IN OWN YARD/PLOT . . . . 2 ELSEWHERE 3	→ 105
104	How long does it take to go there, get water, and come back?	MINUTES . . . . [ ][ ][ ] DON'T KNOW 998	
105	Do you do anything to the water to make it safer to drink?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 106A

106	What do you usually do to make the water safer to drink?
	
	Anything else?
	
	RECORD ALL MENTIONED.
		BOIL . . . . A
		ADD BLEACH/CHLORINE/ALUM . . . . . B
		STRAIN THROUGH A CLOTH C
		USE WATER FILTER (CERAMIC/
		   SAND/COMPOSITE/ETC.) . . . . D
		SOLAR DISINFECTION . . . . E
		LET IT STAND AND SETTLE . . . . F
		CAMPHOR/ NAPHTHALENE . . . . G
		PURIFICATION TABLET . . . . H
		
		OTHER _____ X
		           (SPECIFY)
		DON'T KNOW . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
106A	How does your household store drinking water? RECORD ALL MENTIONED	PLASTIC CONTAINER/BUCKET ..... A POT/EARTHENWARE VESSEL ..... B METAL CONTAINER . . . . C BOTTLE/SACHET . . . . D OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	

107	What kind of toilet facility do members of your household usually use?	FLUSH OR POUR FLUSH TOILET
		  FLUSH TO PIPED SEWER
		    SYSTEM 11
		  FLUSH TO SEPTIC TANK 12
		  FLUSH TO PIT LATRINE 13
		  FLUSH TO SOMEWHERE ELSE 14
		  FLUSH, DON'T KNOW WHERE 15
		PIT LATRINE
		  VENTILATED IMPROVED
		    PIT LATRINE 21
		  PIT LATRINE WITH SLAB 22
		  PIT LATRINE WITHOUT SLAB/
		    OPEN PIT 23
		BUCKET TOILET 41
		HANGING TOILET/HANGING
		  LATRINE 51
		NO FACILITY/BUSH/FIELD 61
		
		OTHER _____ 96
		(SPECIFY)
			
			→ 110

108	Do you share this toilet facility with other households?	YES, OTHER HOUSEHOLDS ONLY . . . 1 YES, PUBLIC . . . . 2 NO 3	 → 109A
109	How many households use this toilet facility?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . [0][ ] 10 OR MORE HOUSEHOLDS . . . . 95 DON'T KNOW 98	
109A	Where is this toilet facility located?	IN OWN DWELLING . . . . 1 IN OWN YARD/PLOT . . . . 2 ELSEWHERE 3	⌐ → 110
109B	How long does it take to go there, use it, and come back?	MINUTES . . . . [ ][ ][ ] DON'T KNOW 998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
110	Does your household have:		
		YES NO	
	a) Electricity?	ELECTRICITY 1 2	
	b) A wall clock?	WALL CLOCK 1 2	
	c) A radio?	RADIO 1 2	
	d) A black/white television?	BLACK/WHITE TELEVISION . 1 2	
	e) A color television?	COLOR TELEVISION 1 2	
	f) A mobile telephone?	MOBILE TELEPHONE 1 2	
	g) A land-line telephone?	LAND-LINE TELEPHONE 1 2	
	h) A refrigerator?	REFRIGERATOR 1 2	
	i) A freezer?	FREEZER 1 2	
	j) Electric generator/Invertor(s)?	GENERATOR/INVERTOR ... 1 2	
	k) Washing machine?	WASHING MACHINE........ 1 2	
	l) Computer/Tablet computer?	COMPUTER/TABLET....... 1 2	
	m) Photo camera? (NOT ON PHONE)	PHOTO CAMERA 1 2	
	n) Video deck/DVD/VCD?	VIDEO DECK/DVD/VCD 1 2	
	o) Sewing machine?	SEWING MACHINE 1 2	
	p) Bed?	BED 1 2	
	q) Table?	TABLE 1 2	
	r) Cabinet/cupboard?	CABINET/CUPBOARD 1 2	
	s) Access to the Internet in any device?	INTERNET ACCESS 1 2	
111	What type of fuel does your household mainly use for cooking?	ELECTRICITY .... 01 LPG .... 02 NATURAL GAS .... 03 BIOGAS ....04 KEROSENE .... 05 COAL, LIGNITE .... 06 CHARCOAL .... 07 WOOD ....08 STRAW/SHRUBS/GRASS .... 09 AGRICULTURAL CROP .... 10 ANIMAL DUNG .... 11 NO FOOD COOKED IN HOUSEHOLD .... 95 OTHER _____ 96 (SPECIFY)	→114
111A	What type of oil does your household mainly use for cooking?	RED PALM OIL .... 01 YELLOW PALM OIL .... 02 FRYTOL/FORTIFIED VEGETABLE OIL .... 03 OTHER VEGETABLE OIL............ 04 SHEA BUTTER .... 05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
112	Is the cooking usually done in the house, in a separate building, or outdoors?	IN THE HOUSE .... 1 IN A SEPARATE BUILDING .... 2 OUTDOORS .... 3 OTHER _____ 6 (SPECIFY)	→114
113	Do you have a separate room which is used as a kitchen?	YES .... 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

114	MAIN MATERIAL OF THE FLOOR.
	
	RECORD OBSERVATION.
		NATURAL FLOOR
		   EARTH/SAND 11
		   DUNG 12
		RUDIMENTARY FLOOR
		   WOOD PLANKS 21
		FINISHED FLOOR
		   PARQUET OR POLISHED
		     WOOD 31
		   VINYL OR ASPHALT STRIPS 32
		   CERAMIC/MARBLE/PORCELAIN
		     TILES/TERRAZO 33
		   CEMENT 34
		   WOOLEN CARPET/SYNTHETIC
		     CARPET 35
		   LINOLEUM/RUBBER CARPET
		     CARPET 36
		
		OTHER 96
		              (SPECIFY)	

115	MAIN MATERIAL OF THE ROOF.
	
	RECORD OBSERVATION.
		NATURAL ROOFING
		   NO ROOF 11
		   THATCH/PALM LEAF 12
		RUDIMENTARY ROOFING
		   RUSTIC MAT 21
		   PALM/BAMBOO 22
		   WOOD PLANKS 23
		   CARDBOARD 24
		FINISHED ROOFING
		   METAL 31
		   WOOD 32
		   CALAMINE/CEMENT FIBER........33
		   CERAMIC/BRICK TILES 34
		   CEMENT.......................35
		   ROOFING SHINGLES 36
		   ASBESTOS/SLATE
		     ROOFING SHEETS 37
		
		OTHER 96
		              (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

116	MAIN MATERIAL OF THE EXTERIOR WALLS.
	
	RECORD OBSERVATION.
		NATURAL WALLS
		  NO WALLS 11
		  CANE/PALM/TRUNKS 12
		  DIRT/LANDCRETE 13
		RUDIMENTARY WALLS
		  BAMBOO WITH MUD 21
		  STONE WITH MUD 22
		  UNCOVERED ADOBE 23
		  PLYWOOD 24
		  CARDBOARD 25
		  REUSED WOOD 26
		FINISHED WALLS
		  CEMENT. 31
		  STONE WITH LIME/CEMENT 32
		  BRICKS 33
		  CEMENT BLOCKS 34
		  COVERED ADOBE 35
		  WOOD PLANKS/SHINGLES 36
		
		OTHER _____ 96
		             (SPECIFY)	

117	How many rooms in this household are used for sleeping?	ROOMS . . . . ☐☐	
118	Does any member of this household own: a) A wrist watch? b) A bicycle? c) A motorcycle or motor scooter? d) An animal-drawn cart? e) A car or truck? f) A boat with a motor? g) A boat without a motor?	YES NO WRIST WATCH . . . . 1 2 BICYCLE . . . . 1 2 MOTORCYCLE/SCOOTER . . . 1 2 ANIMAL-DRAWN CART . . . . . 1 2 CAR/TRUCK . . . . 1 2 BOAT WITH MOTOR . . . . 1 2 BOAT WITHOUT MOTOR . . . 1 2	
119	Does any member of this household own any agricultural land?	YES . . . . 1 NO 2	→ 121
120	How many hectares or acres or plots of agricultural land do members of this household own? IF 99.5 OR MORE ACRES, RECORD IN HECTARES. 100 ACRES= 1 HECTARE IF 95 OR MORE HECTARES, CIRCLE '9995'.	HECTARES . . . . 1 ☐☐.☐ ACRES . . . . 2 ☐☐.☐ PLOTS . . . . 3 ☐☐.☐ 95 OR MORE HECTARES . . . . .9995 DON'T KNOW 9998	
121	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . 1 NO 2	→ 123

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
122	How many of the following animals does this household own? IF NONE, ENTER '00'. IF 95 OR MORE, ENTER '95'. IF UNKNOWN, ENTER '98'. a) Cattle? b) Milk cows or bulls? c) Horses, donkeys, or mules? d) Goats? e) Pigs? f) Rabbits? g) Grasscutter? h) Sheep? i) Chickens? j) Other poultry? k) Other?	CATTLE . . . . ☐☐ COWS/BULLS . . . . ☐☐ HORSES/DONKEYS/MULES . . . ☐☐ GOATS . . . . ☐☐ PIGS . . . . ☐☐ RABBITS . . . . ☐☐ GRASSCUTTER . . . . ☐☐ SHEEP . . . . ☐☐ CHICKENS . . . . ☐☐ OTHER POULTRY . . . . ☐☐ OTHER . . . . ☐☐	
123	Does any member of this household have a bank account?	YES . . . . 1 NO 2	
123A	How many household members are covered by health insurance? IF NONE, RECORD '00'.	PERSONS . . . . ☐☐ DON'T KNOW/NOT SURE 98	
124	At any time in the past 12 months, has anyone come into your dwelling to spray the interior walls against mosquitoes?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	126

125	Who sprayed the dwelling?
	
	RECORD ALL MENTIONED
		GOVERNMENT WORKER/
		    PROGRAM . . . . A
		PRIVATE COMPANY . . . . B
		NONGOVERNMENTAL
		    ORGANIZATION (NGO) C
		OTHER _____ X
		              (SPECIFY)
		DON'T KNOW . . . . Z	

126	Does your household have any mosquito nets that can be used while sleeping?	YES . . . . 1 NO 2	136A
127	How many mosquito nets does your household have? IF 7 OR MORE NETS, RECORD '7'.	NUMBER OF NETS . . . . ☐	

		NET #1	NET #2	NET #3
128	ASK THE RESPONDENT TO SHOW YOU ALL THE NETS IN THE HOUSEHOLD IF MORE THAN 3 NETS, USE ADDITIONAL QUESTIONNAIRE(S).	OBSERVED HANGING . . . . 1 OBSERVED NOT HANGING OR PACKAGED . . . 2 NOT OBSERVED . . 3	OBSERVED HANGING . . . . 1 OBSERVED NOT HANGING OR PACKAGED . . . 2 NOT OBSERVED . . 3	OBSERVED HANGING . . . . 1 OBSERVED NOT HANGING OR PACKAGED . . . . . 2 NOT OBSERVED . . . 3
129	How many months ago did your household get the mosquito net? IF LESS THAN ONE MONTH AGO, RECORD '00'.	MONTHS AGO . . . [ ] MORE THAN 36 MONTHS AGO . 95 NOT SURE 98	MONTHS AGO . . . [ ] MORE THAN 36 MONTHS AGO . 95 NOT SURE 98	MONTHS AGO . . . [ ] MORE THAN 36 MONTHS AGO . . 95 NOT SURE 98
129A	Where did you get this net?	**PUBLIC SECTOR** GOVT. HOSPITAL/ POLYCLINIC . . . 11 GOVT. HEALTH CENTEF . . . . 12 GOVT. HEALTH POST/CHPS . . . 13 FIELDWORKER/ OUTREACH/ PEER EDUCATOR . . . . . 14 CAMPAIGN . . . . . 15 OTHER PUBLIC _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/ CLINIC . . . . 21 PHARMACY/CHEMICAL/ DRUG STORE . . . 22 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) **OTHER SOURCE** NGO/CBAs . . . . . 31 SHOP/MARKET . . . 32 STREET VENDOR . 33 PETROL STATION/ MOBILE MART . . . 34 PRIMARY SCHOOL . 35 OTHER _____ 36 (SPECIFY) DON'T KNOW . . . 98	**PUBLIC SECTOR** GOVT. HOSPITAL/ POLYCLINIC . . . 11 GOVT. HEALTH CENTER . . . . 12 GOVT. HEALTH POST/CHPS . . . 13 FIELDWORKER/ OUTREACH/ PEER EDUCATOR . . . . . 14 CAMPAIGN . . . . . 15 OTHER PUBLIC _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/ CLINIC . . . . 21 PHARMACY/CHEMICAL/ DRUG STORE . . . 22 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) **OTHER SOURCE** NGO/CBAs . . . . . 31 SHOP/MARKET . . . 32 STREET VENDOR . 33 PETROL STATION/ MOBILE MART . . . 34 PRIMARY SCHOO . 35 OTHER _____ 36 (SPECIFY) DON'T KNOW . . . 98	**PUBLIC SECTOR** GOVT. HOSPITAL/ POLYCLINIC . . . . . 11 GOVT. HEALTH CENTEF . . . . 12 GOVT. HEALTH POST/CHPS . . . . . 13 FIELDWORKER/ OUTREACH/ PEER EDUCATOR . . . . 14 CAMPAIGN . . . . 15 OTHER PUBLIC _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/ CLINIC . . . . 21 PHARMACY/CHEMICAL/ DRUG STORE . . . . . 22 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) **OTHER SOURCE** NGO/CBAs . . . . 31 SHOP/MARKET . . . . . 32 STREET VENDOR . . 33 PETROL STATION/ MOBILE MART . . . . . 34 PRIMARY SCHOOL . . 35 OTHER _____ 36 (SPECIFY) DON'T KNOW 98

		NET #1	NET #2	NET #3
129B	How much did it cost you to obtain this net? RECORD '00.00' IF FREE OF CHARGE.	COST IN CEDIS ☐☐.☐☐ DON'T KNOW . . . 9998	COST IN CEDIS ☐☐.☐☐ DON'T KNOW . . . 9998	COST IN CEDIS ☐☐.☐☐ DON'T KNOW . . . 9998

130	OBSERVE OR ASK THE BRAND/ TYPE OF MOSQUITO NET.
	
	IF BRAND IS UNKNOWN AND YOU CANNOT OBSERVE THE NET, SHOW PICTURES OF TYPICAL NET TYPES/BRANDS TO RESPONDENT.
		LONG-LASTING INSECTICIDE- TREATED NET (LLIN)
		OLYSET . . . . 10 ⌐
		PERMANET . . . 11 ⌐
		INTERCEPTOR . 12 ⌐
		NETPROTECT . 13 ⌐
		DURANET . . . . . 14 ⌐
		LIFE NET . . . . . 15 ⌐
		DAWA PLUS . . . 16 ⌐
		MAGNET . . . . . 17 ⌐
		YORKOOL . . . . . 18 ⌐
		OTHER/
		  DK BRAND . . . 19 ⌐
		  (SKIP TO 134) ←
		
		'PRETREATED' NET
		
		OTHER/
		  DK BRAND . . . 26
		  (SKIP TO 134) ↵
		
		OTHER
		LOCALLY SEWN
		  NETS 31
		
		OTHER BRAND . . . 96
		DK BRAND 98
			LONG-LASTING INSECTICIDE- TREATED NET (LLIN)
			OLYSET . . . . 10 ⌐
			PERMANET . . . 11 ⌐
			INTERCEPTOR . 12 ⌐
			NETPROTECT . 13 ⌐
			DURANET . . . . . 14 ⌐
			LIFE NET . . . . . 15 ⌐
			DAWA PLUS . . . 16 ⌐
			MAGNET . . . . . . 17 ⌐
			YORKOOL . . . . . 18 ⌐
			OTHER/
			  DK BRAND . . . 19 ⌐
			  (SKIP TO 134) ←
			
			'PRETREATED' NET
			
			OTHER/
			  DK BRAND . . . 26
			  (SKIP TO 134) ↵
			
			OTHER
			LOCALLY SEWN
			  NETS 31
			
			OTHER BRAND . . . 96
			DK BRAND 98
				LONG-LASTING INSECTICIDE- TREATED NET (LLIN)
				OLYSET . . . . 10 ⌐
				PERMANET . . . . . 11 ⌐
				INTERCEPTOR . . 12 ⌐
				NETPROTECT . . 13 ⌐
				DURANET . . . . 14 ⌐
				LIFE NET . . . . . . 15 ⌐
				DAWA PLUS . . . . . 16 ⌐
				MAGNET . . . . 17 ⌐
				YORKOOL . . . . 18 ⌐
				OTHER/
				  DK BRAND . . . . . 19 ⌐
				  (SKIP TO 134) ←
				
				'PRETREATED' NET
				
				OTHER/
				  DK BRAND 26
				  (SKIP TO 134) ↵
				
				OTHER
				LOCALLY SEWN
				  NETS 31
				
				OTHER BRAND 96
				DK BRAND 98

131	When you got the net, was it already treated with an insecticide to kill or repel mosquitoes?	YES . . . . 1 NO . . . . 2 NOT SURE 8	YES . . . . 1 NO . . . . 2 NOT SURE 8	YES . . . . 1 NO . . . . 2 NOT SURE 8

134	Did anyone sleep under this mosquito net last night?	YES 1
		NO 2
		  (SKIP TO 136) ←│
		NOT SURE 8
			YES 1
			NO 2
			  (SKIP TO 136) ←│
			NOT SURE 8
				YES 1
				NO 2
				  (SKIP TO 136) ←│
				NOT SURE 8

		NET #1	NET #2	NET #3
135	Who slept under this mosquito net last night? RECORD THE PERSON'S NAME AND LINE NUMBER FROM THE HOUSEHOLD SCHEDULE.	NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐
		NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐
		NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐
		NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐	NAME_____ LINE NO. . . . . . ☐☐
136		GO BACK TO 128 FOR NEXT NET; OR, IF NO MORE NETS, GO TO 136A.	GO BACK TO 128 FOR NEXT NET; OR, IF NO MORE NETS, GO TO 136A.	GO TO 128 IN FIRST COLUMN OF A NEW QUESTIONNAIRE; OR, IF NO MORE NETS, GO TO 136A.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
136A	During the last 12 months has any member of your household disposed of any treated net?	YES . . . . 1 NO . . . . 2 DON'T KNOW . . . . 3 (SKIP TO 136E)	
136B	How did you dispose of your last treated mosquito net?	BURNED . . . . 1 BURIED . . . . 2 GARBAGE OR REFUSE DUMP . . . . 3 REUSED FOR OTHER PURPOSE . . . . 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
136C	How long did you use the net before disposing of it?	LESS THAN 2 YEARS . . . . 1 2-4 YEARS . . . . 2 MORE THAN 4 YEARS. . . . . 3 DON'T KNOW 8	
136D	What was the main reason for disposing of this net?	TORN . . . . 1 COULD NOT REPEL MOSQUITOS ANYMORE . 2 GOT A NEW ONE . . . . 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
136E	In the past 6 months, have you seen or heard any messages telling you that: a Treatment should be sought from health facilities within 24 hours or onset of fever, especially for children under 5 years? b The Ghana Health Service recommends ACT (Artesunate Amodiaquine/AA, Artemether Lumefantrin/AL, Dihydroartemisinine-Piperaquine/DHAP) as medicine for malaria treatment? c The full course of malaria medicine, ACT (artesunate Amodiaquine, Artemether Lumefantrin, Dihydroartemisinine-Piperaquine) should be completed? d Pregnant women should attend ANC and take 3 doses of SP/Fansidar during pregnancy to prevent malaria? e Families should sleep under Insecticides Treated Net to protect them from Malaria, especially pregnant women and children under five years?	YES NO SEEKING URGENT CARE . . . 1 2 GHS RECOMMENDATION . . . . 1 2 COMPLETING FULL COURSE . . 1 2 ATTENDING ANC . . . . 1 2 SLEEPING UNDER NETS 1 2	

136F	In the past 6 months, have you seen or heard any of the messages about malaria:
	    a) On the television?
	    b) On the radio?
	    c) In a newspaper or magazine?
	
	    d) From a poster?
	    e) From leaflets or brochures?
	    f) From a health worker?
	    g) From a Community volunteer/CHW/CBA?
	
	    h) Anyone/anywhere else? Where/Whom?
		YES NO
		TELEVISION 1 2
		RADIO 1 2
		NEWSPAPER/
		  MAGAZINE 1 2
		POSTER 1 2
		LEAFLET/BROCHURE 1 2
		HEALTH WORKER 1 2
		
		VOLUNTEER 1 2
		OTHER 1 2	

137	Please show me where members of your household most often wash their hands.	OBSERVED 1
		NOT OBSERVED,
		  NOT IN DWELLING/YARD/PLOT 2
		NOT OBSERVED,
		  NO PERMISSION TO SEE 3
		NOT OBSERVED, OTHER REASON 4
		              (SKIP TO 140) ◄───	

138	OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE PLACE FOR HANDWASHING.	WATER IS AVAILABLE.................. 1 WATER IS NOT AVAILABLE 2	
139	OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	SOAP OR DETERGENT (BAR, LIQUID, POWDER, PASTE)........ A ASH, MUD, SAND .... B NONE C	
140	ASK RESPONDENT FOR A TEASPOONFUL OF COOKING SALT. TEST SALT FOR IODINE.	0 PPM (NO IODINE) .... 1 BELOW 15 PPM .... 2 15 PPM AND ABOVE .... 3 NO SALT IN HOUSEHOLD .... 4 SALT NOT TESTED 6 (SPECIFY REASON)	

	HOUSEHOLD SELECTED FOR MAN'S SURVEY?	YES 1	NO . . . . . 2 ⟶ END

201	CHECK COLUMN 11 IN HOUSEHOLD SCHEDULE FOR NUMBER OF ELIGIBLE CHILDREN AGE 0-5:
	ONE OR MORE .... 1 NONE .... 2 ⟶ SKIP TO 214
	RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE CHILDREN AGE 0-5 FOR WEIGHT, HEIGHT, HEMOGLOBIN AND MALARIA.
	IF THERE ARE MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S).

		CHILD 1	CHILD 2	CHILD 3
202	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER ...... ☐☐ NAME _____	LINE NUMBER ...... ☐☐ NAME _____	LINE NUMBER ...... ☐☐ NAME _____
203	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR OF BIRTH FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME)'s birth date?	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐
204	CHECK 203: CHILD BORN IN JANUARY 2009 OR LATER?	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)
205	WEIGHT IN KILOGRAMS	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
206	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996
207	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3
208	CHECK 203: IS CHILD AGE 0-5 MONTHS, I.E., WAS CHILD BORN IN MONTH OF INTERVIEW OR FIVE PREVIOUS MONTHS?	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2
209	LINE NUMBER OF PARENT/OTHER ADULT RESPONSIBLE FOR THE CHILD (FROM COLUMN 1 OF HOUSEHOLD SCHEDULE). RECORD '00' IF NOT LISTED.	LINE NUMBER ...... ☐☐	LINE NUMBER ...... ☐☐	LINE NUMBER ...... ☐☐

		CHILD 1	CHILD 2	CHILD 3
210	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking that children all over the country take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. We ask that all children born in 2009 or later take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the anemia test?		
211	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6
211A	ASK CONSENT FOR MALARIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking that children all over the country take a test to see if they have malaria. Malaria is a serious illness caused by a parasite transmitted by a mosquito bite. This survey will help the government to develop programs to prevent malaria. We ask that all children born in January 2009 or later take part in malaria testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. (We will use blood from the same finger prick made for the anemia test). One blood drop will be tested for malaria immediately, and the result will be told to you right away. A few blood drops will be collected on a slide and taken to a laboratory for testing. You will not be told the results of the laboratory testing. All results will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the malaria testing?		
211B	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6	GRANTED .... 1 (SIGN) ←┘ REFUSED .... 2 NOT PRESENT .... 5 OTHER 6
211C	PREPARE EQUIPMENT AND SUPPLIES ONLY FOR THE TEST(S) FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST(S).			
211D	BARCODE LABEL	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT .... 99994 REFUSED ...... 99995 OTHER .... 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT .... 99994 REFUSED ...... 99995 OTHER .... 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT .... 99994 REFUSED ...... 99995 OTHER .... 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.
212	RECORD HEMOGLOBIN LEVEL HERE AND IN THE ANEMIA AND HEIGHT/WEIGHT BROCHURE AND IN THE ANEMIA AND MALARIA BROCHURE.	G/DL ☐☐.☐ NOT PRESENT .... 99.4 REFUSED .... 99.5 OTHER 99.6	G/DL ☐☐.☐ NOT PRESENT .... 99.4 REFUSED .... 99.5 OTHER 99.6	G/DL ☐☐.☐ NOT PRESENT .... 99.4 REFUSED .... 99.5 OTHER 99.6
212A	RECORD RESULT CODE OF THE MALARIA RDT.	TESTED .... 1 NOT PRESENT .... 2┐ REFUSED .... 3┤ OTHER .... 6┘ (SKIP TO 212D) ←	TESTED .... 1 NOT PRESENT .... 2┐ REFUSED .... 3┤ OTHER .... 6┘ (SKIP TO 212D) ←	TESTED .... 1 NOT PRESENT .... 2┐ REFUSED .... 3┤ OTHER .... 6┘ (SKIP TO 212D) ←

		CHILD 1	CHILD 2	CHILD 3
212B	RECORD THE RESULT OF THE MALARIA RDT HERE AND IN THE ANEMIA AND MALARIA BROCHURE.	POSITIVE . . . . 1 NEGATIVE . . . . 2 OTHER . . . . 6 (SKIP TO 212D) ←	POSITIVE . . . . 1 NEGATIVE . . . . 2 OTHER . . . . 6 (SKIP TO 212D) ←	POSITIVE . . . . 1 NEGATIVE . . . . 2 OTHER . . . . 6 (SKIP TO 212D) ←
212C	RECORD THE CLASSIFICATION OF THE MALARIA RDT.	CONTROL AND Pf . . . . . . 1 CONTROL AND PAN . . . . 2 CONTROL, Pf AND PAN . 3 (SKIP TO 212F) ←	CONTROL AND Pf . . . . . . 1 CONTROL AND PAN . . . . 2 CONTROL, Pf AND PAN . 3 (SKIP TO 212F) ←	CONTROL AND Pf . . . . . . 1 CONTROL AND PAN . . . . 2 CONTROL, Pf AND PAN . 3 (SKIP TO 212F) ←
212D	CHECK 212: HEMOGLOBIN RESULT	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 NOT PRESENT . . . . 4 REFUSED . . . . 5 OTHER . . . . 6 (SKIP TO 213) ←	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 NOT PRESENT . . . . 4 REFUSED . . . . 5 OTHER . . . . 6 (SKIP TO 213) ←	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 NOT PRESENT . . . . 4 REFUSED . . . . 5 OTHER . . . . 6 (SKIP TO 213) ←
212E	**SEVERE ANEMIA REFERRAL** STATEMENT	The anemia test shows that (NAME OF CHILD) has severe anemia. Your child must be taken to a health facility right away. SKIP TO 213		
212F	Does (NAME) suffer from the any of the following illnesses or symptoms: a) Extreme weakness? b) Inability to drink or breastfeed? c) Vomiting everything? d) Loss of consciousness? e) Deep and laboured breathing? f) Multiple convulsions? g) Abnormal spontaneous bleeding? h) Yellow eyes/jaundice? IF NO SYMPTOMS, CIRCLE CODE Y.	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y
212G	CHECK 212F: ANY CODE CIRCLED?	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ←	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ←	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ←
212H	CHECK 212: HEMOGLOBIN RESULT	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ← 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ← 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ← 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6
212I	In the past two weeks has (NAME) taken or is taking ACT given by a doctor or health center to treat the malaria? VERIFY BY ASKING TO SEE TREATMENT.	YES . . . . 1 (SKIP TO 212K) ← NO . . . . 2 (SKIP TO 212L) ←	YES . . . . 1 (SKIP TO 212K) ← NO . . . . 2 (SKIP TO 212L) ←	YES . . . . 1 (SKIP TO 212K) ← NO . . . . 2 (SKIP TO 212L) ←
212J	**SEVERE MALARIA REFERRAL** STATEMENT	The malaria test shows that (NAME OF CHILD) has malaria. Your child also has symptoms of severe malaria. The malaria treatment I have will not help your child, and I cannot give you the medication. Your child is very ill and must be taken to a health facility right away. SKIP TO 212Q		

		CHILD 1	CHILD 2	CHILD 3
212K	**ALREADY TAKING ACT REFERRAL** STATEMENT	You have told me that (NAME OF CHILD) has already received ACT for malaria. Therefore, I cannot give you additional ACT. However, the test shows that he/she is positive for malaria. If your child has a fever for four days after the last dose of ACT, you should take him/her to the nearest health facility for further examination. SKIP TO 212Q		
212L	READ INFORMATION FOR MALARIA TREATMENT AND CONSENT STATEMENT TO PARENT OR OTHER ADULT RESPONSIBLE FOR THE CHILD.	The malaria test shows that (NAME OF CHILD) has malaria. We can give you free medicine. The medicine is called ACT. ACT is very effective and in a few days it should get rid of the fever and other symptoms. ACT is also very safe. However all medicines can have unwanted effects. Sometimes ACT can cause dizziness, weakness, lack of appetite for eating, and rapid heartbeats. You do not have to give (NAME OF CHILD) the medicine. This is up to you. Please tell me whether you accept the medicine or not.		
212M	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	ACCEPTED MEDICINE 1 _____ ← | (SIGN) REFUSED .... 2 OTHER 6	ACCEPTED MEDICINE 1 _____ ← | (SIGN) REFUSED .... 2 OTHER 6	ACCEPTED MEDICINE 1 _____ ← | (SIGN) REFUSED .... 2 OTHER 6
212N	CHECK 212M: MEDICATION ACCEPTED	ACCEPTED MEDICINE 1 REFUSED .... 2 ¬ OTHER .... 6 ┘ (SKIP TO 212Q) ←	ACCEPTED MEDICINE 1 REFUSED .... 2 ¬ OTHER .... 6 ┘ (SKIP TO 212Q) ←	ACCEPTED MEDICINE 1 REFUSED .... 2 ¬ OTHER .... 6 ┘ (SKIP TO 212Q) ←
212P	TREATMENT FOR CHILDREN WITH POSITIVE MALARIA TESTS	TREATMENT WITH ARTESUNATE-AMODIAQUINE (AA) Weight (in Kg) – Approximate age Dosage ≥4.5kg to 9kg (under 1 year) 1 tablet AS-AQ (25 mg/67.5 mg) daily for 3 days >9kg - <18kg (age 1-5 years) 1 tablet AS-AQ (50mg/AQ 135mg) daily for 3 days Give the child one tablet each day for three consecutive days. Take the medicine (for children, put the tablet in a little water, mix water and tablet well, and give to the child) with fatty food or drinks like milk or breast milk. Make sure that the FULL 3 days treatment is taken otherwise the infection may return. If your child vomits within an hour of taking the medicine, repeat the dose and get additional tablets. ALSO TELL THE PARENT/GUARDIAN: If (NAME OF CHILD) has any of the following symptoms, you should take him/her to a health professional for treatment immediately: -- High temperature -- Fast or difficult breathing -- Not able to drink or breastfeed -- Gets sicker or does not get better in 2 days		

212Q	RECORD THE RESULT CODE OF **MALARIA TREATMENT AND REFERRAL**	MEDICATION GIVEN 1
		 MEDS REFUSED 2
		 SEVERE MALARIA
		    REFERRAL 3
		 ALREADY TAKING MEDS
		    REFERRAL 4
		 OTHER 6
			MEDICATION GIVEN 1
			 MEDS REFUSED 2
			 SEVERE MALARIA
			    REFERRAL 3
			 ALREADY TAKING MEDS
			    REFERRAL 4
			 OTHER 6
				MEDICATION GIVEN 1
				 MEDS REFUSED 2
				 SEVERE MALARIA
				    REFERRAL 3
				 ALREADY TAKING MEDS
				    REFERRAL 4
				 OTHER 6

213	GO BACK TO 203 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE NEXT PAGE; IF NO MORE CHILDREN, GO TO Q214.			

	HOUSEHOLD SELECTED FOR MAN'S SURVEY?	YES 1	NO ..... 2 ──────► END

201	CHECK COLUMN 11 IN HOUSEHOLD SCHEDULE FOR NUMBER OF ELIGIBLE CHILDREN AGE 0-5:
	ONE OR MORE .... 1 NONE .... 2 ──────► SKIP TO 214
	RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE CHILDREN AGE 0-5 FOR WEIGHT, HEIGHT, HEMOGLOBIN AND MALARIA.
	IF THERE ARE MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S).

		CHILD 4	CHILD 5	CHILD 6
202	LINE NUMBER FROM COLUMN 11 NAME FROM COLUMN 2	LINE NUMBER ...... ☐☐ NAME _____	LINE NUMBER ...... ☐☐ NAME _____	LINE NUMBER ...... ☐☐ NAME _____
203	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR OF BIRTH FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME)'s birth date?	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐	DAY .... ☐☐ MONTH ...... ☐☐ YEAR ☐☐☐☐
204	CHECK 203: CHILD BORN IN JANUARY 2009 OR LATER?	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214)	YES .... 1 NO .... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214)
205	WEIGHT IN KILOGRAMS	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT .... 9994 REFUSED .... 9995 OTHER 9996
206	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ...... 9994 REFUSED .... 9995 OTHER 9996
207	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3	LYING DOWN .... 1 STANDING UP .... 2 NOT MEASURED 3
208	CHECK 203: IS CHILD AGE 0-5 MONTHS, I.E., WAS CHILD BORN IN MONTH OF INTERVIEW OR FIVE PREVIOUS MONTHS?	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS .... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO ◄─┘ MORE CHILDREN, GO TO 214) OLDER 2
209	LINE NUMBER OF PARENT/OTHER ADULT RESPONSIBLE FOR THE CHILD (FROM COLUMN 1 OF HOUSEHOLD SCHEDULE). RECORD '00' IF NOT LISTED.	LINE NUMBER ...... ☐☐	LINE NUMBER ...... ☐☐	LINE NUMBER ...... ☐☐

		CHILD 4	CHILD 5	CHILD 6
210	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking that children all over the country take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. We ask that all children born in 2009 or later take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the anemia test?		
211	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6
211A	ASK CONSENT FOR MALARIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking that children all over the country take a test to see if they have malaria. Malaria is a serious illness caused by a parasite transmitted by a mosquito bite. This survey will help the government to develop programs to prevent malaria. We ask that all children born in January 2009 or later take part in malaria testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. (We will use blood from the same finger prick made for the anemia test.) One blood drop will be tested for malaria immediately, and the result will be told to you right away. A few blood drops will be collected on a slide and taken to a laboratory for testing. You will not be told the results of the laboratory testing. All results will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the malaria testing?		
211B	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6	GRANTED . . . . 1 _____ ← | (SIGN) REFUSED . . . . 2 NOT PRESENT . . . . 5 OTHER 6
211C	PREPARE EQUIPMENT AND SUPPLIES ONLY FOR THE TEST(S) FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST(S).			
211D	BARCODE LABEL	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.	PUT THE 1ST BARCODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BARCODE LABEL ON THE SLIDE AND THE 3RD ON THE TRANSMITTAL FORM AND THE 4TH ON THE RDT.
212	RECORD HEMOGLOBIN LEVEL HERE AND IN THE ANEMIA AND HEIGHT/WEIGHT BROCHURE AND IN THE ANEMIA AND MALARIA BROCHURE.	G/DL [ ][ ] . [ ] NOT PRESENT . . . . 99.4 REFUSED . . . . 99.5 OTHER 99.6	G/DL [ ][ ] . [ ] NOT PRESENT . . . . 99.4 REFUSED . . . . 99.5 OTHER 99.6	G/DL [ ][ ] . [ ] NOT PRESENT . . . . 99.4 REFUSED . . . . 99.5 OTHER 99.6
212A	RECORD RESULT CODE OF THE MALARIA RDT.	TESTED . . . . 1 NOT PRESENT . . . . 2 ┐ REFUSED . . . . 3 ┤ OTHER . . . . 6 ┘ (SKIP TO 212D) ←	TESTED . . . . 1 NOT PRESENT . . . . 2 ┐ REFUSED . . . . 3 ┤ OTHER . . . . 6 ┘ (SKIP TO 212D) ←	TESTED . . . . 1 NOT PRESENT . . . . 2 ┐ REFUSED . . . . 3 ┤ OTHER . . . . 6 ┘ (SKIP TO 212D) ←

		CHILD 4	CHILD 5	CHILD 6
212B	RECORD THE RESULT OF THE MALARIA RDT HERE AND IN THE ANEMIA AND MALARIA BROCHURE.	POSITIVE . . . . 1 NEGATIVE . . . . 2 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 212D) ←	POSITIVE . . . . 1 NEGATIVE . . . . 2 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 212D) ←	POSITIVE . . . . 1 NEGATIVE . . . . 2 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 212D) ←
212C	RECORD THE CLASSIFICATION OF THE MALARIA RDT.	CONTROL AND Pf . . . . . . 1 ⌐ CONTROL AND PAN . . . . 2 ⌐ CONTROL, Pf AND PAN . 3 ⌐ (SKIP TO 212F) ←	CONTROL AND Pf . . . . . . 1 ⌐ CONTROL AND PAN . . . . 2 ⌐ CONTROL, Pf AND PAN . 3 ⌐ (SKIP TO 212F) ←	CONTROL AND Pf . . . . . . 1 ⌐ CONTROL AND PAN . . . . 2 ⌐ CONTROL, Pf AND PAN . 3 ⌐ (SKIP TO 212F) ←
212D	CHECK 212: HEMOGLOBIN RESULT	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 ⌐ NOT PRESENT . . . . 4 ⌐ REFUSED . . . . 5 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 213) ←	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 ⌐ NOT PRESENT . . . . 4 ⌐ REFUSED . . . . 5 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 213) ←	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 7.0 G/DL OR ABOVE . . . . 2 ⌐ NOT PRESENT . . . . 4 ⌐ REFUSED . . . . 5 ⌐ OTHER . . . . 6 ⌐ (SKIP TO 213) ←
212E	**SEVERE ANEMIA REFERRAL** STATEMENT	The anemia test shows that (NAME OF CHILD) has severe anemia. Your child must be taken to a health facility right away. SKIP TO 213		
212F	Does (NAME) suffer from the any of the following illnesses or symptoms: a) Extreme weakness? b) Inability to drink or breastfeed? c) Vomiting everything? d) Loss of consciousness? e) Deep and laboured breathing? f) Multiple convulsions? g) Abnormal spontaneous bleeding? h) Yellow eyes/jaundice? IF NO SYMPTOMS, CIRCLE CODE Y.	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y	EXTREME WEAKNESS . A FAILURE TO FEED . . . . B VOMITING . . . . C LOSS OF CONSCIOUSNESS D DEEP BREATHING . . . . E CONVULSIONS . . . . F BLEEDING . . . . G JAUNDICE . . . . H NO SYMPTOMS . . . . . . Y
212G	CHECK 212F: ANY CODE CIRCLED?	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ↵	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ↵	ONLY CODE Y CIRCLED . . . . 1 ANY CODE A-H CIRCLED . . . . . . 2 (SKIP TO 212J) ↵
212H	CHECK 212: HEMOGLOBIN RESULT	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ↵ 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ↵ 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6	BELOW 7.0 G/DL, SEVERE ANEMIA . . . . 1 (SKIP TO 212J) ↵ 7.0 G/DL OR ABOVE 2 NOT PRESENT . . . . . . 4 REFUSED . . . . 5 OTHER 6
212I	In the past two weeks has (NAME) taken or is taking ACT given by a doctor or health center to treat the malaria? VERIFY BY ASKING TO SEE TREATMENT.	YES . . . . 1 (SKIP TO 212K) ↵ NO . . . . 2 (SKIP TO 212L) ↵	YES . . . . 1 (SKIP TO 212K) ↵ NO . . . . 2 (SKIP TO 212L) ↵	YES . . . . 1 (SKIP TO 212K) ↵ NO . . . . 2 (SKIP TO 212L) ↵
212J	**SEVERE MALARIA REFERRAL** STATEMENT	The malaria test shows that (NAME OF CHILD) has malaria. Your child also has symptoms of severe malaria. The malaria treatment I have will not help your child, and I cannot give you the medication. Your child is very ill and must be taken to a health facility right away. SKIP TO 212Q		

		CHILD 4	CHILD 5	CHILD 6
212K	**ALREADY TAKING ACT REFERRAL** STATEMENT	You have told me that (NAME OF CHILD) has already received ACT for malaria. Therefore, I cannot give you additional ACT. However, the test shows that he/she is positive for malaria. If your child has a fever for four days after the last dose of ACT, you should take him/her to the nearest health facility for further examination. SKIP TO 212Q		
212L	READ INFORMATION FOR MALARIA TREATMENT AND CONSENT STATEMENT TO PARENT OR OTHER ADULT RESPONSIBLE FOR THE CHILD.	The malaria test shows that (NAME OF CHILD) has malaria. We can give you free medicine. The medicine is called ACT. ACT is very effective and in a few days it should get rid of the fever and other symptoms. ACT is also very safe. However all medicines can have unwanted effects. Sometimes ACT can cause dizziness, weakness, lack of appetite for eating, and rapid heartbeats. You do not have to give (NAME OF CHILD) the medicine. This is up to you. Please tell me whether you accept the medicine or not.		
212M	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	ACCEPTED MEDICINE 1 _____ ←┐ (SIGN) REFUSED .... 2 OTHER 6	ACCEPTED MEDICINE 1 _____ ←┐ (SIGN) REFUSED .... 2 OTHER 6	ACCEPTED MEDICINE 1 _____ ←┐ (SIGN) REFUSED .... 2 OTHER 6
212N	CHECK 212M: MEDICATION ACCEPTED	ACCEPTED MEDICINE 1 REFUSED .... 2┐ OTHER .... 6┘ (SKIP TO 212Q) ←	ACCEPTED MEDICINE 1 REFUSED .... 2┐ OTHER .... 6┘ (SKIP TO 212Q) ←	ACCEPTED MEDICINE 1 REFUSED .... 2┐ OTHER .... 6┘ (SKIP TO 212Q) ←
212P	TREATMENT FOR CHILDREN WITH POSITIVE MALARIA TESTS	TREATMENT WITH ARTESUNATE-AMODIAQUINE (AA) Weight (in Kg) – Approximate age Dosage ≥4.5kg to 9kg (under 1 year) 1 tablet AS-AQ (25 mg/ 67.5 mg) daily for 3 days >9kg - <18kg (age 1-5 years) 1 tablet AS-AQ (50mg/ 135mg) daily for 3 days Give the child one tablet each day for three consecutive days. Take the medicine (for children, put the tablet in a little water, mix water and tablet well, and give to the child) with fatty food or drinks like milk or breast milk. Make sure that the FULL 3 days treatment is taken otherwise the infection may return. If your child vomits within an hour of taking the medicine, repeat the dose and get additional tablets. ALSO TELL THE PARENT/GUARDIAN: If (NAME OF CHILD) has any of the following symptoms, you should take him/her to a health professional for treatment immediately: -- High temperature -- Fast or difficult breathing -- Not able to drink or breastfeed -- Gets sicker or does not get better in 2 days		

212Q	RECORD THE RESULT CODE OF **MALARIA TREATMENT AND REFERRAL**	MEDICATION GIVEN 1
		MEDS REFUSED 2
		SEVERE MALARIA
		   REFERRAL 3
		ALREADY TAKING MEDS
		   REFERRAL 4
		OTHER 6
			MEDICATION GIVEN 1
			MEDS REFUSED 2
			SEVERE MALARIA
			   REFERRAL 3
			ALREADY TAKING MEDS
			   REFERRAL 4
			OTHER 6
				MEDICATION GIVEN 1
				MEDS REFUSED 2
				SEVERE MALARIA
				   REFERRAL 3
				ALREADY TAKING MEDS
				   REFERRAL 4
				OTHER 6

213	GO BACK TO 203 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE NEXT PAGE; IF NO MORE CHILDREN, GO TO Q214.			

	HOUSEHOLD SELECTED FOR MAN'S SURVEY?	YES 1	NO . . . . 2 ——▶ END

214	CHECK COLUMN 9 IN HOUSEHOLD SCHEDULE FOR NUMBER OF ELIGIBLE WOMEN AGE 15-49:
	ONE OR MORE . . . . 1 NONE . . . . 2 ——▶ SKIP TO 243
	RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE WOMEN AGE 15-49 FOR WEIGHT, HEIGHT, HEMOGLOBIN, AND HIV. IF THERE ARE MORE THAN THREE WOMEN USE ADDITIONAL QUESTIONNAIRE(S).

		WOMAN 1	WOMAN 2	WOMAN 3
215	LINE NUMBER FROM COLUMN 9 NAME FROM COLUMN 2	LINE NUMBER . . . . ☐☐ NAME _____	LINE NUMBER . . . . ☐☐ NAME _____	LINE NUMBER . . . . ☐☐ NAME _____
216	WEIGHT IN KILOGRAMS	KG. ☐☐☐.☐☐ NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996	KG. ☐☐☐.☐☐ NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996	KG. ☐☐☐.☐☐ NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996
217	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT . . . . .9994 REFUSED . . . . 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT . . . . .9994 REFUSED . . . . 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT . . . . .9994 REFUSED . . . . 9995 OTHER 9996
218	AGE: CHECK COLUMN 7.	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 223) ↵	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 223) ↵	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 223) ↵
219	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 223) ↵	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 223) ↵	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 223) ↵
220	RECORD LINE NUMBER OF PARENT/OTHER ADULT RESPON-SIBLE FOR ADOLESCENT. RECORD '00' IF NOT LISTED.	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT ☐☐	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT ☐☐	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT ☐☐
221	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 220 AS RESPONSIBLE FOR NEVER IN UNION WOMEN AGE 15-17.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. You can say yes to the test for (NAME OF ADOLESCENT), or you can say no. It is up to you to decide. Will you allow (NAME OF ADOLESCENT) to take the anemia test? Do you have any questions?		

		WOMAN 1	WOMAN 2	WOMAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____

222	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED 1
		PARENT/OTHER RESPONSIBLE
		  ADULT REFUSED 2
		
		_____
		(SIGN)
		
		(IF REFUSED, GO TO 228)
			GRANTED 1
			PARENT/OTHER RESPONSIBLE
			  ADULT REFUSED 2
			
			_____
			(SIGN)
			
			(IF REFUSED, GO TO 228)
				GRANTED 1
				PARENT/OTHER RESPONSIBLE
				  ADULT REFUSED 2
				
				_____
				(SIGN)
				
				(IF REFUSED, GO TO 228)

223	ASK CONSENT FOR ANEMIA TEST FROM RESPONDENT.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you take the anemia test?		
224	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 RESPONDENT REFUSED..... 2 _____ (SIGN) (IF REFUSED, GO TO 226)	GRANTED .... 1 RESPONDENT REFUSED..... 2 _____ (SIGN) (IF REFUSED, GO TO 226)	GRANTED .... 1 RESPONDENT REFUSED..... 2 _____ (SIGN) (IF REFUSED, GO TO 226)
225	PREGNANCY STATUS: CHECK 226 IN WOMAN'S QUESTIONNAIRE OR ASK: Are you pregnant?	YES .... 1 NO .... 2 DK 8	YES .... 1 NO .... 2 DK 8	YES .... 1 NO .... 2 DK 8
226	AGE: CHECK COLUMN 7.	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 230)	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 230)	15-17 YEARS .... 1 18-49 YEARS .... 2 (GO TO 230)
227	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) ... 1 OTHER .... 2 (GO TO 230)	CODE 4 (NEVER IN UNION) ... 1 OTHER .... 2 (GO TO 230)	CODE 4 (NEVER IN UNION) ... 1 OTHER .... 2 (GO TO 230)

		WOMAN 1	WOMAN 2	WOMAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____
228	ASK CONSENT FOR DBS COLLECTION FROM PARENT/OTHER ADULT IDENTIFIED IN 220 AS RESPONSIBLE FOR NEVER IN UNION WOMEN AGE 15-17.	As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Ghana. For the HIV test, we need a few (more) drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. No names will be attached so we will not be able to tell you the test results. No one else will be able to know (NAME OF ADOLESCENT)'s test results either. If (NAME OF ADOLESCENT) wants to know her HIV status, I can provide a list of [nearby] facilities offering counseling and testing for HIV. I will also give her a voucher for free services that can be used at any of these facilities. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF ADOLESCENT) to take the HIV test?		
229	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 _____ (SIGN) (IF REFUSED, GO TO 239)	GRANTED . . . . 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 _____ (SIGN) (IF REFUSED, GO TO 239)	GRANTED . . . . 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 _____ (SIGN) (IF REFUSED, GO TO 239)
230	ASK CONSENT FOR DBS COLLECTION FROM RESPONDENT.	As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Ghana. For the HIV test, we need a few (more) drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. No names will be attached so we will not be able to tell you the test results. No one else will be able to know your test results either. If you want to know whether you have HIV, I can provide you with a list of [nearby] facilities offering counseling and testing for HIV. I will also give you a voucher for free services for you (and for your partner if you want) that you can use at any of these facilities. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you take the HIV test?		
231	CIRCLE THE APPROPRIATE CODE, SIGN YOUR NAME, AND ENTER YOUR INTERVIEWER NUMBER.	GRANTED . . . . 1 RESPONDENT REFUSED. . . . . 2 _____ (SIGN) [ ][ ][ ] (IF REFUSED, GO TO 239)	GRANTED . . . . 1 RESPONDENT REFUSED. . . . . 2 _____ (SIGN) [ ][ ][ ] (IF REFUSED, GO TO 239)	GRANTED . . . . 1 RESPONDENT REFUSED. . . . . 2 _____ (SIGN) [ ][ ][ ] (IF REFUSED, GO TO 239)
232	AGE: CHECK COLUMN 7.	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 236) ↵	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 236) ↵	15-17 YEARS . . . . 1 18-49 YEARS . . . . 2 (GO TO 236) ↵
233	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) . . . 1 OTHER . . . . 2 (GO TO 236) ↵	CODE 4 (NEVER IN UNION) . . . 1 OTHER . . . . 2 (GO TO 236) ↵	CODE 4 (NEVER IN UNION) . . . 1 OTHER . . . . 2 (GO TO 236) ↵

WEIGHT, HEIGHT, HEMOGLOBIN MEASUREMENT AND HIV TESTING FOR WOMEN AGE 15-49

		WOMAN 1	WOMAN 2	WOMAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____
234	ASK CONSENT FOR ADDITIONAL TESTING FROM PARENT/OTHER ADULT IDENTIFIED IN 220 AS RESPONSIBLE FOR NEVER IN UNION WOMEN AGE 15-17.	We ask you to allow the Ministry of Health to store part of the blood sample at the laboratory for additional tests or research. We are not certain about what additional tests might be done. The blood sample will not have any name or other data attached that could identify (NAME OF ADOLESCENT). You do not have to agree. If you do not want the blood sample stored for additional testing (NAME OF ADOLESCENT) can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for additional testing?		
235	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED ...... 2 _____ (SIGN) (IF REFUSED, GO TO 239)	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED ...... 2 _____ (SIGN) (IF REFUSED, GO TO 239)	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED ...... 2 _____ (SIGN) (IF REFUSED, GO TO 239)
236	ASK CONSENT FOR ADDITIONAL TESTING FROM RESPONDENT.	We ask you to allow MINISTRY OF HEALTH to store part of the blood sample at the laboratory for additional tests or research. We are not certain about what additional tests might be done. The blood sample will not have any name or other data attached that could identify you. You do not have to agree. If you do not want the blood sample stored for additional testing, you can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for additional testing?		
237	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) (IF GRANTED, GO TO 239)	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) (IF GRANTED, GO TO 239)	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) (IF GRANTED, GO TO 239)
238	ADDITIONAL TESTS	CHECK 235 AND 237: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.	CHECK 235 AND 237: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.	CHECK 235 AND 237: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.
239	PREPARE EQUIPMENT AND SUPPLIES ONLY FOR THE TEST(S) FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST(S).			
240	RECORD HEMO-GLOBIN LEVEL HERE AND IN ANEMIA PAMPHLET.	G/DL .... ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	G/DL .... ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996	G/DL .... ☐☐.☐ NOT PRESENT .... 994 REFUSED .... 995 OTHER 996

		WOMAN 1	WOMAN 2	WOMAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____
241	BAR CODE LABEL	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT .... 99994 REFUSED .... 99995 OTHER .... 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT .... 99994 REFUSED .... 99995 OTHER .... 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT .... 99994 REFUSED .... 99995 OTHER .... 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.
242	GO BACK TO 215 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE; IF NO MORE WOMEN, GO TO 243.			

	HOUSEHOLD SELECTED FOR MAN'S SURVEY?	YES 1	NO . . . . 2 ⟶ END

243	CHECK COLUMN 10 IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE MEN AGE 15-59 FOR WEIGHT, HEIGHT, AND HIV.
	IF THERE ARE MORE THAN THREE MEN USE ADDITIONAL QUESTIONNAIRE(S).

		MAN 1	MAN 2	MAN 3
244	LINE NUMBER FROM COLUMN 10 NAME FROM COLUMN 2	LINE NUMBER . . . . [ ][ ] NAME _____	LINE NUMBER . . . . [ ][ ] NAME _____	LINE NUMBER . . . . [ ][ ] NAME _____
245	WEIGHT IN KILOGRAMS	KG. [ ][ ][ ] . [ ] NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996	KG. [ ][ ][ ] . [ ] NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996	KG. [ ][ ][ ] . [ ] NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER 99996
246	HEIGHT IN CENTIMETERS	CM. . . . . . . [ ][ ][ ] . [ ] NOT PRESENT . . . . 9994 REFUSED . . . . 9995 OTHER 9996	CM. . . . . . . [ ][ ][ ] . [ ] NOT PRESENT . . . . 9994 REFUSED . . . . 9995 OTHER 9996	CM. . . . . . [ ][ ][ ] . [ ] NOT PRESENT . . . . 9994 REFUSED . . . . 9995 OTHER 9996
247	AGE: CHECK COLUMN 7.	15-17 YEARS . . . . 1 18-59 YEARS . . . . 2 (GO TO 258) ↵	15-17 YEARS . . . . 1 18-59 YEARS . . . . 2 (GO TO 258) ↵	15-17 YEARS . . . . 1 18-59 YEARS . . . . 2 (GO TO 258) ↵
248	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 258) ↵	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 258) ↵	CODE 4 (NEVER IN UNION) . 1 OTHER . . . . 2 (GO TO 258) ↵
249	RECORD LINE NUMBER OF PARENT/OTHER ADULT RESPON-SIBLE FOR ADOLESCENT. RECORD '00' IF NOT LISTED.	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT [ ][ ]	LINE NUMBER OF PARENT OR OTHER RESPONSIBLE ADULT [ ][ ]
256	ASK CONSENT FOR DBS COLLECTION FROM PARENT/ OTHER ADULT IDENTIFIED IN 249 AS RESPONSIBLE FOR NEVER IN UNION MEN AGE 15-17.	As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Ghana. For the HIV test, we need a few (more) drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. No names will be attached so we will not be able to tell you the test results. No one else will be able to know (NAME OF ADOLESCENT)'s test results either. If (NAME OF ADOLESCENT) wants to know his HIV status, I can provide a list of [nearby] facilities offering counseling and testing for HIV. I will also give him a voucher for free services that can be used at any of these facilities. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF ADOLESCENT) to take the HIV test?		
257	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . 1 ⌐ PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 ⌐ _____ (SIGN) (IF REFUSED, GO TO 267)	GRANTED . . . . 1 ⌐ PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 ⌐ _____ (SIGN) (IF REFUSED, GO TO 267)	GRANTED . . . . 1 ⌐ PARENT/OTHER RESPONSIBLE ADULT REFUSED . . . . 2 ⌐ _____ (SIGN) (IF REFUSED, GO TO 267)

		MAN 1	MAN 2	MAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____
258	ASK CONSENT FOR DBS COLLECTION FROM RESPONDENT	As part of the survey we also are asking people all over the country to take an HIV test. HIV is the virus that causes AIDS. AIDS is a very serious illness. The HIV test is being done to see how big the AIDS problem is in Ghana. For the HIV test, we need a few (more) drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. No names will be attached so we will not be able to tell you the test results. No one else will be able to know your test results either. If you want to know whether you have HIV, I can provide you with a list of [nearby] facilities offering counseling and testing for HIV. I will also give you a voucher for free services for you (and for your partner if you want) that you can use at any of these facilities. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you take the HIV test?		
259	CIRCLE THE APPROPRIATE CODE, SIGN YOUR NAME, AND ENTER YOUR INTERVIEWER NUMBER.	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) ☐☐☐ (IF REFUSED, GO TO 267)	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) ☐☐☐ (IF REFUSED, GO TO 267)	GRANTED .... 1 RESPONDENT REFUSED ... 2 _____ (SIGN) ☐☐☐ (IF REFUSED, GO TO 267)
260	AGE: CHECK COLUMN 7.	15-17 YEARS .... 1 18-59 YEARS .... 2 (GO TO 264)	15-17 YEARS .... 1 18-59 YEARS .... 2 (GO TO 264)	15-17 YEARS .... 1 18-59 YEARS .... 2 (GO TO 264)
261	MARITAL STATUS: CHECK COLUMN 8.	CODE 4 (NEVER IN UNION) . 1 OTHER .... 2 (GO TO 264)	CODE 4 (NEVER IN UNION) . 1 OTHER .... 2 (GO TO 264)	CODE 4 (NEVER IN UNION) . 1 OTHER .... 2 (GO TO 264)
262	ASK CONSENT FOR ADDITIONAL TESTING FROM PARENT/OTHER ADULT IDENTIFIED IN 249 AS RESPONSIBLE FOR NEVER IN UNION MEN AGE 15-17.	We ask you to allow the Ministry of Health to store part of the blood sample at the laboratory for additional tests or research. We are not certain about what additional tests might be done. The blood sample will not have any name or other data attached that could identify (NAME OF ADOLESCENT). You do not have to agree. If you do not want the blood sample stored for additional testing (NAME OF ADOLESCENT) can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for additional testing?		
263	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED .... 2 _____ (SIGN) (IF REFUSED, GO TO 266)	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED .... 2 _____ (SIGN) (IF REFUSED, GO TO 266)	GRANTED .... 1 PARENT/OTHER RESPONSIBLE ADULT REFUSED .... 2 _____ (SIGN) (IF REFUSED, GO TO 266)
264	ASK CONSENT FOR ADDITIONAL TESTING FROM RESPONDENT.	We ask you to allow the Ministry of Health to store part of the blood sample at the laboratory for additional tests or research. We are not certain about what additional tests might be done. The blood sample will not have any name or other data attached that could identify you. You do not have to agree. If you do not want the blood sample stored for additional testing, you can still participate in the HIV testing in this survey. Will you allow us to keep the blood sample stored for additional testing?		

		MAN 1	MAN 2	MAN 3
	NAME FROM COLUMN 2	NAME _____	NAME _____	NAME _____
265	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . 1 RESPONDENT REFUSED . . . 2 _____ (SIGN) (IF GRANTED, GO TO 267)	GRANTED . . . . 1 RESPONDENT REFUSED . . . 2 _____ (SIGN) (IF GRANTED, GO TO 267)	GRANTED . . . . 1 RESPONDENT REFUSED . . . 2 _____ (SIGN) (IF GRANTED, GO TO 267)
266	ADDITIONAL TESTS	CHECK 263 AND 265: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.	CHECK 263 AND 265: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.	CHECK 263 AND 265: IF CONSENT HAS NOT BEEN GRANTED WRITE "NO ADDITIONAL TEST" ON THE FILTER PAPER.
267	PREPARE EQUIPMENT AND SUPPLIES ONLY FOR THE TEST(S) FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST(S).			
269	BAR CODE LABEL	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.	PUT THE 1ST BAR CODE LABEL HERE. NOT PRESENT . . . . 99994 REFUSED . . . . 99995 OTHER . . . . 99996 PUT THE 2ND BAR CODE LABEL ON THE RESPONDENT'S FILTER PAPER AND THE 3RD ON THE TRANSMITTAL FORM.
270	GO BACK TO 244 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE; IF NO MORE MEN, END INTERVIEW.			

2014 GHANA DEMOGRAPHIC AND HEALTH SURVEY
WOMAN'S QUESTIONNAIRE

MINISTRY OF HEALTH, GHANA GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME

NAME OF HOUSEHOLD HEAD

CLUSTER NUMBER . . . .

STRUCTURE NUMBER . . . .

HOUSEHOLD NUMBER . . . .

REGION . . . .

DISTRICT . . . .

URBAN/RURAL (URBAN = 1; RURAL = 2) . . . .

NAME AND LINE NUMBER OF WOMAN

INTERVIEWER VISITS

	1	2	3	FINAL VISIT	
DATE				DAY	
				MONTH	
				YEAR	2 0 1 4
INTERVIEWER'S NAME				INT. NUMBER	
RESULT*				RESULT	
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS	
TIME					

*RESULT CODES:
    1 COMPLETED   4 REFUSED
    2 NOT AT HOME   5 PARTLY COMPLETED   7 OTHER
    3 POSTPONED   6 INCAPACITATED   (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: **1**	LANGUAGE OF INTERVIEW:	LANGUAGE OF RESPONDENT:	TRANSLATOR USED: (YES = 1, NO = 2)

LANGUAGE OF QUESTIONNAIRE: **English**

LANGUAGE CODES: ENGLISH = 1, AKAN = 2, GA = 3, EWE = 4, NZEMA = 5, DAGBANI = 6, OTHER = 7 (SPECIFY)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME	NAME		
DATE	DATE		

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____. I am working with Ghana Statistical Service and the Ministry of Health. We are conducting a survey about health all over Ghana. The information we collect will help the government to plan health services. Your household was selected for the survey. The questions usually take about 30-60 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the person listed on the card that has already been given to your household.

Do you have any questions? May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____   DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1   RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . MINUTES	
101A	During the interview I would like to measure your blood pressure. This will be done three times during the interview. This is a harmless procedure. It is used to find out if a person has high blood pressure. If it is not treated, high blood pressure may eventually cause serious damage to the heart. The results of this blood pressure measurement will be given to you after the interview together with an explanation of the meaning of your blood pressure numbers. If your blood pressure is high, we will suggest that you consult a health facility or doctor since we cannot provide any further testing or treatment during the survey. Do you have any questions about the blood pressure measurement so far? If you have any questions about the procedure at any time, please ask me. You can say yes or no to having the blood pressure measurement now. You can also decide at anytime not to participate in the blood pressure measures. Would you allow me to proceed to take your blood pressure measurement at this time? Signature of interviewer: _____ Date: _____ RESPONDENT AGREES . . . . 1 RESPONDENT DOES NOT AGREE . . . . 2 → 102		
101B	Before taking your blood pressure, I would like to ask a few questions about things that may affect these measurements. Have you done any of the following within the past 30 minutes: a) Eaten anything? b) Had coffee, tea, cola or other drink that has caffeine? c) Smoked any tobacco product? d) Conducted any vigorous physical activity or exercises?	YES NO EATEN . . . . 1 2 HAD CAFFEINE . . . . 1 2 SMOKED . . . . 1 2 EXERCISES 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101C	May I begin the process of measuring your blood pressure? BEFORE TAKING THE FIRST BLOOD PRESSURE READING, MEASURE THE CIRCUMFERENCE OF THE RESPONDENT'S ARM MIDWAY BETWEEN THE ELBOW AND THE SHOULDER. RECORD THE MEASUREMENT IN CENTIMETERS.	ARM CIRCUMFERENCE (IN CENTIMETRES) . . . . ☐☐	
101D	USE THE ARM CIRCUMFERENCE MEASUREMENT TO SELECT THE APPROPRIATE BLOOD PRESSURE MONITOR MODEL AND CUFF SIZE. CIRCLE THE CODE FOR THE MODEL AND CUFF SIZE.	**MODEL 767** SMALL: 16 CM – 23 CM . . . . 1 MEDIUM: 24 CM – 35 CM . . . . 2 LARGE: 36 CM – 41 CM . . . . 3 **MODEL 789** EXTRA LARGE: 42 CM – 60 CM 4	
101E	TAKE THE FIRST BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.102 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC . . . . ☐☐☐ DIASTOLIC . . . . ☐☐☐ REFUSED . . . . 994 TECHNICAL PROBLEMS . . . . 995 OTHER 996	
102	In what month and year were you born?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
103	How old were you at your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS . ☐☐	
104	Have you ever attended school?	YES . . . . 1 NO 2	→ 108
105	What is the highest level of school you attended: primary, middle, JSS/JHS, secondary, SSS/SHS, or higher?	PRIMARY . . . . 1 MIDDLE . . . . 2 JSS/JHS . . . . 3 SECONDARY . . . . 4 SSS/SHS . . . . 5 HIGHER 6	
106	What is the highest (grade) you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE . . . . ☐☐	
106A	CHECK 103: AGE 24 OR YOUNGER ☐ AGE 25 OR OLDER ☐		→ 107
106B	At what age did you enroll in primary school?	AGE IN COMPLETED YEARS ☐☐	
106C	Are you currently attending school at any level?	YES . . . . 1 NO 2	→ 107

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
106D	Why did you stop attending school?	HAD TO WORK . . . . 01 MOVED . . . . 02 NO MONEY TO COVER COSTS . . . . . 03 HAD BAD GRADES . . . . 04 HEALTH REASONS . . . . 05 FAMILY REASONS/ GOT MARRIED . . . 06 COMPLETED DESIRED LEVEL . . . . . 07 NO DESIRE TO CONTINUE . . . . 08 OTHER _____ 96 SPECIFY	
107	CHECK 105: PRIMARY/MIDDLE/ ☐ SECONDARY/ ☐ JSS/JHS ↓ SSS/SHS OR HIGHER		→ 110

108	Now I would like you to read this sentence to me.
	
	SHOW CARD TO RESPONDENT.
	
	IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE:
	Can you read any part of the sentence to me?
		CANNOT READ AT ALL 1
		ABLE TO READ ONLY PARTS OF
		  SENTENCE 2
		ABLE TO READ WHOLE SENTENCE . 3
		NO CARD WITH REQUIRED
		  LANGUAGE _____ 4
		       (SPECIFY LANGUAGE)
		BLIND/VISUALLY IMPAIRED 5	

109	CHECK 108: CODE '2', '3' ☐ CODE '1' OR '5' ☐ OR '4' CIRCLED CIRCLED ↓		→ 111
110	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	
112	Do you watch television at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
113	What is your religion?	CATHOLIC . . . . 01 ANGLICAN . . . . 02 METHODIST . . . . 03 PRESBYTERIAN . . . . 04 PENTECOSTAL/CHARISMATIC . . . . . 05 OTHER CHRISTIAN . . . . 06 ISLAM . . . . 07 TRADITIONAL/SPIRITUALIST . . . . 08 NO RELIGION . . . . 09 OTHER _____ 96 (SPECIFY)	
114	To which ethnic group do you belong?	AKAN . . . . 01 GA/DANGME . . . . 02 EWE . . . . 03 GUAN . . . . 04 MOLE-DAGBANI . . . . 05 GRUSI . . . . 06 GURMA . . . . 07 MANDE . . . . 08 OTHER _____ 96 (SPECIFY)	
115	In the last 12 months, how many times have you been away from home for one or more nights?	NUMBER OF TIMES. . . . . [ ][ ] NONE 00	→ 201
116	In the last 12 months, have you been away from home for more than one month at a time?	YES . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES . . . . 1 NO 2	→ 206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . DAUGHTERS AT HOME	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES . . . . 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00' AND SKIP TO '206'.	SONS ELSEWHERE . . . . DAUGHTERS ELSEWHERE . . .	
205A	How many sons living elsewhere are younger than age 18? And how many daughters living elsewhere are younger than age 18? IF NONE, RECORD '00' AND SKIP TO '206'.	SONS <18 ELSEWHERE . . . . . DAUGHTERS <18 ELSEWHERE	
205B	These children under 18 who do not live with you: where do they live at the moment? How many girls and how many boys live with: a) Relatives? b) Family friends? c) Institution: care home? d) Institution: disability? e) Institution: boarding school? f) Institution: criminal justice? g) On the streets / runaway? h) Formally adopted? x) Other? (specify) z) Don't know	Girls Boys a) b) c) d) e) f) g) h) x) z)	
205C	SUM ANSWERS TO 205B a-z, AND ENTER TOTAL. IF NONE, RECORD '00'.	Girls Boys	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . ▯▯ GIRLS DEAD . . . . ▯▯	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL BIRTHS . . . . ▯▯	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES ▯ NO ▯ → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS ▯ NO BIRTHS ▯		→ 226

211	Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had. RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE ROWS. (IF THERE ARE MORE THAN 12 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW).

212 What name was given to your (first/next) baby? RECORD NAME. BIRTH HISTORY NUMBER	213 Is (NAME) a boy or a girl?	214 Were any of these births twins?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (NEXT BIRTH)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	
02	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
03	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
04	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
05	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
06	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
07	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH

212	213	214	215	216	217 IF ALIVE:	218 IF ALIVE:	219 IF ALIVE:	220 IF DEAD:	221
What name was given to your (first/next) baby? RECORD NAME. BIRTH HISTORY NUMBER	Is (NAME) a boy or a girl?	Were any of these births twins?	In what month and year was (NAME) born? PROBE: What is his/her birthday?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	Is (NAME) living with you?	RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
08	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
09	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
10	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
11	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH
12	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 ↓ 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ ↓ (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD ↵ BIRTH NO . . . . . 2 NEXT ↵ BIRTH

222	Have you had any live births since the birth of (NAME OF LAST BIRTH)? IF YES, RECORD BIRTH(S) IN TABLE.	YES . . . . 1 NO 2

223	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME ☐ ↓ NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)

224	CHECK 215: ENTER THE NUMBER OF BIRTHS IN 2009 OR LATER.	NUMBER OF BIRTHS . . . . ☐ NONE . . . . 0 → 226

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
225	**C** FOR EACH BIRTH SINCE JANUARY 2009, ENTER 'B' IN THE MONTH OF BIRTH IN THE CALENDAR. WRITE THE NAME OF THE CHILD TO THE LEFT OF THE 'B' CODE. FOR EACH BIRTH, ASK THE NUMBER OF MONTHS THE PREGNANCY LASTED AND RECORD 'P' IN EACH OF THE PRECEDING MONTHS ACCORDING TO THE DURATION OF PREGNANCY. (NOTE: THE NUMBER OF 'P's MUST BE ONE LESS THAN THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED.)		
226	Are you pregnant now?	YES . . . . 1 NO . . . . 2 UNSURE 8	→ 230
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. **C** ENTER 'P's IN THE CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR THE TOTAL NUMBER OF COMPLETED MONTHS.	MONTHS . . . . ☐☐	
228	When you got pregnant, did you want to get pregnant at that time?	YES . . . . 1 NO 2	→ 230
229	Did you want to have a baby later on or did you not want any (more) children?	LATER . . . . 1 NO MORE 2	
230	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	YES . . . . 1 NO 2	→ 238
231	When did the last such pregnancy end?	MONTH . . . . ☐☐ YEAR . . . . ☐☐☐☐	
232	CHECK 231: LAST PREGNANCY ENDED IN JAN. 2009 OR LATER ☐ LAST PREGNANCY ENDED BEFORE JAN. 2009 ☐		→ 238
233	How many months pregnant were you when the last such pregnancy ended? **C** RECORD NUMBER OF COMPLETED MONTHS. ENTER 'T' IN THE CALENDAR IN THE MONTH THAT THE PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.	MONTHS . . . . ☐☐	
234	Since January 2009, have you had any other pregnancies that did not result in a live birth?	YES . . . . 1 NO 2	→ 236
235	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER NON-LIVE BIRTH PREGNANCY BACK TO JANUARY 2009. **C** ENTER 'T' IN THE CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.		
236	Did you have any miscarriages, abortions or stillbirths that ended before 2009?	YES . . . . 1 NO 2	→ 238
237	When did the last such pregnancy that terminated before 2009 end?	MONTH . . . . ☐☐ YEAR . . . . ☐☐☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
238	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO . . . . 1 ☐☐ WEEKS AGO . . . . 2 ☐☐ MONTHS AGO . . . . 3 ☐☐ YEARS AGO . . . . 4 ☐☐ IN MENOPAUSE/ HAS HAD HYSTERECTOMY . . . 994 BEFORE LAST BIRTH . . . . 995 NEVER MENSTRUATED 996	
239	From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 301
240	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS . . . . 1 DURING HER PERIOD . . . . 2 RIGHT AFTER HER PERIOD HAS ENDED . . . . 3 HALFWAY BETWEEN TWO PERIODS . . . . 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD)?		
1	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
2	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
3	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse.	YES . . . . 1 NO 2	
4	Injectables. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES . . . . 1 NO 2	
5	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . 1 NO 2	
6	Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES . . . . 1 NO 2	
7	Condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . 1 NO 2	
8	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	YES . . . . 1 NO 2	
9	Lactational Amenorrhea Method (LAM).	YES . . . . 1 NO 2	
10	Rhythm/Calendar Method. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	YES . . . . 1 NO 2	
11	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES . . . . 1 NO 2	
12	Emergency Contraception. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . 1 NO 2	
13	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	
302	CHECK 226: NOT PREGNANT PREGNANT OR UNSURE		→ 311
303	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES . . . . 1 NO 2	→ 311

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
304	Which method are you using? CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . A MALE STERILIZATION . . . . B IUD . . . . C INJECTABLES . . . . D IMPLANTS . . . . E PILL . . . . F CONDOM . . . . G FEMALE CONDOM . . . . H DIAPHRAGM . . . . I FOAM/JELLY . . . . J LACTATIONAL AMEN. METHOD . . . . . K RHYTHM METHOD . . . . L WITHDRAWAL . . . . M OTHER MODERN METHOD . . . . X OTHER TRADITIONAL METHOD . . . . . Y	→ 307 → 308A → 306 → 308A
305	What is the brand name of the pills you are using? IF DON'T KNOW THE BRAND, ASK TO SEE THE PACKAGE.	SECURE . . . . 01 MICROGYNON . . . . 02 DUOFEM . . . . 03 N/M TABLETS . . . . 04 MICROLUT . . . . 05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	→ 308A
306	What is the brand name of the condoms you are using? IF DON'T KNOW THE BRAND, ASK TO SEE THE PACKAGE.	CHAMPION . . . . 01 GOLD CYCLE . . . . 02 PANTHER . . . . 03 BAZOOKA . . . . 04 BE SAFE NO LOGO . . . . 05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	→ 308A

307	In what facility did the sterilization take place?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		PUBLIC SECTOR
		  GOVT. HOSPITAL 11
		  GOVT. HEALTH CENTER/CLINIC . . . 12
		  FAMILY PLANNING CLINIC 13
		  MOBILE CLINIC 14
		  OTHER PUBLIC
		    SECTOR _____ 16
		              (SPECIFY)
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC 21
		  PRIVATE DOCTOR'S OFFICE 23
		  MOBILE CLINIC 24
		  OTHER PRIVATE MEDICAL
		    SECTOR _____ 26
		              (SPECIFY)
		
		OTHER _____ 96
		        (SPECIFY)
		DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
308	In what month and year was the sterilization performed?		
308A	Since what month and year have you been using (CURRENT METHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping?	MONTH . . . . YEAR	
309	CHECK 308/308A, 215 AND 231: ANY BIRTH OR PREGNANCY TERMINATION AFTER MONTH AND YEAR OF START OF USE OF CONTRACEPTION IN 308/308A GO BACK TO 308/308A, PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION).	YES ☐ NO ☐	
310	CHECK 308/308A: YEAR IS 2009 OR LATER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND IN EACH MONTH BACK TO THE DATE STARTED USING. YEAR IS 2008 OR EARLIER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND EACH MONTH BACK TO JANUARY 2009. THEN SKIP TO ⟶ 322		
311	I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years. USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 2009. USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS. **C** **IN COLUMN 1**, ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH. ILLUSTRATIVE QUESTIONS: a) When was the last time you used a method? Which method was that? b) When did you start using that method? How long after the birth of (NAME)? c) How long did you use the method then? **IN COLUMN 2**, ENTER CODES FOR DISCONTINUATION NEXT TO THE LAST MONTH OF USE. NUMBER OF CODES IN COLUMN 2 MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN 1. ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT. ILLUSTRATIVE QUESTIONS: d) Why did you stop using the (METHOD)? Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason? e) IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN 1.		
312	CHECK THE CALENDAR FOR USE OF ANY CONTRACEPTIVE METHOD IN ANY MONTH NO METHOD USED ☐ ANY METHOD USED ☐ ⟶ 314		
313	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES . . . . 1 NO 2	324

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
314	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	NO CODE CIRCLED . . . . 00 FEMALE STERILIZATION . . . . 01 MALE STERILIZATION . . . . 02 IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 FOAM/JELLY . . . . 10 LACTATIONAL AMEN. METHOD . . . . . 11 RHYTHM METHOD . . . . 12 WITHDRAWAL . . . . 13 OTHER MODERN METHOD . . . . 95 OTHER TRADITIONAL METHOD 96	→ 324 → 317A → 326 → 315A → 326

315	You first started using (CURRENT METHOD) in (DATE FROM 308/308A). Where did you get it at that time?	PUBLIC SECTOR
		 GOVT. HOSPITAL/POLYCLINIC . . . 11
		 GOVT. HEALTH CENTER/CLINIC . . . 12
		 GOVT. HEALTH POST/CHPS 13
		 FAMILY PLANNING CLINIC 14
		 MOBILE CLINIC 15
		 FIELDWORKER/OUTREACH/
		  PEER EDUCATOR 16
		 OTHER PUBLIC _____ 17
		  (SPECIFY)	

315A	Where did you learn how to use the rhythm/lactational amenorrhea method?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		PRIVATE MEDICAL SECTOR
		 PRIVATE HOSPITAL/CLINIC 21
		 PRIVATE DOCTOR 22
		 PHARMACY 23
		 CHEMICAL/DRUG STORE 24
		 FP/PPAG CLINIC 25
		 MATERNITY HOME 26
		 OTHER PRIVATE
		  MEDICAL _____ 27
		  (SPECIFY)
		
		OTHER SOURCE
		 SHOP/MARKET 31
		 CHURCH 32
		 COMMUNITY VOLUNTEER 33
		 FRIEND/RELATIVE 34
		OTHER _____ 96
		  (SPECIFY)	

316	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 FOAM/JELLY . . . . 10 LACTATIONAL AMEN. METHOD . . . . . 11 RHYTHM METHOD 12	 → 323 → 320 → 326 → 326

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
317	At that time, were you told about side effects or problems you might have with the method?	YES . . . . 1 NO 2	→ 319
317A	When you got sterilized, were you told about side effects or problems you might have with the method?		
318	Were you ever told by a health or family planning worker about side effects or problems you might have with the method?	YES . . . . 1 NO 2	→ 320
319	Were you told what to do if you experienced side effects or problems?	YES . . . . 1 NO 2	
320	CHECK 317: CODE '1' CODE '1' CIRCLED NOT CIRCLED a) At that time, were you told about other methods of family planning that you could use? b) When you obtained (CURRENT METHOD FROM 314) from (SOURCE OF METHOD FROM 307 OR 315), were you told about other methods of family planning that you could use?	YES . . . . 1 NO 2	→ 322
321	Were you ever told by a health or family planning worker about other methods of family planning that you could use?	YES . . . . 1 NO 2	
322	CHECK 304: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . 01 MALE STERILIZATION . . . . 02 IUD . . . . 03 INJECTABLES . . . . 04 IMPLANTS . . . . 05 PILL . . . . 06 CONDOM . . . . 07 FEMALE CONDOM . . . . 08 DIAPHRAGM . . . . 09 FOAM/JELLY . . . . 10 LACTATIONAL AMEN. METHOD . . . . . 11 RHYTHM METHOD . . . . 12 WITHDRAWAL . . . . 13 OTHER MODERN METHOD . . . . 95 OTHER TRADITIONAL METHOD 96	→ 326 → 326

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
323	Where did you obtain (CURRENT METHOD) the last time? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC . . . . . 11 GOVT. HEALTH CENTER/CLINIC . . . 12 GOVT. HEALTH POST/CHPS . . . . . 13 FAMILY PLANNING CLINIC . . . . 14 MOBILE CLINIC . . . . 15 FIELDWORKER/OUTREACH/ PEER EDUCATOR . . . . 16 OTHER PUBLIC _____ 17 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . 21 PRIVATE DOCTOR . . . . 22 PHARMACY . . . . 23 CHEMICAL/DRUG STORE . . . . 24 FP/PPAG CLINIC . . . . 25 MATERNITY HOME . . . . 26 OTHER PRIVATE MEDICAL _____ 27 (SPECIFY) OTHER SOURCE SHOP/MARKET . . . . 31 CHURCH . . . . 32 COMMUNITY VOLUNTEER . . . . 33 FRIEND/RELATIVE . . . . 34 OTHER _____ 96 (SPECIFY)	→ 326
324	Do you know of a place where you can obtain a method of family planning?	YES . . . . 1 NO 2	→ 326
325	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC . . . A GOVT. HEALTH CENTER . . . . B GOVT. HEALTH POST/CHPS . . . . . C FAMILY PLANNING CLINIC . . . . D MOBILE CLINIC . . . . E FIELDWORKER/OUTREACH/ PEER EDUCATOR . . . . F OTHER PUBLIC _____ G (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . H PRIVATE DOCTOR . . . . I PHARMACY . . . . J CHEMICAL/DRUG STORE . . . . K FP/PPAG CLINIC . . . . L MATERNITY HOME . . . . M OTHER PRIVATE MEDICAL _____ N (SPECIFY) OTHER SOURCE SHOP/MARKET . . . . O CHURCH . . . . P COMMUNITY VOLUNTEER . . . . Q FRIEND/RELATIVE . . . . R OTHER _____ X (SPECIFY)	
326	In the last 12 months, were you visited by a fieldworker who talked to you about family planning?	YES . . . . 1 NO 2	
327	In the last 12 months, have you visited a health facility for care for yourself (or your children)?	YES . . . . 1 NO 2	→ 401
328	Did any staff member at the health facility speak to you about family planning methods?	YES . . . . 1 NO 2	

401	CHECK 224:		
	ONE OR MORE BIRTHS IN 2009 OR LATER ☐	NO BIRTHS IN 2009 OR LATER ☐	→ 556

	CHECK 215: ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2009 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES).
402	Now I would like to ask some questions about your children born in the last five years. (We will talk about each separately.)

403	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	LAST BIRTH BIRTH HISTORY NUMBER ☐☐	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER ☐☐	SECOND-FROM-LAST BIRTH BIRTH HISTORY NUMBER ☐☐
404	FROM 212 AND 216	NAME _____ LIVING ☐ DEAD ☐ ↓ ↓	NAME _____ LIVING ☐ DEAD ☐ ↓ ↓	NAME _____ LIVING ☐ DEAD ☐ ↓ ↓
405	When you got pregnant with (NAME), did you want to get pregnant at that time?	YES . . . . 1 (SKIP TO 408)←┘ NO 2	YES . . . . 1 (SKIP TO 430)←┘ NO 2	YES . . . . 1 (SKIP TO 430)←┘ NO 2
406	Did you want to have a baby later on, or did you not want any (more) children?	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 408) ←┘	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 430) ←┘	LATER . . . . 1 NO MORE . . . . 2 (SKIP TO 430) ←┘
407	How much longer did you want to wait?	MONTHS . . 1 ☐☐ YEARS . . . 2 ☐☐ DON'T KNOW . . . 998	MONTHS . 1 ☐☐ YEARS . . . 2 ☐☐ DON'T KNOW . . . 998	MONTHS . 1 ☐☐ YEARS . . . 2 ☐☐ DON'T KNOW . . . 998
408	Did you see anyone for antenatal care for this pregnancy?	YES . . . . 1 NO . . . . 2 (SKIP TO 415) ←┘		
409	Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED.	HEALTH PERSONNEL DOCTOR . . . . A NURSE/MIDWIFE B COM. HEALTH OFFICER/ NURSE . . . C OTHER PERSON TRAD. BIRTH ATTENDANT/ TBA . . . . D VILLAGE HEALTH VOLUNTEER . E TRAD. HEALTH PRACTITIONER F OTHER_____ X (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

410	Where did you receive antenatal care for this pregnancy?
	
	Anywhere else?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		HOME
		   YOUR HOME . . . A
		   OTHER HOME . . . B
		
		PUBLIC SECTOR
		   GOVT. HOSPITAL . C
		   GOVT. HEALTH
		     CENTER/CLINIC .D
		   GOVT. HEALTH
		     POST/CHPS . . E
		   MOBILE CLINIC . . F
		   OTHER PUBLIC
		     SECTOR
		   _____ G
		     (SPECIFY)
		PRIVATE MED. SECTOR
		   PVT. HOSPITAL/
		     CLINIC . . . . H
		   FP/PPAG CLINIC . I
		   MOBILE CLINIC . . J
		   MATERNITY
		     HOME . . . . K
		   OTHER PRIVATE
		     MED. SECTOR . L
		   _____
		     (SPECIFY)
		OTHER _____ X
		     (SPECIFY)		

411	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . ☐☐ DON'T KNOW 98		
412	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES ☐☐ DON'T KNOW 98		
413	As part of your antenatal care during this pregnancy, were any of the following done at least once: a) Was your blood pressure measured? b) Did you give a urine sample? c) Did you give a blood sample?	YES NO BP . . . . 1 2 URINE . . . . . 1 2 BLOOD 1 2		
414	During (any of) your antenatal care visit(s), were you told about things to look out for that might suggest problems with the pregnancy?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8		
415	During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES . . . . 1 NO . . . . 2 (SKIP TO 418) ←┘ DON'T KNOW 8		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
416	During this pregnancy, how many times did you get a tetanus injection?	TIMES .... ▢ DON'T KNOW 8		
417	CHECK 416:	2 OR MORE OTHER TIMES ▢ ▢ (SKIP TO 421)		
418	At any time before this pregnancy, did you receive any tetanus injections?	YES .... 1 NO .... 2 (SKIP TO 421) ←┐ DON'T KNOW 8		
419	Before this pregnancy, how many times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	TIMES .... ▢ DON'T KNOW 8		
420	How many years ago did you receive the last tetanus injection before this pregnancy?	YEARS AGO .... ▢▢		
421	During this pregnancy, were you given or did you buy any iron tablets or iron syrup? SHOW TABLETS/SYRUP.	YES .... 1 NO .... 2 (SKIP TO 423) ←┐ DON'T KNOW 8		
422	During the whole pregnancy, for how many days did you take the tablets or syrup? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	DAYS... ▢▢▢ DON'T KNOW ... 998		
423	During this pregnancy, did you take any drug for intestinal worms?	YES .... 1 NO .... 2 DON'T KNOW 8		
424	During this pregnancy, did you take any drugs to keep you from getting malaria?	YES .... 1 NO .... 2 (SKIP TO 429A) ←┐ DON'T KNOW 8		
425	What drugs did you take? RECORD ALL MENTIONED. IF TYPE OF DRUG IS NOT DETERMINED, SHOW TYPICAL ANTIMALARIAL DRUGS TO RESPONDENT.	SP/FANSIDAR ..... A CHLOROQUINE ... B OTHER _____ X (SPECIFY) DON'T KNOW .... Z		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
426	CHECK 425: SP/FANSIDAR TAKEN FOR MALARIA PREVENTION.	CODE 'A' CODE ☐ CIRCLED A' NOT ☐ CIRCLED ↓ (SKIP TO 429A) ←		
427	How many times did you take (SP/Fansidar) during this pregnancy?	TIMES ..... ☐☐		
428	CHECK 409: ANTENATAL CARE FROM HEALTH PERSONNEL DURING THIS PREGNANCY	CODE 'A', OTHER ☐ 'B' OR 'C' CIRCLED ☐ ↓ (SKIP TO 429A) ←		
429	Did you get the (SP/Fansidar) during any antenatal care visit, during another visit to a health facility or from another source?	ANTENATAL VISIT . . . 1 ANOTHER FACILITY VISIT .... 2 OTHER SOURCE ... 6		
429A	CHECK 408: ANC RECEIVED	NO ☐ ANC ANC RECEIVED ☐ ↓ (SKIP TO 430) ←		
429B	Do you have an ANC card for the time you were pregnant with (NAME)?	YES, SEEN ..... 1 YES, NOT SEEN ... 2 (SKIP TO 430) ← NO CARD 3		
429C	CHECK ANC CARD AND RECORD NUMBER OF DOSES OF SP/FANSIDAR GIVEN.	DOSES .... ☐ NONE 0		
430	When (NAME) was born, was he/she very large, larger than average, average, smaller than average, or very small?	VERY LARGE ..... 1 LARGER THAN AVERAGE ..... 2 AVERAGE .... 3 SMALLER THAN AVERAGE ..... 4 VERY SMALL ..... 5 DON'T KNOW 8	VERY LARGE ..... 1 LARGER THAN AVERAGE ..... 2 AVERAGE .... 3 SMALLER THAN AVERAGE ..... 4 VERY SMALL ..... 5 DON'T KNOW 8	VERY LARGE ..... 1 LARGER THAN AVERAGE ..... 2 AVERAGE .... 3 SMALLER THAN AVERAGE ..... 4 VERY SMALL ..... 5 DON'T KNOW 8
431	Was (NAME) weighed at birth?	YES .... 1 NO .... 2 (SKIP TO 433) ← DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 433) ← DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 433) ← DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
432	How much did (NAME) weigh? RECORD WEIGHT IN KILOGRAMS FROM HEALTH CARD, IF AVAILABLE.	KG FROM CARD 1 ☐ . ☐☐☐ KG FROM RECALL 2 ☐ . ☐☐☐ DON'T KNOW . 99998	KG FROM CARD 1 ☐ . ☐☐☐ KG FROM RECALL 2 ☐ . ☐☐☐ DON'T KNOW . 99998	KG FROM CARD 1 ☐ . ☐☐☐ KG FROM RECALL 2 ☐ . ☐☐☐ DON'T KNOW . 99998

433	Who assisted with the delivery of (NAME)?
	
	Anyone else?
	
	PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED.
	
	IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO
	
	DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.
		HEALTH PERSONNEL
		  DOCTOR . . . . . A
		  NURSE/MIDWIFE . . B
		  COM. HEALTH
		    OFFICER/
		    NURSE C
		
		OTHER PERSON
		  TRAD. BIRTH
		    ATTENDANT/
		    TBA . . . . D
		  VILLAGE HEALTH
		    VOLUNTEER . E
		  TRAD. HEALTH
		    PRACTITIONER F
		
		  OTHER_____ X
		    (SPECIFY)
		NO ONE ASSISTED . Y
			HEALTH PERSONNEL
			  DOCTOR . . . . . A
			  NURSE/MIDWIFE . . B
			  COM. HEALTH
			    OFFICER/
			    NURSE C
			
			OTHER PERSON
			  TRAD. BIRTH
			    ATTENDANT/
			    TBA . . . . D
			  VILLAGE HEALTH
			    VOLUNTEER . E
			  TRAD. HEALTH
			    PRACTITIONER F
			
			  OTHER_____ X
			    (SPECIFY)
			NO ONE ASSISTED . Y
				HEALTH PERSONNEL
				  DOCTOR . . . . . A
				  NURSE/MIDWIFE . . B
				  COM. HEALTH
				    OFFICER/
				    NURSE C
				
				OTHER PERSON
				  TRAD. BIRTH
				    ATTENDANT/
				    TBA . . . . D
				  VILLAGE HEALTH
				    VOLUNTEER . E
				  TRAD. HEALTH
				    PRACTITIONER F
				
				  OTHER_____ X
				    (SPECIFY)
				NO ONE ASSISTED . Y

434	Where did you give birth to (NAME)?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		HOME
		  YOUR HOME . . . 11
		  (SKIP TO 438) ◄─┐
		  OTHER HOME . . . 12
		
		PUBLIC SECTOR
		  GOVT. HOSPITAL . 21
		  GOVT. HEALTH
		    CENTER/CLINIC 22
		  GOVT. HEALTH
		    POST/
		    CHPS 23
		  MOBILE CLINIC . . 24
		  OTHER PUBLIC
		    SECTOR
		    _____ 26
		    (SPECIFY)
		
		PRIVATE MED. SECTOR
		  PVT. HOSPITAL/
		    CLINIC 31
		  FP/PPAG CLINIC . 32
		  MOBILE CLINIC . . 33
		  MATERNITY
		    HOME 34
		  OTHER PRIVATE
		    MED. SECTOR
		    _____ 36
		    (SPECIFY)
		
		OTHER_____ 96
		    (SPECIFY)
		(SKIP TO 438) ◄────┘
			HOME
			  YOUR HOME . . . 11
			  (SKIP TO 448) ◄─┐
			  OTHER HOME . . . 12
			
			PUBLIC SECTOR
			  GOVT. HOSPITAL . . 21
			  GOVT. HEALTH
			    CENTER/CLINIC 22
			  GOVT. HEALTH
			    POST/
			    CHPS 23
			  MOBILE CLINIC . . 24
			  OTHER PUBLIC
			    SECTOR
			    _____ 26
			    (SPECIFY)
			
			PRIVATE MED. SECTOR
			  PVT. HOSPITAL/
			    CLINIC 31
			  FP/PPAG CLINIC . 32
			  MOBILE CLINIC . . 33
			  MATERNITY
			    HOME 34
			  OTHER PRIVATE
			    MED. SECTOR
			    _____ 36
			    (SPECIFY)
			
			OTHER_____ 96
			    (SPECIFY)
			(SKIP TO 448) ◄────┘
				HOME
				  YOUR HOME . . . 11
				  (SKIP TO 448) ◄─┐
				  OTHER HOME . . . 12
				
				PUBLIC SECTOR
				  GOVT. HOSPITAL . 21
				  GOVT. HEALTH
				    CENTER/CLINIC 22
				  GOVT. HEALTH
				    POST/
				    CHPS 23
				  MOBILE CLINIC . . 24
				  OTHER PUBLIC
				    SECTOR
				    _____ 26
				    (SPECIFY)
				
				PRIVATE MED. SECTOR
				  PVT. HOSPITAL/
				    CLINIC 31
				  FP/PPAG CLINIC . 32
				  MOBILE CLINIC . . 33
				  MATERNITY
				    HOME 34
				  OTHER PRIVATE
				    MED. SECTOR
				    _____ 36
				    (SPECIFY)
				
				OTHER_____ 96
				    (SPECIFY)
				(SKIP TO 448) ◄────┘

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
434A	How long after (NAME) was delivered did you stay there? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS . . 1 ☐☐ DAYS . . . 2 ☐☐ WEEKS . . 3 ☐☐ DON'T KNOW . . . 998		
435	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby out?	YES . . . . 1 NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
436	I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health while you were still in the facility?	YES . . . . 1 (SKIP TO 439)◄——— NO 2		
437	Did anyone check on your health after you left the facility?	YES . . . . 1 (SKIP TO 439)◄——— NO . . . . 2 (SKIP TO 441)◄———		
438	I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health after you gave birth to (NAME)?	YES . . . . 1 NO . . . . 2 (SKIP TO 441)◄———		

439	Who checked on your health at that time?
	
	PROBE FOR MOST QUALIFIED PERSON.
		HEALTH PERSONNEL
		   DOCTOR 11
		   NURSE/MIDWIFE 12
		   COM. HEALTH
		     OFFICER/
		     NURSE 13
		
		OTHER PERSON
		   TRAD. BIRTH
		     ATTENDANT/
		     TBA 21
		   VILLAGE HEALTH
		     VOLUNTEER . 22
		   TRADITIONAL
		     HEALTH
		     PRACTITIONER 23
		   OTHER _____ 96
		     (SPECIFY)		

440	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW . . . 998		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
441	How long after birth was (NAME) bathed for the first time?	LESS THAN 1 HOUR . . 1 1-5 HOURS . . . . 2 6-12 HOURS . . . . 3 MORE THAN 12 HOURS . . . . . . 4 NEVER BATHED . . . 5 DON'T KNOW 8		
441A	How long after birth was (NAME) wrapped?	LESS 30 MINUTES . . 1 30 MINUTES TO 1 HOUR . . . . . . 2 MORE THAN 1 HOUR . 3 NEVER WRAPPED . . 4 DON'T KNOW 8		
442	In the two months after (NAME) was born, did any health care provider or a traditional birth attendant check on his/her health?	YES . . . . 1 NO . . . . 2 (SKIP TO 446) ◄——┤ DON'T KNOW 8		
443	How many hours, days or weeks after the birth of (NAME) did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HRS AFTER BIRTH . . 1 ☐☐ DAYS AFTER BIRTH . . 2 ☐☐ WKS AFTER BIRTH . . 3 ☐☐ DON'T KNOW . . . 998		

444	Who checked on (NAME)'s health at that time?
	
	PROBE FOR MOST QUALIFIED PERSON.
		HEALTH PERSONNEL
		   DOCTOR 11
		   NURSE/MIDWIFE . . 12
		   COM. HEALTH
		     OFFICER/
		     NURSE 13
		
		OTHER PERSON
		   TRAD. BIRTH
		     ATTENDANT/
		     TBA 21
		   VILLAGE HEALTH
		     VOLUNTEER . 22
		   TRADITIONAL
		     HEALTH
		     PRACTITIONER . 23
		
		OTHER _____ 96
		     (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

445	Where did this first check of (NAME) take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME
		   YOUR HOME ... 11
		   OTHER HOME ... 12
		
		PUBLIC SECTOR
		   GOVT. HOSPITAL . 21
		   GOVT. HEALTH
		     CENTER/CLINIC 22
		   GOVT. HEALTH
		    POST/
		      CHPS 23
		   MOBILE CLINIC ... 24
		   OTHER PUBLIC
		    SECTOR
		           26
		    (SPECIFY)
		
		PRIVATE MED. SECTOR
		   PVT. HOSPITAL/
		    CLINIC 31
		   FP/PPAG CLINIC . 32
		   MOBILE CLINIC ... 33
		   MATERNITY
		    HOME 34
		   OTHER PRIVATE
		    MED. SECTOR
		           36
		    (SPECIFY)
		
		OTHER _____ 96
		    (SPECIFY)		

446	In the first two months after delivery, did you receive a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS.	YES .... 1 NO .... 2 DON'T KNOW 8		

447	Has your menstrual period returned since the birth of (NAME)?	YES 1
		  (SKIP TO 449) ←——
		NO 2
		  (SKIP TO 450) ←——		

448	Did your period return between the birth of (NAME) and your next pregnancy?		YES 1
			NO 2
			  (SKIP TO 452) ←——
				YES 1
				NO 2
				  (SKIP TO 452) ←——

449	For how many months after the birth of (NAME) did you not have a period?	MONTHS ... [ ][ ] DON'T KNOW 98	MONTHS ... [ ][ ] DON'T KNOW 98	MONTHS ... [ ][ ] DON'T KNOW 98

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
450	CHECK 226: IS RESPONDENT PREGNANT?	NOT ⬜ PREGNANT PREG- ⬜ OR NANT UNSURE ⬜ ⬇ (SKIP TO 452) ◄		
451	Have you had sexual intercourse since the birth of (NAME)?	YES . . . . 1 NO . . . . 2 (SKIP TO 453) ◄———		
452	For how many months after the birth of (NAME) did you not have sexual intercourse?	MONTHS . . . ⬜⬜ DON'T KNOW 98	MONTHS . . . ⬜⬜ DON'T KNOW 98	MONTHS . . . ⬜⬜ DON'T KNOW 98
453	Did you ever breastfeed (NAME)?	YES . . . . 1 (SKIP TO 455) ◄——— NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
454	CHECK 404: IS CHILD LIVING?	LIVING ⬜ DEAD ⬜ ⬇ ⬇ (SKIP TO 460) GO TO 470		
455	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . 000 HOURS . . 1 ⬜⬜ DAYS . . . . 2 ⬜⬜		
456	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES . . . . 1 NO . . . . 2 (SKIP TO 458) ◄———		
457	What was (NAME) given to drink? Anything else? RECORD ALL LIQUIDS MENTIONED.	MILK (OTHER THAN BREAST MILK) . . . . A PLAIN WATER . . . . . B SUGAR OR GLU-COSE WATER . . . C GRIPE WATER . . . D SUGAR-SALT-WATER SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA . . . . G TEA/INFUSIONS . . . H COFFEE . . . . I HONEY . . . . J OTHER _____ X (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
458	CHECK 404: IS CHILD LIVING?	LIVING ☐ DEAD ☐ GO TO 470 ↓	LIVING ☐ DEAD ☐ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501) ↓ GO TO 460	LIVING ☐ DEAD ☐ (GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO ↓ TO 501) GO TO 460
459	Are you still breastfeeding (NAME)?	YES . . . . 1 NO 2		
460	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . 1 NO . . . . 2 DON'T KNOW . . . . . 8 (GO TO 470) ◄	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
461			GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501.

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
470	Now I would like to ask some questions about taking time off work around the time (NAME) was born. Aside from your own house chores, were you doing any work paid in cash or kind around the time (NAME) was born (for instance selling things, have a small business or work on the family farm or in the family business)?	YES . . . . 1 NO . . . . 2 (SKIP TO 479) ◄——| DON'T REMEMBER 8		
471	What was your occupation, that is, what kind of work were you mainly doing around the time (NAME) was born?	☐☐☐☐ _____ _____		

472	Did you do this work for a member of your family, for someone else,or were you self-employed?	FOR FAMILY
		   MEMBER 1
		FOR SOMEONE
		   ELSE 2
		SELF-EMPLOYED . 3		

473	Were you paid in cash or kind for this work or were you not paid at all?	CASH ONLY . . . . 1 CASH AND KIND . . 2 IN KIND ONLY . . . 3 NOT PAID 4		

474	Did you take paid or unpaid maternity leave around the time of (NAME)'s birth?	YES, PAID LEAVE . . 1
		
		YES, UNPAID LEAVE . 2
		   (SKIP TO 476)◄——|
		NO 3
		   (SKIP TO 479) ◄—|
		DON'T REMEMBER . 8		

475	Who paid for maternity leave?	EMPLOYER 1
		MUTUAL HEALTH
		   ORGANIZATION/
		   COMMUNITY-BASED
		   HEALTH INSUR . . 2
		OTHER PRIVATELY
		   PURCHASED
		   HEALTH INSUR. . 3
		
		OTHER _____ 6
		    (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
476	When did you stop working before (NAME)'s birth? IF ON THE DAY (NAME) WAS BORN, RECORD '00' DAYS. IF LESS THAN 7 DAYS BEFORE BIRTH, RECORD DAYS. IF LESS THAN 4 WEEKS RECORD WEEKS IF MORE THAN 4 WEEKS RECORD MONTHS	DAYS BEFORE 1 ☐☐ WEEKS BEFORE 2 ☐☐ MONTHS BEFORE 3 ☐☐ NEVER STOPPED 994		
477	When did you start working after (NAME)'s birth? IF ON THE DAY (NAME) WAS BORN, RECORD '00' DAYS. IF LESS THAN 7 DAYS AFTER BIRTH, RECORD DAYS. IF LESS THAN 4 WEEKS RECORD WEEKS IF MORE THAN 4 WEEKS RECORD MONTHS	DAYS AFTER . 1 ☐☐ WEEKS AFTER . 2 ☐☐ MONTHS AFTER . 3 ☐☐ **(SKIP TO 479)◄──────** STILL ON LEAVE . . 994 STOPPED WORKING 995		
478	Why did you stop working after (NAME)'s birth?	LOST JOB . . . . 1 WAITING ANSWER FOR NEW JOB . . 2 CAN'T FIND JOB/LACK OF BUSINESS . . . 3 NO SUITABLE JOB RELEVANT TO MY SKILLS . . . . 4 NO ONE TO CARE OF MY CHILDREN/TOO EXPENSIVE . . . . 5 OTHER _____ 6 (SPECIFY)		
479		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.		

SECTION 5. CHILD IMMUNIZATION, HEALTH AND NUTRITION

501	ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2009 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES).			

502	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	LAST BIRTH BIRTH HISTORY NUMBER . . . . ☐☐	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER . . . . ☐☐	SECOND-FROM-LAST BIRTH BIRTH HISTORY NUMBER . . . . . . ☐☐
503	FROM 212 AND 216	NAME_____ LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 553)	NAME_____ LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 553)	NAME_____ LIVING ☐ DEAD ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE, OR IF NO MORE BIRTHS, GO TO 553)
504	Do you have a card where (NAME)'s vaccinations are written down? IF YES: May I see it please?	YES, SEEN . . . . 1 (SKIP TO 506) ←┘ YES, NOT SEEN . . . . 2 (SKIP TO 509) ←┘ NO CARD 3	YES, SEEN . . . . 1 (SKIP TO 506) ←┘ YES, NOT SEEN . . . . 2 (SKIP TO 509) ←┘ NO CARD 3	YES, SEEN . . . . 1 (SKIP TO 506) ←┘ YES, NOT SEEN . . . . . . 2 (SKIP TO 509) ←┘ NO CARD 3
505	Did you ever have a vaccination card for (NAME)?	YES . . . . 1 (SKIP TO 509) ←┘ NO 2	YES . . . . 1 (SKIP TO 509) ←┘ NO 2	YES . . . . 1 (SKIP TO 509) ←┘ NO 2

506	(1) COPY DATES FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.			

	LAST BIRTH			NEXT-TO-LAST BIRTH			SECOND-FROM-LAST BIRTH		
	DAY	MONTH	YEAR	DAY	MONTH	YEAR	DAY	MONTH	YEAR
BCG				BCG			BCG		
POLIO 0 (POLIO GIVEN AT BIRTH)				P0			P0		
POLIO 1				P1			P1		
POLIO 2				P2			P2		
POLIO 3				P3			P3		
DPT/Hep B/Hib 1				D1			D1		
DPT/Hep B/Hib- 2				D2			D2		
DPT/Hep B/Hib-3				D3			D3		
PNEUMOCOCCAL-1				Pn1			Pn1		
PNEUMOCOCCAL-2				Pn2			Pn2		
PNEUMOCOCCAL -3				Pn3			Pn3		
ROTAVIRUS 1				R1			R1		
ROTAVIRUS 2				R2			R2		
MEASLES-1				MEA1			MEA1		
MEASLES-2				MEA2			MEA2		
YELLOW FEVER				YF			YF		
VITAMIN A (MOST RECENT)				VIT A			VIT A		

507	CHECK 506:	BCG TO YELLOW FEVER ALL RECORDED ☐ ↓ (GO TO 511) OTHER ↓	BCG TO YELLOW FEVER ALL RECORDED ☐ ↓ (GO TO 511) OTHER ↓	BCG TO YELLOW FEVER ALL RECORDED ☐ ↓ (GO TO 511) OTHER

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
508	Has (NAME) had any vaccinations that are not recorded on this card, including vaccinations given in a national immunization day campaign? RECORD 'YES' ONLY IF THE RESPONDENT MENTIONS AT LEAST ONE OF THE VACCINATIONS IN 506 THAT ARE NOT RECORDED AS HAVING BEEN GIVEN.	YES . . . . 1 (PROBE FOR ← VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) ← NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8	YES . . . . 1 (PROBE FOR ← VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) ← NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8	YES . . . . 1 (PROBE FOR ← VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506) (SKIP TO 511) ← NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8
509	Did (NAME) ever have any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) ← DON'T KNOW 8
510	Please tell me if (NAME) had any of the following vaccinations:			
510A	A BCG vaccination against tuberculosis, that is, an injection in the right upper arm or shoulder that usually causes a scar?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
510B	Polio vaccine, that is, two drops in the mouth?	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) ← DON'T KNOW 8
510C	Was the first polio vaccine given in the first two weeks after birth or later?	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2
510D	How many times was the polio vaccine given?	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]
510E	A PENTA vaccination, that is, an injection given in the LEFT thigh, sometimes at the same time as polio drops?	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) ← DON'T KNOW 8
510F	How many times was the PENTA vaccination given?	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]
510G	A measles injection - that is, a shot in the left upper arm at the age of 9 months and 18 months - to prevent him/her from getting measles?	YES . . . . 1 NO . . . . 2 (SKIP TO 510I) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510I) ← DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510I) ← DON'T KNOW 8
510H	How many times was the measles vaccination given?	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]	NUMBER OF TIMES . . . . . [ ]

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
510I	A PNEUMOCOCCAL vaccination, that is a new vaccine against childhood pneumonia, ear infection and meningitis, an injection given in the RIGHT thigh?	YES . . . . 1 NO . . . . 2 (SKIP TO 510K) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510K) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510K) ◄———┤ DON'T KNOW 8
510J	How many times was the PNEUMOCOCCAL vaccination given?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
510K	ROTAVIRUS vaccination, a new vaccine against childhood diarrhoea, that is, a liquid suspension administed from the vial in the mouth to swallow?	YES . . . . 1 NO . . . . 2 (SKIP TO 510M) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510M) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510M) ◄———┤ DON'T KNOW 8
510L	How many times was the ROTAVIRUS vaccination given?	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐	NUMBER OF TIMES . . . . . ☐
510M	An injection to prevent yellow fever- a shot in the arm at the age of 9 months or older (sometimes given at the same time as measles)?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
511	Within the last six months, was (NAME) given a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS.	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
512	In the last seven days, was (NAME) given iron pills, sprinkles with iron, or iron syrup like (this/any of these)? SHOW COMMON TYPES OF PILLS/SPRINKLES/SYRUPS.	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
513	Was (NAME) given any drug for intestinal worms in the last six months?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
514	Has (NAME) had diarrhea in the last 2 weeks?	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ◄———┤ DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 525) ◄———┤ DON'T KNOW 8
515	Was there any blood in the stools?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
516	Now I would like to know how much (NAME) was given to drink during the diarrhea (including breastmilk). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
517	When (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . . . 5 NEVER GAVE FOOD . 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . . . 5 NEVER GAVE FOOD . 6 DON'T KNOW 8	MUCH LESS . . . . . 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE . . . . 4 STOPPED FOOD . . . 5 NEVER GAVE FOOD . 6 DON'T KNOW 8
518	Did you seek advice or treatment for the diarrhea from any source?	YES . . . . 1 NO . . . . 2 (SKIP TO 522)	YES . . . . 1 NO . . . . 2 (SKIP TO 522)	YES . . . . 1 NO . . . . 2 (SKIP TO 522)

519	Where did you seek advice or treatment?
	
	Anywhere else?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT HOSPITAL . A
		  GOVT HEALTH
		    CENTER/CLINIC B
		  GOVT HEALTH
		    POST/CHPS . . . C
		  MOBILE CLINIC . D
		  FIELDWORKER . E
		  OTHER PUBLIC
		    SECTOR
		  _____ F
		  (SPECIFY)
		
		PRIVATE MEDICAL
		SECTOR
		  PVT. HOSPITAL/
		    CLINIC . . . . G
		  PVT DOCTOR . . . H
		  PHARMACY I
		  CHEMICAL/DRUG
		    STORE . . . . J
		  MOBILE CLINIC . K
		  FIELDWORKER . L
		  FPG/PPAG CLINIC . M
		  MATERNITY HOME N
		  OTHER PRIVATE
		    MED. SECTOR
		  _____ O
		  (SPECIFY)
		
		OTHER SOURCE
		  SHOP/MARKET . . . P
		  TRADITIONAL
		    PRACTITIONER . Q
		  DRUG PEDDLER . . R
		
		OTHER _____ X
		  (SPECIFY)
			PUBLIC SECTOR
			  GOVT HOSPITAL . A
			  GOVT HEALTH
			    CENTER/CLINIC B
			  GOVT HEALTH
			    POST/CHPS . . . C
			  MOBILE CLINIC . D
			  FIELDWORKER . E
			  OTHER PUBLIC
			    SECTOR
			  _____ F
			  (SPECIFY)
			
			PRIVATE MEDICAL
			SECTOR
			  PVT. HOSPITAL/
			    CLINIC . . . . G
			  PVT DOCTOR . . . H
			  PHARMACY I
			  CHEMICAL/DRUG
			    STORE . . . . J
			  MOBILE CLINIC . K
			  FIELDWORKER . L
			  FPG/PPAG CLINIC . M
			  MATERNITY HOME N
			  OTHER PRIVATE
			    MED. SECTOR
			  _____ O
			  (SPECIFY)
			
			OTHER SOURCE
			  SHOP/MARKET . . . P
			  TRADITIONAL
			    PRACTITIONER . Q
			  DRUG PEDDLER . . R
			
			OTHER _____ X
			  (SPECIFY)
				PUBLIC SECTOR
				  GOVT HOSPITAL . A
				  GOVT HEALTH
				    CENTER/CLINIC B
				  GOVT HEALTH
				    POST/CHPS . . . C
				  MOBILE CLINIC . D
				  FIELDWORKER . E
				  OTHER PUBLIC
				    SECTOR
				  _____ F
				  (SPECIFY)
				
				PRIVATE MEDICAL
				SECTOR
				  PVT. HOSPITAL/
				    CLINIC . . . . G
				  PVT DOCTOR . . . H
				  PHARMACY I
				  CHEMICAL/DRUG
				    STORE . . . . J
				  MOBILE CLINIC . K
				  FIELDWORKER . L
				  FPG/PPAG CLINIC . M
				  MATERNITY HOME N
				  OTHER PRIVATE
				    MED. SECTOR
				  _____ O
				  (SPECIFY)
				
				OTHER SOURCE
				  SHOP/MARKET . . . P
				  TRADITIONAL
				    PRACTITIONER . Q
				  DRUG PEDDLER . . R
				
				OTHER _____ X
				  (SPECIFY)

520	CHECK 519:	TWO OR ONLY ☐ MORE ONE ☐ CODES CODE CIRCLED CIRCLED ↓ (SKIP TO 522) ←	TWO OR ONLY ☐ MORE ONE ☐ CODES CODE CIRCLED CIRCLED ↓ (SKIP TO 522) ←	TWO OR ONLY ☐ MORE ONE ☐ CODES CODE CIRCLED CIRCLED ↓ (SKIP TO 522) ←
521	Where did you first seek advice or treatment? USE LETTER CODE FROM 519.	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
522	Was he/she given any of the following to drink at any time since he/she started having the diarrhea: a) A fluid made from a special ORS packet? c) A homemade fluid?	YES NO DK FLUID FROM ORS PKT 1 2 8 HOMEMADE FLUID . . . 1 2 8	YES NO DK FLUID FROM ORS PKT 1 2 8 HOMEMADE FLUID . . . 1 2 8	YES NO DK FLUID FROM ORS PKT 1 2 8 HOMEMADE FLUID . . . 1 2 8

523	Was anything (else) given to treat the diarrhea?	YES 1
		NO 2
		    (SKIP TO 525) ←┐
		DON'T KNOW 8
			YES 1
			NO 2
			    (SKIP TO 525) ←┐
			DON'T KNOW 8
				YES 1
				NO 2
				    (SKIP TO 525) ←┐
				DON'T KNOW 8

524	What (else) was given to treat the diarrhea?
	
	Anything else?
	
	RECORD ALL TREATMENTS GIVEN.
		PILL OR SYRUP
		  ANTIBIOTIC . . . . . A
		  ANTIMOTILITY . . . B
		  ZINC C
		  OTHER (NOT ANTI-
		  BIOTIC, ANTI-
		  MOTILITY, OR
		  ZINC) . . . . D
		  UNKNOWN PILL
		    OR SYRUP . . . E
		
		INJECTION
		  ANTIBIOTIC . . . . . F
		  NON-ANTIBIOTIC G
		  UNKNOWN
		    INJECTION . . . H
		
		(IV) INTRAVENOUS . I
		
		HOME REMEDY/
		  HERBAL MED-
		  ICINE . . . . J
		
		OTHER _____ X
		        (SPECIFY)
			PILL OR SYRUP
			  ANTIBIOTIC . . . . . A
			  ANTIMOTILITY . . . B
			  ZINC C
			  OTHER (NOT ANTI-
			  BIOTIC, ANTI-
			  MOTILITY, OR
			  ZINC) . . . . D
			  UNKNOWN PILL
			    OR SYRUP . . . E
			
			INJECTION
			  ANTIBIOTIC . . . . . F
			  NON-ANTIBIOTIC G
			  UNKNOWN
			    INJECTION . . . H
			
			(IV) INTRAVENOUS . I
			
			HOME REMEDY/
			  HERBAL MED-
			  ICINE . . . . J
			
			OTHER _____ X
			        (SPECIFY)
				PILL OR SYRUP
				  ANTIBIOTIC . . . . . A
				  ANTIMOTILITY . . . B
				  ZINC C
				  OTHER (NOT ANTI-
				  BIOTIC, ANTI-
				  MOTILITY, OR
				  ZINC) . . . . D
				  UNKNOWN PILL
				    OR SYRUP . . . E
				
				INJECTION
				  ANTIBIOTIC . . . . . F
				  NON-ANTIBIOTIC G
				  UNKNOWN
				    INJECTION . . . H
				
				(IV) INTRAVENOUS . I
				
				HOME REMEDY/
				  HERBAL MED-
				  ICINE . . . . J
				
				OTHER _____ X
				        (SPECIFY)

525	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES 1
		NO 2
		    (SKIP TO 527) ←┐
		DON'T KNOW 8
			YES 1
			NO 2
			    (SKIP TO 527) ←┐
			DON'T KNOW 8
				YES 1
				NO 2
				    (SKIP TO 527) ←┐
				DON'T KNOW 8

526	At any time during the illness, did (NAME) have blood taken from his/her finger or heel for testing?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8

527	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES 1
		NO 2
		    (SKIP TO 530) ←┐
		DON'T KNOW 8
			YES 1
			NO 2
			    (SKIP TO 530) ←┐
			DON'T KNOW 8
				YES 1
				NO 2
				    (SKIP TO 530) ←┐
				DON'T KNOW 8

528	When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	YES 1
		NO 2
		    (SKIP TO 531) ←┐
		DON'T KNOW 8
			YES 1
			NO 2
			    (SKIP TO 531) ←┐
			DON'T KNOW 8
				YES 1
				NO 2
				    (SKIP TO 531) ←┐
				DON'T KNOW 8

529	Was the fast or difficult breathing due to a problem in the chest or to a blocked or runny nose?	CHEST ONLY . . . . . 1 ┐
		NOSE ONLY . . . . . 2 ┤
		BOTH . . . . 3 ┤
		OTHER _____ 6 ┤
		        (SPECIFY)
		DON'T KNOW . . . . . 8 ┘
		    (SKIP TO 531) ←
			CHEST ONLY . . . . . 1 ┐
			NOSE ONLY . . . . . 2 ┤
			BOTH . . . . 3 ┤
			OTHER _____ 6 ┤
			        (SPECIFY)
			DON'T KNOW . . . . . 8 ┘
			    (SKIP TO 531) ←
				CHEST ONLY . . . . . 1 ┐
				NOSE ONLY . . . . . 2 ┤
				BOTH . . . . 3 ┤
				OTHER _____ 6 ┤
				        (SPECIFY)
				DON'T KNOW . . . . . 8 ┘
				    (SKIP TO 531) ←

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
530	CHECK 525: HAD FEVER?	YES NO OR DK (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES NO OR DK (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES NO OR DK (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 553)
531	Now I would like to know how much (NAME) was given to drink (including breastmilk) during the illness with a (fever/cough). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS 1 SOMEWHAT LESS .. 2 ABOUT THE SAME . 3 MORE .... 4 NOTHING TO DRINK . 5 DON'T KNOW 8	MUCH LESS 1 SOMEWHAT LESS .. 2 ABOUT THE SAME . 3 MORE .... 4 NOTHING TO DRINK . 5 DON'T KNOW 8	MUCH LESS 1 SOMEWHAT LESS .. 2 ABOUT THE SAME . 3 MORE .... 4 NOTHING TO DRINK . 5 DON'T KNOW 8
532	When (NAME) had a (fever/cough), was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS 1 SOMEWHAT LESS . 2 ABOUT THE SAME . 3 MORE .... 4 STOPPED FOOD ... 5 NEVER GAVE FOOD . 6 DON'T KNOW 8	MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD ... 5 NEVER GAVE FOOD . 6 DON'T KNOW 8	MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD ... 5 NEVER GAVE FOOD . 6 DON'T KNOW 8
533	Did you seek advice or treatment for the illness from any source?	YES .... 1 NO .... 2 (SKIP TO 537)	YES .... 1 NO .... 2 (SKIP TO 537)	YES .... 1 NO .... 2 (SKIP TO 537)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

534	Where did you seek advice or treatment?
	
	Anywhere else?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT HOSPITAL . A
		  GOVT HEALTH
		    CENTER/CLINIC B
		  GOVT HEALTH
		    POST/CHPS . . . C
		  MOBILE CLINIC . D
		  FIELDWORKER . E
		  OTHER PUBLIC
		    SECTOR
		    _____ F
		    (SPECIFY)
		
		PRIVATE MEDICAL
		  SECTOR
		  PVT. HOSPITAL/
		    CLINIC . . . . G
		  PVT DOCTOR . . . H
		  PHARMACY I
		  CHEMICAL/DRUG
		    STORE . . . . J
		  MOBILE CLINIC . K
		  FIELDWORKER . L
		  FPG/PPAG CLINIC M
		  MATERNITY HOME N
		  OTHER PRIVATE
		    MED. SECTOR
		    _____ O
		    (SPECIFY)
		
		OTHER SOURCE
		  SHOP/MARKET . P
		  TRADITIONAL
		    PRACTITIONER . Q
		  DRUG PEDDLER . R
		
		OTHER _____ X
		    (SPECIFY)
			PUBLIC SECTOR
			  GOVT HOSPITAL . A
			  GOVT HEALTH
			    CENTER/CLINIC B
			  GOVT HEALTH
			    POST/CHPS . . . C
			  MOBILE CLINIC . D
			  FIELDWORKER . E
			  OTHER PUBLIC
			    SECTOR
			    _____ F
			    (SPECIFY)
			
			PRIVATE MEDICAL
			  SECTOR
			  PVT. HOSPITAL/
			    CLINIC . . . . G
			  PVT DOCTOR . . . H
			  PHARMACY I
			  CHEMICAL/DRUG
			    STORE . . . . J
			  MOBILE CLINIC . K
			  FIELDWORKER . L
			  FPG/PPAG CLINIC M
			  MATERNITY HOME N
			  OTHER PRIVATE
			    MED. SECTOR
			    _____ O
			    (SPECIFY)
			
			OTHER SOURCE
			  SHOP/MARKET . P
			  TRADITIONAL
			    PRACTITIONER . Q
			  DRUG PEDDLER . R
			
			OTHER _____ X
			    (SPECIFY)
				PUBLIC SECTOR
				  GOVT HOSPITAL . A
				  GOVT HEALTH
				    CENTER/CLINIC B
				  GOVT HEALTH
				    POST/CHPS . . . C
				  MOBILE CLINIC . D
				  FIELDWORKER . E
				  OTHER PUBLIC
				    SECTOR
				    _____ F
				    (SPECIFY)
				
				PRIVATE MEDICAL
				  SECTOR
				  PVT. HOSPITAL/
				    CLINIC . . . . G
				  PVT DOCTOR . . . H
				  PHARMACY I
				  CHEMICAL/DRUG
				    STORE . . . . J
				  MOBILE CLINIC . K
				  FIELDWORKER . L
				  FPG/PPAG CLINIC M
				  MATERNITY HOME N
				  OTHER PRIVATE
				    MED. SECTOR
				    _____ O
				    (SPECIFY)
				
				OTHER SOURCE
				  SHOP/MARKET . P
				  TRADITIONAL
				    PRACTITIONER . Q
				  DRUG PEDDLER . R
				
				OTHER _____ X
				    (SPECIFY)

535	CHECK 534:	TWO OR ONLY
		☐ MORE ONE ☐
		  CODES CODE
		  CIRCLED CIRCLED
		
		        (SKIP TO 537) ←
			TWO OR ONLY
			☐ MORE ONE ☐
			  CODES CODE
			  CIRCLED CIRCLED
			
			        (SKIP TO 537) ←
				TWO OR ONLY
				☐ MORE ONE ☐
				  CODES CODE
				  CIRCLED CIRCLED
				
				        (SKIP TO 537) ←

536	Where did you first seek advice or treatment? USE LETTER CODE FROM 534.	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐	FIRST PLACE . . . ☐

537	At any time during the illness, did (NAME) take any drugs for the illness?	YES 1
		NO 2
		  (GO BACK TO 503
		  IN NEXT COLUMN;
		    OR, IF NO MORE
		  BIRTHS, GO TO 553)
		  DON'T KNOW 8
			YES 1
			NO 2
			  (GO BACK TO 503
			  IN NEXT COLUMN;
			    OR, IF NO MORE
			  BIRTHS, GO TO 553)
			  DON'T KNOW 8
				YES 1
				NO 2
				  (GO TO 503 IN
				    NEXT-TO-LAST
				  COLUMN OF NEW
				  QUESTIONNAIRE;
				    OR, IF NO MORE
				  BIRTHS, GO TO 553)
				  DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

538	What drugs did (NAME) take?
	
	Any other drugs?
	
	RECORD ALL MENTIONED.
	
	PLEASE NOTE BRAND NAMES:
	SP/SULPHADOXINE-
	PYRIMETHAMINE
	    Fansidar
	    Malafan
	    Palidar
	    Suldox
	
	DP/DIHYDROARTEMISININ-
	PIPERAQUINE
	
	    P-Alaxin
	    Duo-Cotexcin
	
	AA/ARTESUNATE AMODIAQUINE
	    ArtesunateAmodiaquineWintrhop
	    Arsuamoon
	    Camoquine Plus
	    G Sunate
	
	    Co-arsucam
	
	AL/ARTEMETHER LUMAFANTRINE
	    Coartem
	    Lumarterm
	    Artefan
	    Lonart
	    Gen-M
	    Artemos Plus
		ANTIMALARIAL DRUGS
		  SP/SULFADOXINE
		    PYRIMETH. . . . A
		  CHLOROQUINE . . B
		  DIHIDROARTEMIS.-
		    PIPERAQUINE . . C
		  QUININE . . . . D
		  ARTESUNATE-
		    AMODIAQUINE . E
		  ARTEMISININ . . . F
		  ARTEMETHER-
		    LUMEFANTRINE G
		  OTHER ANTI-
		  MALARIAL
		
		             H
		    (SPECIFY)
		
		ANTIBIOTIC DRUGS
		  PILL/SYRUP . . . I
		  INJECTION . . . . . J
		
		OTHER DRUGS
		  ASPIRIN . . . . K
		  PARACETAMOL/
		    PANADOL . . . L
		  IBUPROFEN . . . M
		
		HERBAL MEDICINE N
		
		OTHER X
		    (SPECIFY)
		DON'T KNOW . . . . . Z
			ANTIMALARIAL DRUGS
			  SP/SULFADOXINE
			    PYRIMETH. . . . A
			  CHLOROQUINE . . B
			  DIHIDROARTEMIS.-
			    PIPERAQUINE . . C
			  QUININE . . . . D
			  ARTESUNATE-
			    AMODIAQUINE . E
			  ARTEMISININ . . . F
			  ARTEMETHER-
			    LUMEFANTRINE G
			  OTHER ANTI-
			  MALARIAL
			
			             H
			    (SPECIFY)
			
			ANTIBIOTIC DRUGS
			  PILL/SYRUP I
			  INJECTIO . . . . J
			
			OTHER DRUGS
			  ASPIRIN . . . . K
			  PARACETAMOL/
			    PANADOL . . . L
			  IBUPROFEN . . . M
			
			HERBAL MEDICINE N
			
			OTHER X
			    (SPECIFY)
			DON'T KNOW . . . . . Z
				ANTIMALARIAL DRUGS
				  SP/SULFADOXINE
				    PYRIMETH. . . . A
				  CHLOROQUINE . . B
				  DIHIDROARTEMIS.-
				    PIPERAQUINE . . C
				  QUININE . . . . D
				  ARTESUNATE-
				    AMODIAQUINE . E
				  ARTEMISININ . . . F
				  ARTEMETHER-
				    LUMEFANTRINE G
				  OTHER ANTI-
				  MALARIAL
				
				             H
				    (SPECIFY)
				
				ANTIBIOTIC DRUGS
				  PILL/SYRUP I
				  INJECTIO . . . . J
				
				OTHER DRUGS
				  ASPIRIN . . . . K
				  PARACETAMOL/
				    PANADOL . . . L
				  IBUPROFEN . . . M
				
				HERBAL MEDICINE N
				
				OTHER X
				    (SPECIFY)
				DON'T KNOW . . . . . Z

539	CHECK 538: ANY CODE A-H CIRCLED?	YES NO (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES NO (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553)	YES NO (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 553)

540	CHECK 538:
	
	SP/SULFADOXINE-
	    PYRIMETHAMINE, ('A') GIVEN
		CODE 'A' CODE 'A'
		CIRCLED NOT
		           CIRCLED
		
		(SKIP TO 542)
			CODE 'A' CODE 'A'
			CIRCLED NOT
			           CIRCLED
			
			(SKIP TO 542)
				CODE 'A' CODE 'A'
				CIRCLED NOT
				           CIRCLED
				
				(SKIP TO 542)

541	How long after the fever started did (NAME) first take (SP/Sulfadoxine-Pyrimethamine)?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		    FEVER 2
		THREE OR MORE
		    DAYS AFTER
		    FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			    FEVER 2
			THREE OR MORE
			    DAYS AFTER
			    FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				    FEVER 2
				THREE OR MORE
				    DAYS AFTER
				    FEVER 3
				DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
542	CHECK 538: CHLOROQUINE ('B') GIVEN	CODE 'B' CODE 'B' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 544) ←	CODE 'B' CODE 'B' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 544) ←	CODE 'B' CODE 'B' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 544) ←

543	How long after the fever started did (NAME) first take chloroquine?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		  FEVER 2
		THREE OR MORE
		  DAYS AFTER
		  FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			  FEVER 2
			THREE OR MORE
			  DAYS AFTER
			  FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				  FEVER 2
				THREE OR MORE
				  DAYS AFTER
				  FEVER 3
				DON'T KNOW 8

544	CHECK 538: DIHYDROARTEMISININ- PIPERAQUINE ('C') GIVEN	CODE 'C' CODE 'C' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 546) ←	CODE 'C' CODE 'C' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 546) ←	CODE 'C' CODE 'C' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 546) ←

545	How long after the fever started did (NAME) first take Dihydroartemisinin-Piperaquine?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		  FEVER 2
		THREE OR MORE
		  DAYS AFTER
		  FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			  FEVER 2
			THREE OR MORE
			  DAYS AFTER
			  FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				  FEVER 2
				THREE OR MORE
				  DAYS AFTER
				  FEVER 3
				DON'T KNOW 8

546	CHECK 538: QUININE ('D') GIVEN	CODE 'D' CODE 'D' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 547A) ←	CODE 'D' CODE 'D' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 547A) ←	CODE 'D' CODE 'D' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 547A) ←

547	How long after the fever started did (NAME) first take quinine?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		  FEVER 2
		THREE OR MORE
		  DAYS AFTER
		  FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			  FEVER 2
			THREE OR MORE
			  DAYS AFTER
			  FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				  FEVER 2
				THREE OR MORE
				  DAYS AFTER
				  FEVER 3
				DON'T KNOW 8

547A	CHECK 538: ARTESUNUATE/ AMODIAQUINE('E') GIVEN	CODE 'E' CODE 'E' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 548) ←	CODE 'E' CODE 'E' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 548) ←	CODE 'E' CODE 'E' CIRCLED NOT ☐ CIRCLED ☐ ↓ (SKIP TO 548) ←

547B	How long after the fever started did (NAME) first take artesunate with amodiaquine?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		  FEVER 2
		THREE OR MORE
		  DAYS AFTER
		  FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			  FEVER 2
			THREE OR MORE
			  DAYS AFTER
			  FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				  FEVER 2
				THREE OR MORE
				  DAYS AFTER
				  FEVER 3
				DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____

548	CHECK 538:
	
	ARTEMISININ ('F') GIVEN
		CODE 'F' CODE 'F'
		CIRCLED NOT
		     CIRCLED
		☐ ☐
		
		↓ (SKIP TO 549A) ←
			CODE 'F' CODE 'F'
			CIRCLED NOT
			     CIRCLED
			☐ ☐
			
			↓ (SKIP TO 549A) ←
				CODE 'F' CODE 'F'
				CIRCLED NOT
				     CIRCLED
				☐ ☐
				
				↓ (SKIP TO 549A) ←

549	How long after the fever started did (NAME) first take Artemisinin?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		   FEVER 2
		THREE OR MORE
		   DAYS AFTER
		   FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			   FEVER 2
			THREE OR MORE
			   DAYS AFTER
			   FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				   FEVER 2
				THREE OR MORE
				   DAYS AFTER
				   FEVER 3
				DON'T KNOW 8

549A	CHECK 538:
	
	ARTEMETHER/
	LUMEFANTRINE ('G') GIVEN
		CODE 'G' CODE 'G'
		CIRCLED NOT
		     CIRCLED
		☐ ☐
		
		↓ (SKIP TO 550) ←
			CODE 'G' CODE 'G'
			CIRCLED NOT
			     CIRCLED
			☐ ☐
			
			↓ (SKIP TO 550) ←
				CODE 'G' CODE 'G'
				CIRCLED NOT
				     CIRCLED
				☐ ☐
				
				↓ (SKIP TO 550) ←

549B	How long after the fever started did (NAME) first take Artemether Lumefantrine?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		   FEVER 2
		THREE OR MORE
		   DAYS AFTER
		   FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			   FEVER 2
			THREE OR MORE
			   DAYS AFTER
			   FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				   FEVER 2
				THREE OR MORE
				   DAYS AFTER
				   FEVER 3
				DON'T KNOW 8

550	CHECK 538:
	
	OTHER ANTIMALARIAL ('H') GIVEN
		CODE 'H' CODE 'H'
		CIRCLED NOT
		     CIRCLED
		☐ ☐
		       ↓
		    (GO BACK TO
		    503 IN NEXT
		    COLUMN; OR,
		    IF NO MORE
		    BIRTHS, GO
		    TO 553)
		↓
			CODE 'H' CODE 'H'
			CIRCLED NOT
			     CIRCLED
			☐ ☐
			       ↓
			    (GO BACK TO
			    503 IN NEXT
			    COLUMN; OR,
			    IF NO MORE
			    BIRTHS, GO
			    TO 553)
			↓
				CODE 'H' CODE 'H'
				CIRCLED NOT
				     CIRCLED
				☐ ☐
				       ↓
				    (GO TO 503 IN
				    NEXT-TO-LAST
				    COLUMN OF NEW
				    QUESTIONNAIRE;
				    OR, IF NO MORE
				    BIRTHS, GO TO 553)
				↓

551	How long after the fever started did (NAME) first take (OTHER ANTIMALARIAL)?	SAME DAY 0
		NEXT DAY 1
		TWO DAYS AFTER
		   FEVER 2
		THREE OR MORE
		   DAYS AFTER
		   FEVER 3
		DON'T KNOW 8
			SAME DAY 0
			NEXT DAY 1
			TWO DAYS AFTER
			   FEVER 2
			THREE OR MORE
			   DAYS AFTER
			   FEVER 3
			DON'T KNOW 8
				SAME DAY 0
				NEXT DAY 1
				TWO DAYS AFTER
				   FEVER 2
				THREE OR MORE
				   DAYS AFTER
				   FEVER 3
				DON'T KNOW 8

552		GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553.	GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 553.	GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 553.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
553	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2009 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ RECORD NAME OF YOUNGEST CHILD LIVING WITH HER AND CONTINUE WITH 554 _____ (NAME)		→ 556

554	The last time (NAME FROM 553) passed stools, what was done to dispose of the stools?	CHILD USED TOILET OR LATRINE . . . 01
		PUT/RINSED
		    INTO TOILET OR LATRINE 02
		PUT/RINSED
		    INTO DRAIN OR DITCH 03
		THROWN INTO GARBAGE 04
		BURIED 05
		LEFT IN THE OPEN 06
		OTHER _____ 96
		                     (SPECIFY)	

555	CHECK 522(a) ALL COLUMNS: NO CHILD ANY CHILD RECEIVED FLUID ☐ RECEIVED FLUID ☐ FROM ORS PACKET FROM ORS PACKET		→ 557
556	Have you ever heard of a special product called ORS you can get for the treatment of diarrhea?	YES . . . . 1 NO 2	
557	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2012 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ RECORD NAME OF YOUNGEST CHILD LIVING WITH HER AND CONTINUE WITH 558 _____ (NAME)		→ 562

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

| 558 | Now I would like to ask you about liquids or foods that (NAME FROM 557) had yesterday during the day or at night. I am interested in whether your child had the item I mention even if it was combined with other foods.
 Did (NAME FROM 557) (drink/eat): | | |

		YES NO DK	
	a) Plain water?	a) 1 2 8	
	b) Juice or juice drinks?	b) 1 2 8	
	c) Clear broth?	c) 1 2 8	
	d) Milk such as tinned, powdered, or fresh animal milk? IF YES: How many times did (NAME) drink milk? IF 7 OR MORE TIMES, RECORD '7'.	d) 1 2 8 NUMBER OF TIMES DRANK MILK ☐	
	e) Infant formula? IF YES: How many times did (NAME) drink infant formula? IF 7 OR MORE TIMES, RECORD '7'.	e) 1 2 8 NUMBER OF TIMES DRANK FORMULA ☐	
	f) Any other liquids?	f) 1 2 8	
	g) Yogurt? IF YES: How many times did (NAME) eat yogurt? IF 7 OR MORE TIMES, RECORD '7'.	g) 1 2 8 NUMBER OF TIMES ATE YOGURT ☐	
	h) Any Cerelac, Weanimix, Beechnut, Motherluc, Frisolac, Gerber Baby Foods or other fortified baby foods?	h) 1 2 8	
	i) Bread, rice, noodles, porridge, or other foods made from grains, such as kenkey, banku, koko, tuo zaafi, akple?	i) 1 2 8	
	j) Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside?	j) 1 2 8	
	k) White potatoes, white yams, cassava, or any other foods made from roots, tubers or plantain?	k) 1 2 8	
	l) Any dark green, leafy vegetables, such as kontomire, aleefu, ayoyo, kale, cassave leaves?	l) 1 2 8	
	m) Ripe mangoes or paw paw?	m) 1 2 8	
	n) Any other fruits or vegetables?	n) 1 2 8	
	o) Liver, kidney, heart or other organ meats?	o) 1 2 8	
	p) Any meat, such as beef, pork, lamb, goat, chicken, or duck?	p) 1 2 8	
	q) Eggs?	q) 1 2 8	
	r) Fresh or dried fish or shellfish?	r) 1 2 8	
	s) Any foods made from beans, peas, lentils, or nuts?	s) 1 2 8	
	t) Cheese or other food made from milk?	t) 1 2 8	
	u) Any other solid, semi-solid, or soft food?	u) 1 2 8	

| 559 | CHECK 558 (CATEGORIES "g" THROUGH "u"):

 NOT A SINGLE ☐   AT LEAST ONE ☐
       "YES" ↓   "YES" | | → 561 |

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

560	Did (NAME) eat any solid, semi-solid, or soft foods yesterday during the day or at night?
	
	IF 'YES' PROBE: What kind of solid, semi-solid or soft foods did (NAME) eat?
		YES 1
		   (GO BACK TO 558 TO RECORD ↵
		   FOOD EATEN YESTERDAY)
		
		NO . . . . 2 → 562	

561	How many times did (NAME FROM 557) eat solid, semi-solid, or soft foods yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . ☐ DON'T KNOW 8	
562	Now I would like to ask you about foods that you had yesterday during the day or at night. I am interested in whether you or anyone else who cooked for the household added any of the following ingredients or items to food cooked for the household in the last 24 hours: Did you or anybody else add any of the following ingredients or items to food cooked for the household in the last 24 hours: YES NO DK a) Bouillion cube (such as Maggie, Jumbo, Onga or others)? **a)** 1 2 8 b) Proceessed canned meat / fish / legume? **b)** 1 2 8 c) Salted dried fish/koobi/kako? **c)** 1 2 8 d) Any other ingredient of processed food that the household consumed within the period that contained salt? **d)** 1 2 8		
563	Have you ever heard about iodized salt?	YES . . . . 1 NO . . . . 2 → 600	
564	Can you mention benefits for consuming iodized salt? PROBE: Any other benefits? RECORD ALL MENTIONED.	IMPROVE INTELLIGENCE . . . . A PROVIDES ENERGY . . . . B PREVENTS STILL BIRTH . . . . C PREVENTS MENTAL RETARDATION . . D PREVENTS MISCARRIAGES . . . . E PREVENTS GOITER . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	
565	How can you tell iodized salt from non-iodized salt? RECORD ALL MENTIONED.	TESTING SALT . . . . A IODIZED SALT LOGO . . . . B FINE POWDERED SALT . . . . C OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
600	CHECK 101A: AGREED TO MEASUREMENT ☐ DID NOT AGREE ☐ TO MEASUREMENT		→ 601
600A	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
600B	May I measure your blood pressure at this time? _____ _____ INTERVIEWER SIGNATURE DATE	YES, RESPONDENT AGREES . . . . . 1 NO, RESPONDENT DOES NOT AGREE 2	→ 601
600C	TAKE THE BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.601 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC . . . . ☐☐☐ DIASTOLIC . . . . ☐☐☐ REFUSED . . . . 994 TECHNICAL PROBLEMS . . . . 995 OTHER 996	
601	Are you currently married or living together with a man as if married?	YES, CURRENTLY MARRIED . . . . 1 YES, LIVING WITH A MAN . . . . 2 NO, NOT IN UNION 3	→ 604 → 602
601A	Was bridewealth negotiated in your current union?	YES . . . . 1 NO 2	→ 601C

601B	Why was the bridewealth not negotiated?	FAMILY DID NOT AGREE . . . . A
		BRIDEWEALTH NOT NEGOTIABLE . . . B
		HUSBAND NOT GIVEN OPPORTUNITY TO
		   NEGOTIATE C
		FAMILY TIES . . . . D
		I DID NOT AGREE . . . . E
		NO NEED . . . . F
		PRESTIGE . . . . G
		DETECTED I WAS PREGNANT . . . . H
		OTHER _____ X
		             (SPECIFY)
			→ 604

601C	What is the status of the bridewealth in your current union?	PAID IN FULL . . . . 1 PARTLY PAID . . . . 2 NOT PAID AT ALL . . . . 3 OTHER _____ 6 (SPECIFY)	→ 604

601D	Why was the bridewealth not completely paid?	IT WAS EXPENSIVE . . . . A
		AGREED TO PAY IN INSTALMENTS . . . B
		INTENTIONALLY C
		DETECTED I WAS PREGNANT . . . . . D
		FINANCIAL CONSTRAINT . . . . E
		PART OF BRIDEWEALTH USED FOR
		   OTHER PURPOSES . . . . F
		FAMILY TIES . . . . G
		CUSTOMARY DEMANDS . . . . H
		OTHER _____ X
		             (SPECIFY)
			→ 604

602	Have you ever been married or lived together with a man as if married?	YES, FORMERLY MARRIED . . . . 1 YES, LIVED WITH A MAN . . . . 2 NO 3	→ 612

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
603	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . 1 DIVORCED . . . . 2 SEPARATED 3	→ 609
604	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER . . . . 1 STAYING ELSEWHERE 2	
605	RECORD THE HUSBAND'S/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO. . . . . ☐☐	
606	Does your (husband/partner) have other wives or does he live with other women as if married?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 609
607	Including yourself, in total, how many wives or live-in partners does he have?	TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS . . . ☐☐ DON'T KNOW 98	
608	Are you the first, second, … wife?	RANK . . . . ☐☐	
609	Have you been married or lived with a man only once or more than once?	ONLY ONCE . . . . 1 MORE THAN ONCE 2	
610	CHECK 609: MARRIED/ LIVED WITH A MAN ☐ MARRIED/ ONLY ONCE ↓ LIVED WITH A MAN ☐ MORE THAN ONCE ↓ a) In what month and year did you start living with your (husband/partner)? b) Now I would like to ask about your first (husband/partner). In what month and year did you start living with him?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	→ 612
611	How old were you when you first started living with him?	AGE . . . . ☐☐	
612	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
613	Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues. How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE . . . . .00 AGE IN YEARS . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER 95	→ 628
614	Now I would like to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If we should come to any question that you don't want to answer, just let me know and we will go to the next question.		
615	When was the last time you had sexual intercourse? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . 1 ☐☐ WEEKS AGO . . . . 2 ☐☐ MONTHS AGO . . . . 3 ☐☐ YEARS AGO . . . . 4 ☐☐	→ 627

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
616	When was the last time you had sexual intercourse with this person?		DAYS AGO . . 1 WEEKS AGO . . 2 MONTHS AGO . . 3	DAYS AGO . . 1 WEEKS AGO . . 2 MONTHS AGO . . 3
617	The last time you had sexual intercourse (with this second/third person), was a condom used?	YES . . . . 1 NO . . . . 2 (SKIP TO 619)	YES . . . . 1 NO . . . . 2 (SKIP TO 619)	YES . . . . 1 NO . . . . 2 (SKIP TO 619)
618	Was a condom used every time you had sexual intercourse with this person in the last 12 months?	YES . . . . 1 NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
619	What was your relationship to this person with whom you had sexual intercourse? IF BOYFRIEND: Were you living together as if married? IF YES, CIRCLE '2'. IF NO, CIRCLE '3'.	HUSBAND . . . . 1 LIVE-IN PARTNER . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . 3 CASUAL ACQUAINTANCE . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 622)	HUSBAND . . . . 1 LIVE-IN PARTNER . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . 3 CASUAL ACQUAINTANCE . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 622)	HUSBAND . . . . 1 LIVE-IN PARTNER . . . 2 BOYFRIEND NOT LIVING WITH RESPONDENT . . . 3 CASUAL ACQUAINTANCE . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 622)
620	CHECK 609:	MARRIED ONLY ONCE	MARRIED MORE THAN ONCE (SKIP TO 622)	MARRIED ONLY ONCE	MARRIED MORE THAN ONCE (SKIP TO 622)	MARRIED ONLY ONCE	MARRIED MORE THAN ONCE (SKIP TO 622)
621	CHECK 613:	FIRST TIME WHEN STARTED LIVING WITH FIRST HUSBAND	OTHER (SKIP TO 623)	FIRST TIME WHEN STARTED LIVING WITH FIRST HUSBAND	OTHER (SKIP TO 623)	FIRST TIME WHEN STARTED LIVING WITH FIRST HUSBAND	OTHER (SKIP TO 623)
622	How long ago did you first have sexual intercourse with this (second/third) person?	DAYS AGO 1 WEEKS AGO 2 MONTHS AGO 3 YEARS AGO 4	DAYS AGO 1 WEEKS AGO 2 MONTHS AGO 3 YEARS AGO 4	DAYS AGO 1 WEEKS AGO 2 MONTHS AGO 3 YEARS AGO 4

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
623	How many times during the last 12 months did you have sexual intercourse with this person? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF TIMES IS 95 OR MORE, WRITE '95'.	NUMBER OF TIMES . . . . ☐☐	NUMBER OF TIMES . . . . ☐☐	NUMBER OF TIMES . . . . ☐☐
624	How old is this person?	AGE OF PARTNER . ☐☐ DON'T KNOW 98	AGE OF PARTNER . ☐☐ DON'T KNOW 98	AGE OF PARTNER . ☐☐ DON'T KNOW 98
625	Apart from (this person/these two people), have you had sexual intercourse with any other person in the last 12 months?	YES . . . . 1 (GO BACK TO 616 ↵ IN NEXT COLUMN) NO . . . . 2 (SKIP TO 627) ◄───┘	YES . . . . 1 (GO BACK TO 616 ↵ IN NEXT COLUMN) NO . . . . 2 (SKIP TO 627) ◄───┘	
626	In total, with how many different people have you had sexual intercourse in the last 12 months? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, WRITE '95'.			NUMBER OF PARTNERS LAST 12 MONTHS . . . ☐☐ DON'T KNOW . . . 98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
627	In total, with how many different people have you had sexual intercourse in your lifetime? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, WRITE '95'.	NUMBER OF PARTNERS IN LIFETIME . . . . ☐☐ DON'T KNOW 98	
628	PRESENCE OF OTHERS DURING THIS SECTION	YES NO CHILDREN <10 . . . . 1 2 MALE ADULTS . . . . 1 2 FEMALE ADULTS 1 2	
629	Do you know of a place where a person can get male condoms?	YES . . . . 1 NO 2	→ 632

630	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		   GOVT. HOSPITAL/POLYCLINIC . . . A
		   GOVT. HEALTH CENTER/CLINIC . . . B
		   GOVT. HEALTH POST/CHPS C
		   FAMILY PLANNING CLINIC . . . . D
		   MOBILE CLINIC . . . . E
		   FIELDWORKER/OUTREACH/
		      PEER EDUCATOR . . . . F
		   OTHER PUBLIC _____ G
		             (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		   PRIVATE HOSPITAL/CLINIC . . . . . H
		   PRIVATE DOCTOR I
		   PHARMACY . . . . J
		   CHEMICAL/DRUG STORE . . . . K
		   FP/PPAG CLINIC L
		   MATERNITY HOME . . . . M
		   OTHER PRIVATE
		      MEDICAL _____ N
		             (SPECIFY)
		
		OTHER SOURCE
		   SHOP/MARKET . . . . O
		   CHURCH . . . . P
		   COMMUNITY VOLUNTEER . . . . Q
		   FRIEND/RELATIVE . . . . R
		
		OTHER _____ X
		          (SPECIFY)	

631	If you wanted to, could you yourself get a condom?	YES . . . . 1 NO . . . . 2 DON'T KNOW/UNSURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
632	Do you know of a place where a person can get female condoms?	YES . . . . 1 NO 2	→ 701

633	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . . . A
		  GOVT. HEALTH CENTER/CLINIC . . . B
		  GOVT. HEALTH POST/CHPS C
		  FAMILY PLANNING CLINIC . . . . D
		  MOBILE CLINIC . . . . E
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR . . . . F
		  OTHER PUBLIC _____ G
		              (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC . . . . . H
		  PRIVATE DOCTOR I
		  PHARMACY . . . . J
		  CHEMICAL/DRUG STORE . . . . K
		  FP/PPAG CLINIC L
		  MATERNITY HOME . . . . M
		  OTHER PRIVATE
		    MEDICAL _____ N
		             (SPECIFY)
		
		OTHER SOURCE
		  SHOP/MARKET . . . . O
		  CHURCH . . . . P
		  COMMUNITY VOLUNTEER . . . . Q
		  FRIEND/RELATIVE . . . . R
		
		OTHER _____ X
		           (SPECIFY)	

634	If you wanted to, could you yourself get a female condom?	YES . . . . 1 NO . . . . 2 DON'T KNOW/UNSURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 304: NEITHER STERILIZED ☐ HE OR SHE STERILIZED ☐		→ 712
702	CHECK 226: PREGNANT ☐ NOT PREGNANT OR UNSURE ☐		→ 704
703	Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE ANOTHER CHILD . . . . 1 NO MORE . . . . 2 UNDECIDED/DON'T KNOW 8	→ 705 → 711
704	Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	HAVE (A/ANOTHER) CHILD . . . . 1 NO MORE/NONE . . . . 2 SAYS SHE CAN'T GET PREGNANT 3 UNDECIDED/DON'T KNOW 8	 → 707 → 712 → 710
705	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐ a) How long would you like to wait from now before the birth of (a/another) child? b) After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . 1 ☐☐ YEARS . . . . 2 ☐☐ SOON/NOW . . . . 993 SAYS SHE CAN'T GET PREGNANT . 994 AFTER MARRIAGE . . . . 995 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	 → 710 → 712 → 710
706	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 711
707	CHECK 303: USING A CONTRACEPTIVE METHOD? NOT CURRENTLY USING ☐ CURRENTLY USING ☐		→ 712
708	CHECK 705: NOT ASKED ☐ 24 OR MORE MONTHS OR 02 OR MORE YEARS ☐ 00-23 MONTHS OR 00-01 YEAR ☐		→ 711

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
709	CHECK 704: WANTS TO HAVE A/ANOTHER CHILD ☐ WANTS NO MORE/ NONE ☐ a) You have said that you do not want (a/another) child soon. Can you tell me why you are not using a method to prevent pregnancy? Any other reason? b) You have said that you do not want any (more) children. Can you tell me why you are not using a method to prevent pregnancy? Any other reason? RECORD ALL REASONS MENTIONED.	NOT MARRIED . . . . A FERTILITY-RELATED REASONS NOT HAVING SEX . . . . B INFREQUENT SEX . . . . C MENOPAUSAL/HYSTERECTOMY . D CAN'T GET PREGNANT . . . . E NOT MENSTRUATED SINCE LAST BIRTH . . . . F BREASTFEEDING . . . . G UP TO GOD/FATALISTIC . . . . H OPPOSITION TO USE RESPONDENT OPPOSED . . . . I HUSBAND/PARTNER OPPOSED . J OTHERS OPPOSED . . . . K RELIGIOUS PROHIBITION . . . . L LACK OF KNOWLEDGE KNOWS NO METHOD . . . . M KNOWS NO SOURCE . . . . N METHOD-RELATED REASONS SIDE EFFECTS/HEALTH CONCERNS . . . . O LACK OF ACCESS/TOO FAR . . . . . P COSTS TOO MUCH . . . . Q PREFERRED METHOD NOT AVAILABLE . . . . R NO METHOD AVAILABLE . . . . S INCONVENIENT TO USE . . . . T INTERFERES WITH BODY'S NORMAL PROCESSES . . . . U OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	
710	CHECK 303: USING A CONTRACEPTIVE METHOD? NOT ASKED ☐ NO, NOT CURRENTLY USING ☐ YES, CURRENTLY USING ☐		→ 712
711	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
712	CHECK 216: HAS LIVING CHILDREN ☐ NO LIVING CHILDREN ☐ a) If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? b) If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . 00 NUMBER . . . . ☐☐ OTHER _____ 96 (SPECIFY)	→ 714 → 714

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
713	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	BOYS GIRLS EITHER NUMBER OTHER _____ 96 (SPECIFY)	
714	In the last few months have you: a) Heard about family planning on the radio? b) Seen anything about family planning on the television? c) Read about family planning in a newspaper or magazine?	YES NO RADIO . . . . 1 2 TELEVISION . . . . 1 2 NEWSPAPER OR MAGAZINE . . . 1 2	
716	CHECK 601: YES, YES, NO, CURRENTLY LIVING NOT IN MARRIED WITH A MAN UNION		→ 801

717	CHECK 303: USING A CONTRACEPTIVE METHOD?
	                        NOT
	CURRENTLY CURRENTLY
	USING USING
	             OR NOT ASKED
			→ 720

718	Would you say that using contraception is mainly your decision, mainly your (husband's/partner's) decision, or did you both decide together?	MAINLY RESPONDENT . . . . 1 MAINLY HUSBAND/PARTNER . . . . . 2 JOINT DECISION . . . . 3 OTHER _____ 6 (SPECIFY)	
719	CHECK 304: NEITHER HE OR SHE STERILIZED STERILIZED		→ 801
720	Does your (husband/partner) want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . 1 MORE CHILDREN . . . . 2 FEWER CHILDREN . . . . 3 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	CHECK 601 AND 602: CURRENTLY □ MARRIED/ LIVING WITH A MAN ↓ FORMERLY □ MARRIED/ LIVED WITH A MAN NEVER MARRIED AND NEVER □ LIVED WITH A MAN		→ 803 → 807
802	How old was your (husband/partner) on his last birthday?	AGE IN COMPLETED YEARS □□	
803	Did your (last) (husband/partner) ever attend school?	YES . . . . 1 NO 2	→ 806
804	What was the highest level of school he attended: primary ,middle, JSS/JHS, secondary, SSS/SHS, or higher?	PRIMARY . . . . 1 MIDDLE . . . . 2 JSS/JHS . . . . 3 SECONDARY . . . . 4 SSS/SHS . . . . 5 HIGHER . . . . 6 DON'T KNOW 8	→ 806
805	What was the highest (grade) he completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE . . . . □□ DON'T KNOW 98	
806	CHECK 801: CURRENTLY MARRIED/ ┐ LIVING WITH A MAN ↓ FORMERLY MARRIED/ ┐ LIVED WITH A MAN ↓ a) What is your (husband's/ partner's) occupation? That is, what kind of work does he mainly do? b) What was your (last) (husband's/ partner's) occupation? That is, what kind of work did he mainly do?	□□□□ _____ _____ _____	
807	Aside from your own house chores, have you done any work in the last seven days?	YES . . . . 1 NO 2	→ 811
808	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?	YES . . . . 1 NO 2	→ 811
809	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, maternity leave, or any other such reason?	YES . . . . 1 NO 2	→ 811
810	Have you done any work in the last 12 months?	YES . . . . 1 NO 2	→ 815
811	What is your occupation, that is, what kind of work do you mainly do?	□□□□ _____ _____ _____	
812	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . 1 FOR SOMEONE ELSE . . . . 2 SELF-EMPLOYED 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
813	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	
814	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . 1 CASH AND KIND . . . . 2 IN KIND ONLY . . . . 3 NOT PAID 4	
814A	In case of birth of a child, would you be entitled to paid or unpaid maternity leave on this job?	YES, PAID LEAVE . . . . 1 YES , UNPAID LEAVE . . . . 2 NO . . . . 3 DON'T KNOW 8	
815	CHECK 601: CURRENTLY MARRIED/LIVING WITH A MAN ☐ NOT IN UNION ☐		→ 823
816	CHECK 814: CODE 1 OR 2 CIRCLED ☐ OTHER ☐		→ 819
817	Who usually decides how the money you earn will be used: you, your (husband/partner), or you and your (husband/partner) jointly?	RESPONDENT . . . . 1 HUSBAND/PARTNER . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 OTHER _____ 6 (SPECIFY)	
818	Would you say that the money that you earn is more than what your (husband/partner) earns, less than what he earns, or about the same?	MORE THAN HIM. . . . . 1 LESS THAN HIM . . . . 2 ABOUT THE SAME . . . . 3 HUSBAND/PARTNER HAS NO EARNINGS . . . . 4 DON'T KNOW 8	→ 820
819	Who usually decides how your (husband's/partner's) earnings will be used: you, your (husband/partner), or you and your (husband/partner) jointly?	RESPONDENT . . . . 1 HUSBAND/PARTNER . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 HUSBAND/PARTNER HAS NO EARNINGS . . . . 4 OTHER _____ 6 (SPECIFY)	
820	Who usually makes decisions about health care for yourself: you, your (husband/partner), you and your (husband/partner) jointly, or someone else?	RESPONDENT . . . . 1 HUSBAND/PARTNER . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 SOMEONE ELSE . . . . 4 OTHER 6	
821	Who usually makes decisions about making major household purchases?	RESPONDENT . . . . 1 HUSBAND/PARTNER . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 SOMEONE ELSE . . . . 4 OTHER 6	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
822	Who usually makes decisions about visits to your family or relatives?	RESPONDENT . . . . 1 HUSBAND/PARTNER . . . . 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY . . . 3 SOMEONE ELSE . . . . 4 OTHER 6	
823	Do you own this or any other house either alone or jointly with someone else?	ALONE ONLY . . . . 1 JOINTLY ONLY . . . . 2 BOTH ALONE AND JOINTLY . . . . 3 DOES NOT OWN 4	
824	Do you own any land either alone or jointly with someone else?	ALONE ONLY . . . . 1 JOINTLY ONLY . . . . 2 BOTH ALONE AND JOINTLY . . . . 3 DOES NOT OWN 4	

825	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING, OR NOT PRESENT)	PRES./ PRES./ NOT
		               LISTEN. NOT PRES.
		                        LISTEN.
		CHILDREN < 10 . . . . . 1 2 3
		HUSBAND 1 2 3
		OTHER MALES 1 2 3
		OTHER FEMALES . . . 1 2 3	

826	In your opinion, is a husband justified in hitting or beating his wife in the following situations: a) If she goes out without telling him? b) If she neglects the children? c) If she argues with him? d) If she refuses to have sex with him? e) If she burns the food?	YES NO DK GOES OUT . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . 1 NO 2	→ 937
902	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
903	Can people get the AIDS virus from mosquito bites?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
904	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
905	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
906	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
907	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
908	Can the virus that causes AIDS be transmitted from a mother to her baby: a) During pregnancy? b) During delivery? c) By breastfeeding?	YES NO DK DURING PREG. . . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	

909	CHECK 908:
	
	    AT LEAST ☐ OTHER ☐
	    ONE 'YES'↓
			→ 910A

910	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
910A	Have you heard about special antiretroviral drugs (e.g. ARV, nevirapine, zidovudine, lamivudine) that people infected with the AIDS virus can get from a doctor or a nurse to help them live longer?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

911	CHECK 208 AND 215: NO BIRTHS ☐
	
	   LAST BIRTH SINCE ☐ LAST BIRTH BEFORE ☐
	   JANUARY 2012↓ JANUARY 2012
			→ 926
			
			→ 926

912	CHECK 408 FOR LAST BIRTH:
	    HAD NO
	  ANTENATAL ☐ ANTENATAL ☐
	    CARE↓ CARE
			→ 920

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
913	CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
914	During any of the antenatal visits for your last birth were you given any information about: a) Babies getting the AIDS virus from their mother? b) Things that you can do to prevent getting the AIDS virus? c) Getting tested for the AIDS virus?	YES NO DK AIDS FROM MOTHER 1 2 8 THINGS TO DO ... 1 2 8 TESTED FOR AIDS . 1 2 8	
915	Were you offered a test for the AIDS virus as part of your antenatal care?	YES . . . . 1 NO 2	
916	I don't want to know the results, but were you tested for the AIDS virus as part of your antenatal care?	YES . . . . 1 NO 2	→ 920

917	Where was the test done?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	               (NAME OF PLACE)
		PUBLIC SECTOR
		   GOVT. HOSPITAL/POLYCLINIC ... 11
		   GOVT. HEALTH CENTER/CLINIC... 12
		   GOVT. HEALTH POST/CHPS 13
		   STAND-ALONE VCT CENTER 14
		   FAMILY PLANNING CLINIC 15
		   MOBILE CLINIC 16
		   FIELDWORKER/OUTREACH/
		     PEER EDUCATOR 17
		   OTHER PUBLIC _____ 18
		             (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		   PRIVATE HOSPITAL/CLINIC/
		     PRIVATE DOCTOR 21
		   STAND-ALONE VCT CENTER 22
		   PHARMACY 23
		   CHEMICAL/DRUG STORE 24
		   FP/PPAG CLINIC 25
		   MATERNITY HOME 26
		   OTHER PRIVATE
		     MEDICAL SECTOR
		
		                   27
		             (SPECIFY)
		OTHER SOURCE
		   HOME 31
		   CORRECTIONAL FACILITY 32
		
		OTHER _____ 96
		         (SPECIFY)	

918	I don't want to know the results, but did you get the results of the test?	YES . . . . 1 NO 2	→ 924
919	All women are supposed to receive counseling after being tested. After you were tested, did you receive counseling?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 924

920	CHECK 434 FOR LAST BIRTH:
	       ANY CODE OTHER
	       21-36 CIRCLED
			→ 926

921	Between the time you went for delivery but before the baby was born, were you offered a test for the AIDS virus?	YES . . . . 1 NO 2	
922	I don't want to know the results, but were you tested for the AIDS virus at that time?	YES . . . . 1 NO 2	→ 926

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
923	I don't want to know the results, but did you get the results of the test?	YES . . . . 1 NO 2	
924	Have you been tested for the AIDS virus since that time you were tested during your pregnancy?	YES . . . . 1 NO 2	→ 927
925	How many months ago was your most recent HIV test?	MONTHS AGO . . . . [ ][ ] TWO OR MORE YEARS 95	→ 932
926	I don't want to know the results, but have you ever been tested to see if you have the AIDS virus?	YES . . . . 1 NO 2	→ 930
927	How many months ago was your most recent HIV test?	MONTHS AGO . . . . [ ][ ] TWO OR MORE YEARS 95	
928	I don't want to know the results, but did you get the results of the test?	YES . . . . 1 NO 2	
929	Where was the test done? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC . . . 11 GOVT. HEALTH CENTER/CLINIC . . . 12 GOVT. HEALTH POST/CHPS . . . . . 13 STAND-ALONE VCT CENTER . . . 14 FAMILY PLANNING CLINIC . . . . 15 MOBILE CLINIC . . . . 16 FIELDWORKER/OUTREACH/ PEER EDUCATOR . . . . 17 OTHER PUBLIC _____ 18 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC/ PRIVATE DOCTOR . . . . 21 STAND-ALONE VCT CENTER . . . 22 PHARMACY . . . . 23 CHEMICAL/DRUG STORE . . . . 24 FP/PPAG CLINIC . . . . 25 MATERNITY HOME . . . . 26 OTHER PRIVATE MEDICAL SECTOR _____ 27 (SPECIFY) OTHER SOURCE HOME . . . . 31 CORRECTIONAL FACILITY . . . . 32 OTHER _____ 96 (SPECIFY)	→ 932
930	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . 1 NO 2	→ 932

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

931	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . . . A
		  GOVT. HEALTH CENTER/CLINIC. . . B
		  GOVT. HEALTH POST/CHPS C
		  STAND-ALONE VCT CENTER . . . . . D
		  FAMILY PLANNING CLINIC . . . . E
		  MOBILE CLINIC . . . . F
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR . . . . G
		  OTHER PUBLIC _____ H
		       (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC/
		    PRIVATE DOCTOR I
		  STAND-ALONE VCT CENTER . . . J
		  PHARMACY . . . . K
		  CHEMICAL/DRUG STORE L
		  FP/PPAG CLINIC . . . . M
		  MATERNITY HOME . . . . N
		
		  OTHER PRIVATE
		    MEDICAL SECTOR
		    _____ O
		     (SPECIFY)
		
		OTHER SOURCE
		  HOME . . . . P
		  CORRECTIONAL FACILITY . . . . Q
		
		OTHER _____ X
		     (SPECIFY)	

932	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
933	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . 1 NO . . . . 2 DK/NOT SURE/DEPENDS 8	
934	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES . . . . 1 NO . . . . 2 DK/NOT SURE/DEPENDS 8	
935	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED . . . . 1 SHOULD NOT BE ALLOWED . . . . 2 DK/NOT SURE/DEPENDS. 8	
936	Should children age 12-14 be taught about using a condom to avoid getting AIDS?	YES . . . . 1 NO . . . . 2 DK/NOT SURE/DEPENDS 8	
937	CHECK 901: HEARD ABOUT ☐ NOT HEARD ☐ AIDS ABOUT AIDS ↓ ↓ a) Apart from AIDS, have b) Have you heard about infections you heard about other that can be transmitted through infections that can be sexual contact? transmitted through sexual contact?	YES . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
938	CHECK 613: HAS HAD SEXUAL INTERCOURSE ⬐ NEVER HAD SEXUAL INTERCOURSE ☐		→ 946
939	CHECK 937: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES ⬐ NO ☐		→ 941
940	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
941	Sometimes women experience a bad-smelling abnormal genital discharge. During the last 12 months, have you had a bad-smelling abnormal genital discharge?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
942	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
943	CHECK 940, 941, AND 942: HAS HAD AN INFECTION (ANY 'YES') ⬐ HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐		→ 946
944	The last time you had (PROBLEM FROM 940/941/942), did you seek any kind of advice or treatment?	YES . . . . 1 NO 2	→ 946

945	Where did you go?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		    GOVT. HOSPITAL/POLYCLINIC . . . A
		    GOVT. HEALTH CENTER/CLINIC . . . B
		    GOVT. HEALTH POST/CHPS C
		    STAND-ALONE VCT CENTER . . . . . D
		    FAMILY PLANNING CLINIC . . . . E
		    MOBILE CLINIC . . . . F
		    FIELDWORKER/OUTREACH/
		        PEER EDUCATOR . . . . G
		    OTHER PUBLIC _____ H
		            (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		    PRIVATE HOSPITAL/CLINIC/
		        PRIVATE DOCTOR I
		    STAND-ALONE VCT CENTER . . . . . J
		    PHARMACY . . . . K
		    CHEMICAL/DRUG STORE L
		    FP/PPAG CLINIC . . . . M
		    MATERNITY HOME . . . . N
		    OTHER PRIVATE
		        MEDICAL_____ O
		                (SPECIFY)
		
		OTHER SOURCE
		    HOME . . . . P
		    CORRECTIONAL FACILITY . . . . Q
		
		OTHER _____ X
		            (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
946	If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
947	Is a wife justified in refusing to have sex with her husband when she knows he has sex with women other than his wives?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
948	CHECK 601: CURRENTLY MARRIED/ ☐ LIVING WITH A MAN ↓ NOT IN UNION ☐		→ 1001
949	Can you say no to your (husband/partner) if you do not want to have sexual intercourse?	YES . . . . 1 NO . . . . 2 DEPENDS/NOT SURE 8	
950	Could you ask your (husband/partner) to use a condom if you wanted him to?	YES . . . . 1 NO . . . . 2 DEPENDS/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	Now I would like to ask you some other questions relating to health matters. Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1004
1002	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ☐☐ NONE 00	→ 1004
1003	The last time you got an injection from a health worker, did he/she take the syringe and needle from a new, unopened package?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1004	Do you currently smoke cigarettes?	YES . . . . 1 NO 2	→ 1006
1005	In the last 24 hours, how many cigarettes did you smoke?	NUMBER OF CIGARETTES . . . . ☐☐	
1006	Do you currently smoke or use any (other) type of tobacco?	YES . . . . 1 NO 2	→ 1008
1007	What (other) type of tobacco do you currently smoke or use? RECORD ALL MENTIONED.	PIPE . . . . A CHEWING TOBACCO . . . . B SNUFF . . . . C OTHER _____ X (SPECIFY)	

1008	Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not?
	
	a) Getting permission to go to the doctor?
	
	b) Getting money needed for advice or treatment?
	
	c) The distance to the health facility?
	
	d) Not wanting to go alone?
		BIG NOT A BIG
		          PROB- PROB-
		           LEM LEM
		
		PERMISSION TO GO . . . 1 2
		
		GETTING MONEY 1 2
		
		DISTANCE 1 2
		
		GO ALONE 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1009	Are you covered by any health insurance?	YES . . . . 1 NO 2	→ 1010
1009A	Are you registered with the National Health Insurance Scheme (NHIS)?	YES . . . . 1 NO 2	→ 1016 → 1013

1010	What type of health insurance are you (covered/registered) by?
	
	RECORD ALL MENTIONED.
		NATIONAL /DISTRICT HEALTH
		   INSURANCE(NHIS) . . . . A
		HEALTH INSURANCE THROUGH
		   EMPLOYER . . . . B
		MUTUAL HEALTH ORGANIZATION/
		   COMMUNITY-BASED HEALTH
		   INSURANCE C
		OTHER PRIVATELY PURCHASED
		   COMMERCIAL HEALTH INSURANCE . . D
		OTHER _____ X
		       (SPECIFY)	

1011	Does your insurance cover any of the following maternity benefits: a) Antenatal health care? b) Childbirth health care in a health facility? c) Postnatal health care for the mother? d) Postnatal health care for the child? e) Cash benefits during maternity leave? f) Other?	YES NO DK ANTENATAL . . . . 1 2 8 CHILDBIRTH . . . . 1 2 8 PNC MOTHER . . . . 1 2 8 PNC CHILD . . . . 1 2 8 CASH BENEFITS . . . . . 1 2 8 OTHER _____ 1 2 8 (SPECIFY)	

1012	CHECK 1010:
	
	    CODE 'A' FOR ☐ CODE 'A' FOR ☐
	  NHIS <u>NOT</u> CIRCLED ↓ NHIS CIRCLED
			→ 1014

1013	Why have you not registered with the National Health Insurance Scheme (NHIS)?
	
	     RECORD ALL MENTIONED
		NOT HEARD OF NHIS . . . . A
		CANNOT AFFORD PREMIUM . . . . B
		DO NOT TRUST C
		DON'T NEED HEALTH INSURANCE . . . D
		NHIS DOES NOT COVER
		   HEALTH SERVICES I NEED . . . . . E
		DON'T UNDERSTANDS SCHEME . . . F
		DON'T KNOW WHERE TO REGISTER . . G
		NO EASY ACCESS TO A HEALTH
		   FACILITY . . . . H
		DO NOT LIKE THE ATTITUDE OF
		   STAFF IN A HEALTH FACILITY . . . I
		THOSE WITH INSURANCE ARE GIVEN
		   SUBSTANDARD SERVICES AND
		   MEDICINE . . . . J
		
		OTHER _____ X
		     (SPECIFY)
			→ 1025

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1014	Who paid for your NHIS membership?	PAID MYSELF . . . . 1 PAID BY A RELATIVE/FRIEND . . . . . 2 PAID BY EMPLOYER/SSNIT . . . . 3 EXEMPT AS ELDERLY . . . . 4 EXEMPT AS PENSIONER . . . . 5 EXEMPT AS INDIGENT . . . . 7 OTHER _____ 6 (SPECIFY)	
1015	Do you hold a valid National Health Insurance Scheme (NHIS) card? IF ANSWER IS 'YES', REQUEST TO SEE THE CARD	YES, CARD SEEN . . . . 1 YES, CARD NOT SEEN . . . . 2 NO 3	→ 1017
1016	Why do you not have a valid NHIS card?	REGISTERED, NOT PAID FULLY . . . . . 1 REGISTERED, CARD NOT RECEIVED . . . . 2 REGISTERED, WAITING PERIOD . . . 3 NOT RENEWED REGISTRATION . . . 4 LOST NHIS CARD . . . . 5 OTHER _____ 6 (SPECIFY)	→1020 → 1018 → 1020
1017	How many weeks did it take you to obtain your NHIS card?	NUMBER OF WEEKS ☐☐ DON'T KNOW 98	→ 1020
1018	Do you plan to renew the NHIS card?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	→ 1020 → 1020

1019	Why do you not want to renew the NHIS card?
	
	Anything else?
	
	RECORD ALL MENTIONED.
		HAVE NOT BEEN SICK . . . . A
		PREMIUM EXPENSIVE . . . . B
		STILL PAY OUT OF POCKET C
		POOR QUALITY CARE WITH CARD . D
		WAITING TIME FOR CARD LONG . . . E
		USED SERVICES NOT COVERED . . . F
		DID NOT USE ANY HEALTH SERVICES . G
		USE CLINICS OR TRADITIONAL
		    PRACTITIONERS WHO ARE NOT
		    COVERED . . . . H
		OTHER _____ X
		(SPECIFY)	

1020	Do you have to pay out of pocket for drugs and services?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1021	Are there any services that you need from a health provider that are not covered by NHIS?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	┐ ├→ 1023

1022	What are these services?
	
	Anything else?
	
	RECORD ALL MENTIONED.
		FAMILY PLANNING . . . . A
		LABORATORY INVESTIGATIONS . . . B
		ANTENATAL CARE C
		POSTNATAL CARE . . . . D
		CARE FOR NEWBORN FOR UP TO
		   3 MONTHS . . . . E
		OTHER _____ X
		          (SPECIFY)	

1023	In your opinion, do NHIS card holders get better, the same, or worse servce than others?	BETTER . . . . 1 SAME . . . . 2 WORSE . . . . 3 DON'T KNOW/NOT SURE 8	

1024	In your opinion, did you receive good service last time you were treated at a clinic or hospital?
	
	IF NO, PROBE: "What was the main problem?"
		YES 1
		NO, WAITING TIMES WERE TOO LONG. 2
		NO, STAFF NOT POLITE 3
		NO, DID NOT RECEIVE ENOUGH
		  INFORMATION ABOUT ILLNESS
		  AND TREATMENT 4
		OTHER _____ 6
		          (SPECIFY)	

1025	Are you aware of any programmes that help pregnant women accessing health services?	YES . . . . 1 NO 2	→ 1027

1026	Which ones?
	
	    RECORD ALL MENTIONED.
		FREE NHIS PREMIUM FOR
		   PREGNANT WOMEN . . . . A
		
		OTHER _____ X
		          (SPECIFY)	

1027	Are you aware of any programmes that help children under age 18 accessing health services?	YES . . . . 1 NO 2	→ 1029

1028	Which ones?
	
	    RECORD ALL MENTIONED.
		FREE NHIS PREMIUM FOR
		  CHILDREN UNDER THE AGE OF 18 . . A
		
		OTHER _____ X
		          (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1029	Next questions are about common health problems in Ghana. Have you ever heard of an illness called tuberculosis or TB?	YES . . . . 1 NO 2	→ 1033

1030	How does tuberculosis spread from one person to another?
	
	PROBE: Any other ways?
	
	RECORD ALL MENTIONED.
		THROUGH THE AIR WHEN
		  COUGHING OR SNEEZING . . . . A
		THROUGH SHARING UTENSILS . . . . . B
		THROUGH TOUCHING A PERSON
		  WITH TB C
		THROUGH FOOD . . . . D
		THROUGH SEXUAL CONTACT . . . . . E
		THROUGH MOSQUITO BITES . . . . F
		
		OTHER _____ X
		             (SPECIFY)
		DON'T KNOW . . . . Z	

1031	Can tuberculosis be cured?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1032	If a member of your family got tuberculosis, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE/ DEPENDS 8	
1033	These next questions are about blood pressure. Have you ever been told by a doctor or other health professional that you had hypertension or high blood pressure?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 1036
1034	Were you told on two or more different occasions by a doctor or other health professional that you had hypertension or high blood pressure?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
1035	To lower your hypertension or high blood pressure, are you now: a) Taking prescribed medicine? b) Controlling your weight or losing weight? c) Cutting down on salt in your diet? d) Exercising? e) Cutting down on alcohol? f) Stopping smoking?	YES NO N/A a) TAKE MEDICINE . . . . 1 2 3 b) CONTROL WEIGHT . . . . 1 2 3 c) CUT DOWN SALT . . . . 1 2 3 d) EXERCISE . . . . 1 2 3 e) CUT DOWN ALCOHOL . . . 1 2 3 f) STOP SMOKING 1 2 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1036	During the last 7 days, on how many days did you eat fruits, for example mangoes, pawpaw, banana, orange, avocados, tomatoes, passion fruit, etc?	NUMBER OF DAYS . . . . [ ] NONE . . . . 0 DON'T KNOW/NOT SURE 8	
1038	During the last 7 days, on how many days did you eat vegetables, for example carrots, cabbage, dark green, leafy vegetables (e.g. kontomire), pumpkin, squash, etc?	NUMBER OF DAYS . . . . [ ] NONE . . . . 0 DON'T KNOW/NOT SURE 8	
1040	In the last 6 months, did you visit a health facility?	YES . . . . 1 NO 2	→ 1053
1041	What type of facility did you visit during your most recent visit? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC/GOVERNMENT . . . . 1 PRIVATE . . . . 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

1042	What type of service did you receive during this most recent visit?	OUTPATIENT
		  FAMILY PLANNING 01
		  ANC/DELIVERY/PNC 02
		  NEWBORN CARE 03
		  MALARIA 04
		  FEVER 05
		  DIARRHOEA 06
		  HIV/AIDS/STI 07
		  HIGH BLOOD PRESSURE 08
		  EAR/NOSE/THROAT INFECTION . . . 09
		  DIABETES 10
		  EYE INFECTION 11
		  CHECKUP/PREVENTIVE CARE . 12
		  ACCIDENT/INJURY 13
		  OTHER OUTPT. _____ 14
		          (SPECIFY)
		
		INPATIENT
		  PREGNANCY/DELIVERY 15
		  CHILD ILLNESS 16
		  HER OWN ILLNESS 17
		  ACCIDENT/INJURY 18
		  OTHER INPT. _____ 19
		          (SPECIFY)
		OTHER _____ 96
		          (SPECIFY)	

1043	How did you pay for the service during this most recent visit?	CASH 1
		NATIONAL HEALTH INSURANCE . . . 2
		OTHER INSURANCE 3
		COMBINATION OF ANY
		  OF THE ABOVE 4
		
		OTHER _____ 6
		          (SPECIFY)	

1044	Now I want to ask you about the ease of getting care. In your opinion, was it very easy, easy, fairly easy, difficult, or very difficult to see the health provider?	VERY EASY . . . . 1 EASY . . . . 2 FAIRLY EASY . . . . 3 DIFFICULT . . . . 4 VERY DIFFICULT 5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1045	Is the location of the health facility very convenient, conveniant, fairly convenient, not convenient, or very inconvenient for you?	VERY CONVENIENT . . . . 1 CONVENIENT . . . . 2 FAIRLY CONVENIENT . . . . 3 NOT CONVENIENT . . . . 4 VERY INCONVENIENT 5	
1046	Are the hours the health facility open during the day very good, good, fair, poor, or very poor for you?	VERY GOOD . . . . 1 GOOD . . . . 2 FAIR . . . . 3 POOR . . . . 4 VERY POOR 5	
1047	Now I want to talk about waiting time at the health facility. Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied about: a) Time to wait for your turn? b) Time spent in consulting/examination room? c) Time to wait for tests to be performed? d) Time to wait for test results? e) Time at pharmacy/dispensary?	VERY SATISFIED = 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5 NOT APPLICABLE = 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6	
1048	Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied with the staff at the health facility when they: a) Listened to you? b) Explained what you wanted to you? c) Gave advice and information on options for treatment?	VERY SATISFIED = 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5	
1049	In your opinion, did the health provider spend enough time with you?	YES . . . . 1 NO 2	
1050	Did the health provider seek your consent before providing treatment?	YES . . . . 1 NO 2	
1051	Was the health provider friendly to you?	YES . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1052	Now I want to ask you about the condition of the health facility. Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied with: a) The cleanliness of the facility? b) Ease of finding where to go? c) Comfort and safety while waiting? d) Privacy during examination? e) Confidentiality and protection of personal information?	VERY SATISFIED = 1 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5	
1053	CHECK 101A: AGREED TO MEASUREMENT DID NOT AGREE TO MEASUREMENT		→ 1101
1054	RECORD THE TIME.	HOUR . . . . MINUTES	
1055	May I measure your blood pressure at this time? _____ _____ INTERVIEWER SIGNATURE DATE	YES, RESPONDENT AGREES . . . . 1 NO, RESPONDENT DOES NOT AGREE 2	→ 1101
1056	TAKE THE BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.1101 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC . . . . DIASTOLIC . . . . REFUSED . . . . 994 TECHNICAL PROBLEMS . . . . 995 OTHER 996	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1101	CHECK Q600C AND Q1056: SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE RECORDED IN BOTH Q600C AND Q1056 ☐	SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE MEASURES NOT RECORDED IN BOTH Q600C AND Q1056 ☐	→ 1107
1102	RECORD AND CALCULATE THE AVERAGE OF THE SYSTOLIC AND DIASTOLIC BLOOD PRESSURE FROM Q600C AND Q1056.		
1103	BLOOD PRESSURE MEASUREMENTS FROM Q600C	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	
1104	BLOOD PRESSURE MEASUREMENTS FROM Q1056	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	
1105	RECORD THE SUM OF THE SYSTOLIC AND DIASTOLIC MEASURES.	SUM SYSTOLIC ☐☐☐ SUM DIASTOLIC ☐☐☐	
1106	CALCULATE THE AVERAGE SYSTOLIC AND DIASTOLIC PRESSURES BY DIVIDING THE SUM IN Q1105 BY 2.	AVERAGE SYSTOLIC ☐☐☐ AVERAGE DIASTOLIC ☐☐☐	→ 1111
1107	CHECK Q1056: SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE NOT RECORDED IN Q1056 ☐	BOTH SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE RECORDED IN Q1056 ☐	→ 1110
1108	CHECK Q600C: SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE NOT RECORDED IN Q600C ☐	BOTH SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE RECORDED IN Q600C ☐	→ 1110
1109	CHECK Q101E: SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE RECORDED IN Q101E ☐	BOTH SYSTOLIC <u>AND</u> DIASTOLIC BLOOD PRESSURE <u>**NOT**</u> RECORDED IN Q101E ☐	→ 1113
1110	RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE.	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	

1111	USE THE TABLE BELOW TO DETERMINE THE CORRECT CODE TO RECORD ON THE BLOOD PRESSURE REPORT AND REFERRAL FORM.

CIRCLE THE **ROW** IN WHICH THE VALUE FOR THE **SYSTOLIC** BLOOD PRESSURE FROM Q1106 OR Q1110 IS FOUND.

THEN CIRCLE THE **COLUMN** IN WHICH THE VALUE FOR THE **DIASTOLIC** BLOOD FROM Q1106 OR Q1110 IS FOUND.

THE VALUE WHERE THE ROW AND COLUMN YOU HAVE CIRCLED INTERSECT IN THE TABLE WILL BE USED IN COMPLETING Q1112.

AVERAGE SYSTOLIC PRESSURE	AVERAGE DIASTOLIC PRESSURE					
	<84	85-89	90-99	100-109	110-119	$\geq$ 120
≤129	1	2	3	4	5	6
130-139	2	2	3	4	5	6
140-159	3	3	3	4	5	6
160-179	4	4	4	4	5	6
180-209	5	5	5	5	5	6
$\geq$ 210	6	6	6	6	6	6

1112	RECORD THE NUMBER YOU CIRCLED IN Q1111 IN THE CHART BELOW. THEN USE THE INSTRUCTIONS TO THE RIGHT OF THAT NUMBER TO COMPLETE A BLOOD PRESSURE REPORT AND REFERRAL FORM FOR THE RESPONDENT. GIVE THE FORM TO THE RESPONDENT AND ANSWER ANY QUESTIONS SHE MAY HAVE.

	RESPONDENT'S BLOOD PRESSURE CATEGORY	CONSULT HEALTH PROVIDER TO CHECK BLOOD PRESSURE <u>WITHIN</u>:
1	NORMAL	**24 MONTHS**
2	AT THE HIGH END OF THE NORMAL RANGE	**12 MONTHS**
3	ABOVE NORMAL RANGE	**2 MONTHS**
4	MODERATELY HIGH	**1 MONTH**
5	VERY HIGH	**7 DAYS**
6	EXTREMELY HIGH	**TODAY**

1113	Thank you for taking the time to answer these questions. I would like to inform you that additional information on childbearing and contraception will be collected in the near future in order to find better ways to help couples in Ghana achieve their family goals. Another member of our team may return in a few days or weeks to ask you a few additional questions about these topics. Do you agree to allow another member of our team to contact you about participating in a short interview? Your responses will remain confidential.	YES · 1 NO · 2	
1114	RECORD THE TIME.	HOUR · MINUTES ·	⬚⬚ ⬚⬚

<u>INTERVIEWER'S OBSERVATIONS</u>

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

_____

_____

_____

_____

_____

COMMENTS ON SPECIFIC QUESTIONS:

_____

_____

_____

_____

ANY OTHER COMMENTS:

_____

_____

_____

_____

<u>SUPERVISOR'S OBSERVATIONS</u>

_____

_____

_____

_____

_____

_____

NAME OF SUPERVISOR: _____ DATE: _____

<u>EDITOR'S OBSERVATIONS</u>

_____

_____

_____

_____

NAME OF EDITOR: _____ DATE: _____

INSTRUCTIONS:
ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
COLUMN 1 REQUIRES A CODE IN EVERY MONTH.

INFORMATION TO BE CODED FOR EACH COLUMN

COLUMN 1: <u>BIRTHS, PREGNANCIES, CONTRACEPTIVE USE</u>
      B BIRTHS
      P PREGNANCIES
      T TERMINATIONS

      0 NO METHOD
      1 FEMALE STERILIZATION
      2 MALE STERILIZATION
      3 IUD
      4 INJECTABLES
      5 IMPLANTS
      6 PILL
      7 CONDOM
      8 FEMALE CONDOM
      9 DIAPHRAGM
      J FOAM OR JELLY
      K LACTATIONAL AMENORRHEA METHOD
      L RHYTHM METHOD
      M WITHDRAWAL
      X OTHER MODERN METHOD
      Y OTHER TRADITIONAL METHOD

COLUMN 2: <u>DISCONTINUATION OF CONTRACEPTIVE USE</u>
      0 INFREQUENT SEX/HUSBAND AWAY
      1 BECAME PREGNANT WHILE USING
      2 WANTED TO BECOME PREGNANT
      3 HUSBAND/PARTNER DISAPPROVED
      4 WANTED MORE EFFECTIVE METHOD
      5 SIDE EFFECTS/HEALTH CONCERNS
      6 LACK OF ACCESS/TOO FAR
      7 COSTS TOO MUCH
      8 INCONVENIENT TO USE
      F UP TO GOD/FATALISTIC
      A DIFFICULT TO GET PREGNANT/MENOPAUSAL
      D MARITAL DISSOLUTION/SEPARATION
      X OTHER _____
                  (SPECIFY)
      Z DON'T KNOW

				1	2	
	12	DEC	01			
	11	NOV	02			
	10	OCT	03			
	09	SEP	04			
2	08	AUG	05			2
0	07	JUL	06			0
1	06	JUN	07			1
4	05	MAY	08			4
	04	APR	09			
	03	MAR	10			
	02	FEB	11			
	01	JAN	12			
	12	DEC	13			
	11	NOV	14			
	10	OCT	15			
	09	SEP	16			
2	08	AUG	17			2
0	07	JUL	18			0
1	06	JUN	19			1
3	05	MAY	20			3
	04	APR	21			
	03	MAR	22			
	02	FEB	23			
	01	JAN	24			
	12	DEC	25			
	11	NOV	26			
	10	OCT	27			
	09	SEP	28			
2	08	AUG	29			2
0	07	JUL	30			0
1	06	JUN	31			1
2	05	MAY	32			2
	04	APR	33			
	03	MAR	34			
	02	FEB	35			
	01	JAN	36			
	12	DEC	37			
	11	NOV	38			
	10	OCT	39			
	09	SEP	40			
2	08	AUG	41			2
0	07	JUL	42			0
1	06	JUN	43			1
1	05	MAY	44			1
	04	APR	45			
	03	MAR	46			
	02	FEB	47			
	01	JAN	48			
	12	DEC	49			
	11	NOV	50			
	10	OCT	51			
	09	SEP	52			
2	08	AUG	53			2
0	07	JUL	54			0
1	06	JUN	55			1
0	05	MAY	56			0
	04	APR	57			
	03	MAR	58			
	02	FEB	59			
	01	JAN	60			
	12	DEC	61			
	11	NOV	62			
	10	OCT	63			
	09	SEP	64			
2	08	AUG	65			2
0	07	JUL	66			0
0	06	JUN	67			0
9	05	MAY	68			9
	04	APR	69			
	03	MAR	70			
	02	FEB	71			
	01	JAN	72			

2014 GHANA DEMOGRAPHIC AND HEALTH SURVEY
MAN'S QUESTIONNAIRE

MINISTRY OF HEALTH, GHANA   GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . .

STRUCTURE NUMBER . . . .

HOUSEHOLD NUMBER . . . .

REGION . . . .

DISTRICT . . . .

URBAN/RURAL (URBAN = 1; RURAL = 2) . . . .

NAME AND LINE NUMBER OF MAN _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY
				MONTH
				YEAR 2 0 1 4
INTERVIEWER'S NAME	_____	_____	_____	INT. NUMBER
RESULT*	_____	_____	_____	RESULT
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS
TIME	_____	_____		

*RESULT CODES:
  1 COMPLETED   4 REFUSED
  2 NOT AT HOME   5 PARTLY COMPLETED   7 OTHER _____
  3 POSTPONED   6 INCAPACITATED   (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: **1**   LANGUAGE OF INTERVIEW: ☐   LANGUAGE OF RESPONDENT: ☐   TRANSLATOR USED: (YES = 1, NO = 2) ☐

LANGUAGE OF QUESTIONNAIRE: **English**

LANGUAGE CODES: ENGLISH = 1, AKAN = 2, GA = 3, EWE = 4, NZEMA = 5, DAGBANI = 6, OTHER = 7 (SPECIFY)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

<table>
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INFORMED CONSENT

Hello. My name is _____. I am working with Ghana Statistical Service and the Ministry of Health. We are conducting a survey about health all over Ghana. The information we collect will help the government to plan health services. Your household was selected for the survey. The questions usually take about 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the person listed on the card that has already been given to your household.

Do you have any questions? May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . . . 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END
↓

</td></tr>
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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
101A	During the interview I would like to measure your blood pressure. This will be done three times during the interview. This is a harmless procedure. It is used to find out if a person has high blood pressure. If it is not treated, high blood pressure may eventually cause serious damage to the heart. The results of this blood pressure measurement will be given to you after the interview together with an explanation of the meaning of your blood pressure numbers. If your blood pressure is high, we will suggest that you consult a health facility or doctor since we cannot provide any further testing or treatment during the survey. Do you have any questions about the blood pressure measurement so far? If you have any questions about the procedure at any time, please ask me. You can say yes or no to having the blood pressure measurement now. You can also decide at anytime not to participate in the blood pressure measures. Would you allow me to proceed to take your blood pressure measurement at this time? Signature of interviewer: _____ Date: _____ RESPONDENT AGREES . . . . 1 RESPONDENT DOES NOT AGREE . . . . 2 → 102 ↓		
101B	Before taking your blood pressure, I would like to ask a few questions about things that may affect these measurements. Have you done any of the following within the past 30 minutes: a) Eaten anything? b) Had coffee, tea, cola or other drink that has caffeine? c) Smoked any tobacco product? d) Conducted any vigorous physical activity or exercises?	YES NO EATEN . . . . 1 2 HAD CAFFEINATED DRINK . 1 2 SMOKED . . . . 1 2 EXERCISES 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101C	May I begin the process of measuring your blood pressure? BEFORE TAKING THE FIRST BLOOD PRESSURE READING, MEASURE THE CIRCUMFERENCE OF THE RESPONDENT'S ARM MIDWAY BETWEEN THE ELBOW AND THE SHOULDER. RECORD THE MEASUREMENT IN CENTIMETERS.	ARM CIRCUMFERENCE (IN CENTIMETRES) . . . . ☐☐	
101D	USE THE ARM CIRCUMFERENCE MEASUREMENT TO SELECT THE APPROPRIATE BLOOD PRESSURE MONITOR MODEL AND CUFF SIZE. CIRCLE THE CODE FOR THE MODEL AND CUFF SIZE.	**MODEL 767** SMALL: 16 CM – 23 CM . . . . 1 MEDIUM: 24 CM – 35 CM . . . . 2 LARGE: 36 CM – 41 CM . . . . 3 **MODEL 789** EXTRA LARGE: 42 CM – 60 CM 4	
101E	TAKE THE FIRST BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.102 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC . . . . ☐☐ DIASTOLIC . . . . ☐☐ REFUSED .994 TECHNICAL PROBLEMS . . . . 995 OTHER 996	
102	In what month and year were you born?	MONTH . . . . ☐☐ DON'T KNOW MONTH . . . . 98 YEAR . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
103	How old were you at your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
104	Have you ever attended school?	YES . . . . 1 NO 2	→ 108
105	What is the highest level of school you attended: primary, middle/JSS/JHS, secondary/SSS/SHS, or higher?	PRIMARY . . . . 1 MIDDLE . . . . 2 JSS/JHS . . . . 3 SECONDARY . . . . 4 SSS/SHS . . . . 5 HIGHER 6	
106	What is the highest (grade) you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE . . . . ☐☐	
106A	CHECK 103: AGE 24 OR YOUNGER ☐ AGE 25 OR OLDER ☐ ────────────→		107
106B	At what age did you enroll in primary school?	AGE IN COMPLETED YEARS ☐☐	
106C	Are you currently attending school at any level?	YES . . . . 1 NO 2	→ 107

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
106D	Why did you stop attending school?	HAD TO WORK . . . . 01 MOVED . . . . 02 NO MONEY TO COVER COSTS . . . . . 03 HAD BAD GRADES . . . . 04 HEALTH REASONS . . . . 05 GOT MARRIED/ FAMILY REASONS . . 06 COMPLETED DESIRED LEVEL . . . . . 07 NO DESIRE TO CONTINUE . . . . 08 OTHER _____ 96 SPECIFY	
107	CHECK 105: PRIMARY/MIDDLE/ ☐ SECONDARY/ ☐ JSS/JHS SSS/SHS OR HIGHER ↓		→ 110

108	Now I would like you to read this sentence to me.
	
	SHOW CARD TO RESPONDENT.
	
	IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE:
	Can you read any part of the sentence to me?
		CANNOT READ AT ALL 1
		ABLE TO READ ONLY PARTS OF
		   SENTENCE 2
		ABLE TO READ WHOLE SENTENCE . 3
		NO CARD WITH REQUIRED
		   LANGUAGE _____ 4
		             (SPECIFY LANGUAGE)
		BLIND/VISUALLY IMPAIRED 5	

109	CHECK 108: CODE '2', '3' ☐ CODE '1' OR '5' ☐ OR '4' CIRCLED CIRCLED ↓		→ 111
110	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	
112	Do you watch television at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . 1 LESS THAN ONCE A WEEK . . . . 2 NOT AT ALL 3	
113	What is your religion?	CATHOLIC . . . . 01 ANGLICAN . . . . 02 METHODIST . . . . 03 PRESBYTERIAN . . . . 04 PENTECOSTAL/CHARISMATIC . . . . . 05 OTHER CHRISTIAN . . . . 06 ISLAM . . . . 07 TRADITIONAL/SPIRITUALIST . . . . 08 NO RELIGION . . . . 09 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
114	To which ethnic group do you belong?	AKAN . . . . 01 GA/DANGME . . . . 02 EWE . . . . 03 GUAN . . . . 04 MOLE-DAGBANI . . . . 05 GRUSSI . . . . 06 GRUMA . . . . 07 MANDE . . . . 08 OTHER _____ 96 (SPECIFY)	
115	In the last 12 months, how many times have you been away from home for one or more nights?	NUMBER OF TIMES . . . . ☐☐ NONE 00	⟶ 201
116	In the last 12 months, have you been away from home for more than one month at a time?	YES . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about any children you have had during your life. I am interested in all of the children that are biologically yours, even if they are not legally yours or do not have your last name. Have you ever fathered any children with any woman?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 206
202	Do you have any sons or daughters that you have fathered who are now living with you?	YES . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . ☐☐ DAUGHTERS AT HOME . . . . . ☐☐	
204	Do you have any sons or daughters that you have fathered who are alive but do not live with you?	YES . . . . 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . ☐☐ DAUGHTERS ELSEWHERE . ☐☐	
206	Have you ever fathered a son or a daughter who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . ☐☐ GIRLS DEAD . . . . ☐☐	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL CHILDREN . . . . ☐☐	
209	CHECK 208: HAS HAD ☐ HAS HAD ☐ MORE THAN ONLY ONE CHILD ↓ ONE CHILD HAS NOT HAD ☐ ANY CHILDREN		→ 212 → 301
210	Did all of the children you have fathered have the same biological mother?	YES . . . . 1 NO 2	→ 212
211	In all, how many women have you fathered children with?	NUMBER OF WOMEN . . . . . ☐☐	
212	How old were you when your (first) child was born?	AGE IN YEARS . . . . ☐☐	
213	CHECK 203 AND 205: AT LEAST ONE ☐ NO LIVING ☐ LIVING CHILD ↓ CHILDREN		→ 301
214	How old is your (youngest) child?	AGE IN YEARS . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
215	CHECK 214: (YOUNGEST) CHILD ☐ OTHER ☐ IS AGE 0-2 YEARS ↓		→ 301
216	What is the name of your (youngest) child? WRITE NAME OF (YOUNGEST) CHILD _____ (NAME OF (YOUNGEST) CHILD)		
217	When (NAME)'s mother was pregnant with (NAME), did she have any antenatal check-ups?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 219
218	Were you ever present during any of those antenatal check-ups?	PRESENT . . . . 1 NOT PRESENT 2	
219	Was (NAME) born in a hospital or health facility?	HOSPITAL/HEALTH FACILITY . . . . . . 1 OTHER 2	→ 220

219A	What was the main reason why (NAME)'s mother did not deliver in a hospital or health facility?	COSTS TOO MUCH 01
		FACILITY NOT OPEN 02
		TOO FAR/NO TRANSPORTATION 03
		DON'T TRUST FACILITY/POOR
		   QUALITY SERVICE 04
		NO FEMALE PROVIDER AT FACILITY . 05
		NOT THE FIRST CHILD 06
		CHILD'S MOTHER DID NOT
		   THINK IT WAS NECESSARY 07
		HE DID NOT THINK
		   IT WAS NECESSARY 08
		FAMILY DID NOT THINK
		     NECESSARY 09
		FAMILY/HUSBAND DID NOT ALLOW 10
		NOT CUSTOMARY 11
		S/HE DID NOT KNOW WHERE
		     TO GO 12
		HE COULD NOT ACCOMPANY HER . . 13
		INCONVENIENT SERVICE HOUR 14
		LONG WAITING TIME 15
		
		OTHER _____ 96
		        (SPECIFY)
		DON'T KNOW 98	

220	When a child has diarrhea, how much should he or she be given to drink: more than usual, about the same as usual, less than usual, or nothing to drink at all?	MORE THAN USUAL . . . . 1 ABOUT THE SAME . . . . 2 LESS THAN USUAL . . . . 3 NOTHING TO DRINK . . . . 4 DON'T KNOW 8	

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD)?		
01	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
02	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	YES . . . . 1 NO 2	
03	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse.	YES . . . . 1 NO 2	
04	Injectables. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES . . . . 1 NO 2	
05	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . 1 NO 2	
06	Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES . . . . 1 NO 2	
07	Male condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . 1 NO 2	
08	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	YES . . . . 1 NO 2	
09	Lactational Amenorrhea Method (LAM).	YES . . . . 1 NO 2	
10	Rhythm (Calendar) Method. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	YES . . . . 1 NO 2	
11	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES . . . . 1 NO 2	
12	Emergency Contraception. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . 1 NO 2	
13	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES . . . . 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

302	In the last few months have you:
	
	  a) Heard about family planning on the radio?
	
	  b) Seen anything about family planning on the television?
	
	  c) Read about family planning in a newspaper or magazine?
		YES NO
		RADIO 1 2
		
		TELEVISION 1 2
		
		NEWSPAPER OR MAGAZINE . . . 1 2	

303	In the last few months, have you discussed family planning with a health worker or health professional?	YES . . . . 1 NO 2	
304	Now I would like to ask you about a woman's risk of pregnancy. From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant when she has sexual relations?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 306

305	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	JUST BEFORE HER
		   PERIOD BEGINS 1
		DURING HER PERIOD 2
		RIGHT AFTER HER
		   PERIOD HAS ENDED 3
		HALFWAY BETWEEN
		   TWO PERIODS 4
		OTHER _____ 6
		                (SPECIFY)
		DON'T KNOW 8	

306	I will now read you some statements about contraception. Please tell me if you agree or disagree with each one.
	
	  a) Contraception is a woman's business and a man should not have to worry about it.
	  b) Women who use contraception may become promiscuous.
		DIS-
		          AGREE AGREE DK
		
		CONTRACEPTION
		  WOMAN'S BUSINESS . 1 2 8
		WOMEN MAY BECOME
		  PROMISCUOUS . . . 1 2 8	

307	CHECK 301 (07): KNOWS MALE CONDOM YES ☐ NO ☐		→ 311
308	Do you know of a place where a person can get condoms?	YES . . . . 1 NO 2	→ 311

| 309 | Where is that?

Any other place?

PROBE TO IDENTIFY EACH TYPE OF SOURCE.

IF UNABLE TO DETERMINE IF PUBLIC OR
PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.

_____
(NAME OF PLACE(S)) | PUBLIC SECTOR
  GOVT. HOSPITAL/POLYCLINIC . A
  GOVT. HEALTH CENTER .... B
  GOVT. HEALTH POST/CHPS ... C
  FAMILY PLANNING CLINIC ..... D
  MOBILE CLINIC .... E
  FIELDWORKER/OUTREACH/
    PEER EDUCATOR .... F
  OTHER PUBLIC _____ G
             (SPECIFY)

PRIVATE MEDICAL SECTOR
  PRIVATE HOSPITAL/CLINIC ... H
  PRIVATE DOCTOR I
  PHARMACY .... J
  CHEMICAL/DRUG STORE ..... K
  FP/PPAG CLINIC L
  MATERNITY HOME .... M
  OTHER PRIVATE
    MEDICAL _____ N
            (SPECIFY)
OTHER SOURCE
  SHOP/MARKET .... O
  CHURCH .... P
  COMMUNITY VOLUNTEER ..... Q
  FRIEND/RELATIVE .... R

OTHER _____ X
          (SPECIFY) | |
| 310 | If you wanted to, could you yourself get a condom? | YES 1
NO .... 2 | |

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
311	CHECK 301 (08): KNOWS FEMALE CONDOM YES ☐ NO ☐		→ 401
312	Do you know of a place where a person can get female condoms?	YES . . . . 1 NO 2	→ 401

313	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . A
		  GOVT. HEALTH CENTER . . . . B
		  GOVT. HEALTH POST/CHPS . . . C
		  FAMILY PLANNING CLINIC . . . . . D
		  MOBILE CLINIC . . . . E
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR . . . . F
		  OTHER PUBLIC _____ G
		            (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC . . . H
		  PRIVATE DOCTOR I
		  PHARMACY . . . . J
		  CHEMICAL/DRUG STORE . . . . . K
		  FP/PPAG CLINIC L
		  MATERNITY HOME . . . . M
		  OTHER PRIVATE
		    MEDICAL_____ N
		           (SPECIFY)
		OTHER SOURCE
		  SHOP/MARKET . . . . O
		  CHURCH . . . . P
		  COMMUNITY VOLUNTEER . . . . Q
		  FRIEND/RELATIVE . . . . R
		
		OTHER _____ X
		        (SPECIFY)	

314	If you wanted to, could you yourself get a female condom?	YES . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	Are you currently married or living together with a woman as if married?	YES, CURRENTLY MARRIED . . . . 1 YES, LIVING WITH A WOMAN . . . . . 2 NO, NOT IN UNION 3	→ 404 → 402
401A	Was bridewealth negotiated in your current union?	YES . . . . 1 NO 2	→ 401C

401B	Why was the bridewealth not negotiated?	FAMILY DID NOT AGREE . . . . A
		BRIDEWEALTH NOT NEGOTIABLE . . . B
		HUSBAND NOT GIVEN OPPORTUNITY TO
		    NEGOTIATE C
		FAMILY TIES . . . . D
		I DID NOT AGREE . . . . E
		NO NEED . . . . F
		PRESTIGE . . . . G
		DETECTED WIFE WAS PREGNANT . . . H
		OTHER _____ X
		             (SPECIFY)
			→ 404

401C	What is the status of the bridewealth in your current union?	PAID IN FULL . . . . 1 PARTLY PAID . . . . 2 NOT PAID AT ALL . . . . 3 OTHER _____ 6 (SPECIFY)	→ 404

401D	Why was the bridewealth not completely paid?	IT WAS EXPENSIVE . . . . A
		AGREED TO PAY IN INSTALMENTS . B
		INTENTIONALLY C
		DETECTED WIFE WAS PREGNA . . . . . D
		FINANCIAL CONSTRAINT . . . . E
		PART OF BRIDEWEALTH USED FOR
		    OTHER PURPOSES . . . . F
		FAMILY TIES . . . . G
		CUSTOMARY DEMANDS . . . . H
		OTHER _____ X
		             (SPECIFY)
			→ 404

402	Have you ever been married or lived together with a woman as if married?	YES, FORMERLY MARRIED . . . . 1 YES, LIVED WITH A WOMAN . . . . 2 NO 3	→ 413
403	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . 1 DIVORCED . . . . 2 SEPARATED 3	→ 410
404	Is your (wife/partner) living with you now or is she staying elsewhere?	LIVING WITH HIM . . . . 1 STAYING ELSEWHERE 2	
405	Do you have other wives or do you live with other women as if married?	YES (MORE THAN ONE) . . . . 1 NO (ONLY ONE) 2	→ 407
406	Altogether, how many wives or live-in partners do you have?	TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

407

CHECK 405:

ONE WIFE/ PARTNER ☐

MORE THAN ONE WIFE/ PARTNER ☐

a) Please tell me the name of (your wife/the woman you are living with as if married).

b) Please tell me the name of each of your wives or each woman you are living with as if married.

RECORD THE NAME AND THE LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE AND LIVE-IN PARTNER.

IF A WOMAN IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.

408

ASK 408 FOR EACH PERSON.

CODING CATEGORIES:

408 How old was (NAME) on her last birthday?

NAME	LINE NUMBER	AGE
_____	☐☐	☐☐
_____	☐☐	☐☐
_____	☐☐	☐☐
_____	☐☐	☐☐

409

CHECK 407:

ONE WIFE/ PARTNER ☐

MORE THAN ONE WIFE/ PARTNER ☐ → 411A

410

Have you been married or lived with a woman only once or more than once?

ONLY ONCE 1
MORE THAN ONCE . . . . 2 → 411A

411

In what month and year did you start living with your (wife/partner)?

411A

Now I would like to ask about your first (wife/partner). In what month and year did you start living with her?

MONTH . . . . ☐☐

DON'T KNOW MONTH 98

YEAR . . . . ☐☐☐☐

DON'T KNOW YEAR 9998

→ 413

412

How old were you when you first started living with her?

AGE . . . . ☐☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
413	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
414	Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues. How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE . . . . .00 AGE IN YEARS . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) WIFE/PARTNER 95	➤ 500
415	Now I would like to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If we should come to any question that you don't want to answer, just let me know and we will go to the next question.		
416	When was the last time you had sexual intercourse? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . 1 ☐☐ WEEKS AGO . . . . 2 ☐☐ MONTHS AGO . . . . 3 ☐☐ YEARS AGO . . . . 4 ☐☐	➤ 430

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
417	When was the last time you had sexual intercourse with this person?		DAYS AGO . 1 WEEKS AGO . 2 MONTHS AGO . 3	DAYS AGO . 1 WEEKS AGO . 2 MONTHS AGO . 3
418	The last time you had sexual intercourse (with this second/third person), was a condom used?	YES . . . . 1 NO . . . . 2 (SKIP TO 420)	YES . . . . 1 NO . . . . 2 (SKIP TO 420)	YES . . . . 1 NO . . . . 2 (SKIP TO 420)
419	Was a condom used every time you had sexual intercourse with this person in the last 12 months?	YES . . . . 1 NO 2	YES . . . . 1 NO 2	YES . . . . 1 NO 2
420	What was your relationship to this person with whom you had sexual intercourse? IF GIRLFRIEND: Were you living together as if married? IF YES, CIRCLE '2'. IF NO, CIRCLE '3'.	WIFE . . . . 1 LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDEN˙ . . . . . . 3 CASUAL ACQUAINTANCE . . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 423)	WIFE . . . . 1 LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDEN˙ . . . . . . 3 CASUAL ACQUAINTANCE . . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 423)	WIFE . . . . 1 LIVE-IN PARTNER . . . . 2 GIRLFRIEND NOT LIVING WITH RESPONDEN˙ . . . . . . 3 CASUAL ACQUAINTANCE . . . . 4 CLIENT/PROSTITUTE . 5 OTHER _____ 6 (SPECIFY) (SKIP TO 423)
421	CHECK 410:	MARRIED ONLY ONCE ↓ MARRIED MORE THAN ONCE OR BLANK (SKIP TO 423)	MARRIED ONLY ONCE ↓ MARRIED MORE THAN ONCE OR BLANK (SKIP TO 423)	MARRIED ONLY ONCE ↓ MARRIED MORE THAN ONCE OR BLANK (SKIP TO 423)
422	CHECK 414:	FIRST TIME WHEN STARTED LIVING WITH FIRST WIFE (SKIP TO 424) OTHER ↓	FIRST TIME WHEN STARTED LIVING WITH FIRST WIFE (SKIP TO 424) OTHER ↓	FIRST TIME WHEN STARTED LIVING WITH FIRST WIFE (SKIP TO 424) OTHER ↓

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
423	How long ago did you first have sexual intercourse with this (second/third) person?	DAYS AGO . . 1 ☐☐ WEEKS AGO . . 2 ☐☐ MONTHS AGO . . 3 ☐☐ YEARS AGO . . 4 ☐☐	DAYS AGO . . 1 ☐☐ WEEKS AGO . . 2 ☐☐ MONTHS AGO . . 3 ☐☐ YEARS AGO . . 4 ☐☐	DAYS AGO . . 1 ☐☐ WEEKS AGO . . 2 ☐☐ MONTHS AGO . . 3 ☐☐ YEARS AGO . . 4 ☐☐
424	How many times during the last 12 months did you have sexual intercourse with this person? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF TIMES IS 95 OR MORE, WRITE '95'.	NUMBER OF TIMES . . . . ☐☐	NUMBER OF TIMES . . . . ☐☐	NUMBER OF TIMES . . . . ☐☐
425	How old is this person?	AGE OF PARTNER . ☐☐ DON'T KNOW 98	AGE OF PARTNER . ☐☐ DON'T KNOW 98	AGE OF PARTNER . ☐☐ DON'T KNOW 98
426	Apart from (this person/these two people), have you had sexual intercourse with any other person in the last 12 months?	YES . . . . 1 (GO BACK TO 417 ←⏎ IN NEXT COLUMN) NO . . . . 2 (SKIP TO 428) ←⎯⎯⏋	YES . . . . 1 (GO BACK TO 417 ←⏎ IN NEXT COLUMN) NO . . . . 2 (SKIP TO 428) ←⎯⎯⏋	
427	In total, with how many different people have you had sexual intercourse in the last 12 months? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, WRITE '95'.			NUMBER OF PARTNERS LAST 12 MONTHS . . . ☐☐ DON'T KNOW 98

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
428	CHECK 420 (ALL COLUMNS): AT LEAST ONE PARTNER IS PROSTITUTE ☐ NO PARTNERS ARE PROSTITUTES ☐		→ 430
429	CHECK 420 AND 418 (ALL COLUMNS): CONDOM USED WITH EVERY PROSTITUTE ☐ OTHER ☐		→ 433 → 434
430	In the last 12 months, did you pay anyone in exchange for having sexual intercourse?	YES . . . . 1 NO 2	→ 432
431	Have you ever paid anyone in exchange for having sexual intercourse?	YES . . . . 1 NO 2	→ 434
432	The last time you paid someone in exchange for having sexual intercourse, was a condom used?	YES . . . . 1 NO 2	→ 434
433	Was a condom used during sexual intercourse every time you paid someone in exchange for having sexual intercourse in the last 12 months?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
434	In total, with how many different people have you had sexual intercourse in your lifetime? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, WRITE '95'.	NUMBER OF PARTNERS IN LIFETIME . . . . ☐☐ DON'T KNOW 98	
435	CHECK 418, MOST RECENT PARTNER (FIRST COLUMN): NOT ASKED ☐ CONDOM USED ☐ NO CONDOM USED ☐		→ 438 → 438
436	You told me that a condom was used the last time you had sex. What is the brand name of the condom used at that time? IF BRAND NOT KNOWN, ASK TO SEE THE PACKAGE.	CHAMPION . . . . 01 GOLD CYCLE . . . . 02 PANTHER . . . . 03 BAZOOKA . . . . 04 BE SAFE NO LOGO . . . . 05 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

437	From where did you obtain the condom the last time?
	
	PROBE TO IDENTIFY TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC ... 11
		  GOVT. HEALTH CENTER 12
		  GOVT. HEALTH POST/CHPS 13
		  FAMILY PLANNING CLINIC 14
		  MOBILE CLINIC 15
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR 16
		  OTHER PUBLIC _____ 17
		           (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC 21
		  PRIVATE DOCTOR 22
		  PHARMACY 23
		  CHEMICAL/DRUG STORE 24
		  FP/PPAG CLINIC 25
		  MATERNITY HOME 26
		  OTHER PRIVATE
		    MEDICAL _____ 27
		          (SPECIFY)
		OTHER SOURCE
		  SHOP/MARKET 31
		  CHURCH 32
		  COMMUNITY VOLUNTEER 33
		  FRIEND/RELATIVE 34
		
		OTHER _____ 96
		        (SPECIFY)	

438	The last time you had sex did you or your partner use any method (other than a condom) to avoid or prevent a pregnancy?	YES .... 1 NO .... 2 DON'T KNOW 8	→ 500
439	What method did you or your partner use? PROBE: Did you or your partner use any other method to prevent pregnancy? RECORD ALL MENTIONED.	FEMALE STERILIZATION .... A MALE STERILIZATION............. B IUD .... C INJECTABLES .... D IMPLANTS .... E PILL .... F FEMALE CONDOM .... G DIAPHRAGM .... H FOAM/JELLY .... I LAM .... J RHYTHM METHOD .... K WITHDRAWAL................... L OTHER MODERN METHOD .... X OTHER TRADITIONAL METHOD ..... Y	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
500	CHECK 101A: AGREED TO MEASUREMENT ☐　　　DID NOT AGREE TO MEASUREMENT ☐		→ 501
500A	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
500B	May I measure your blood pressure at this time? INTERVIEWR SIGNATURE　　　　　DATE _____　　_____	YES, RESPONDENT AGREES. . . . . . .　1 NO, RESPONDENT DOES NOT AGREE　. . . . .　2	→ 501
500C	TAKE THE BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.501 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC　. . . . .　☐☐☐ DIASTOLIC　. . . . .　☐☐☐ REFUSED　. . . . . 994 TECHNICAL PROBLEMS . . . . 995 OTHER　. 996	
501	CHECK 401: CURRENTLY MARRIED OR ☐　　NOT CURRENTLY MARRIED ☐ LIVING WITH A PARTNER　　　　　　　　　　AND 　　　　　　　　　　　　　NOT LIVING WITH A PARTNER		→ 509
502	CHECK 439: MAN NOT ☐　　　MAN ☐ STERILIZED　　　STERILIZED		→ 509
503	Is your (wife/partner)/Are any of your (wives/partners) currently pregnant?	YES . . . .　1 NO　. . . . .　2 DON'T KNOW　. . . . .　8	→ 505
504	Now I have some questions about the future. After the (child/children) you and your (wife(wives)/partner(s)) are expecting now, would you like to have another child, or would you prefer not have any more children?	HAVE ANOTHER CHILD　. . . . .　1 NO MORE　. . . . .　2 UNDECIDED/DON'T KNOW　. . . . . . .　8	→ 506 → 509
505	Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	HAVE (A/ANOTHER) CHILD　. . . . . . .　1 NO MORE/NONE . . . .　2 SAYS COUPLE 　CAN'T GET PREGNANT　. . . . .　3 WIFE (WIVES)/PARTNER(S) 　STERILIZED　. . . . .　4 UNDECIDED/DON'T KNOW . . . .　8	→ 509

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
506	CHECK 407: ONE WIFE/ PARTNER ☐ MORE THAN ONE WIFE/ PARTNER ☐		→ 508
507	CHECK 503: WIFE/PARTNER ☐ WIFE/PARTNER ☐ NOT PREGNANT PREGNANT OR DON'T KNOW a) How long would you like to wait from now before the birth of (a/another) child? b) After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . 1 ☐☐ YEARS . . . . 2 ☐☐ SOON/NOW . . . . 993 COUPLE INFECUND . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	→ 509
508	How long would you like to wait from now before the birth of (a/another) child?	MONTHS . . . . 1 ☐☐ YEARS . . . . 2 ☐☐ SOON/NOW . . . . 993 HE/ALL HIS WIVES/PARTNERS ARE INFECUND . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	
509	CHECK 203 AND 205: HAS LIVING CHILDREN ☐ NO LIVING CHILDREN ☐ a) If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? b) If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . 00 NUMBER . . . . ☐☐ OTHER _____ 96 (SPECIFY)	→ 601 → 601
510	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Have you done any work in the last seven days?	YES . . . . 1 NO 2	→ 604
602	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, or any other such reason?	YES . . . . 1 NO 2	→ 604
603	Have you done any work in the last 12 months?	YES . . . . 1 NO 2	→ 607
604	What is your occupation, that is, what kind of work do you mainly do?	☐☐☐☐ _____ _____ _____	
605	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	
606	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . 1 CASH AND KIND . . . . 2 IN KIND ONLY . . . . 3 NOT PAID 4	
607	CHECK 401: CURRENTLY MARRIED OR ☐ NOT CURRENTLY MARRIED LIVING WITH A PARTNER ↓ AND ☐ NOT LIVING WITH A PARTNER		→ 612
608	CHECK 606: CODE 1 OR 2 ☐ OTHER ☐ CIRCLED ↓		→ 610
609	Who usually decides how the money you earn will be used: you, your (wife/partner), or you and your (wife/partner) jointly?	RESPONDENT . . . . 1 WIFE/PARTNER . . . . 2 RESPONDENT AND WIFE/ PARTNER JOINTLY . . . . 3 OTHER _____ 6 (SPECIFY)	
610	Who usually makes decisions about health care for yourself: you, your (wife/partner), you and your (wife/partner) jointly, or someone else?	RESPONDENT . . . . 1 WIFE/PARTNER . . . . 2 RESPONDENT AND WIFE/ PARTNER JOINTLY . . . . 3 SOMEONE ELSE . . . . 4 OTHER _____ 6 (SPECIFY)	
611	Who usually makes decisions about making major household purchases?	RESPONDENT . . . . 1 WIFE/PARTNER . . . . 2 RESPONDENT AND WIFE/ PARTNER JOINTLY . . . . 3 SOMEONE ELSE . . . . 4 OTHER _____ 6 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
612	Do you own this or any other house either alone or jointly with someone else?	ALONE ONLY . . . . 1 JOINTLY ONLY . . . . 2 BOTH ALONE AND JOINTLY . . . . 3 DOES NOT OWN 4	
613	Do you own any land either alone or jointly with someone else?	ALONE ONLY . . . . 1 JOINTLY ONLY . . . . 2 BOTH ALONE AND JOINTLY . . . . 3 DOES NOT OWN 4	
614	In your opinion, is a husband justified in hitting or beating his wife in the following situations: a) If she goes out without telling him? b) If she neglects the children? c) If she argues with him? d) If she refuses to have sex with him? e) If she burns the food?	YES NO DK GOES OUT . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . 1 NO 2	→ 723
702	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
703	Can people get the AIDS virus from mosquito bites?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
704	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
705	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
706	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
707	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
708	Can the virus that causes AIDS be transmitted from a mother to her baby: a) During pregnancy? b) During delivery? c) By breastfeeding?	YES NO DK DURING PREG. . . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	

709	CHECK 708:
	
	    AT LEAST [ ] OTHER [ ]
	    ONE 'YES' ↓
			→ 710A

710	Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
710A	Have you heard about special antiretroviral drugs (e.g. ARV, Nevirapine, zidovudine, lamivudine) that people infected with the AIDS virus can get from a doctor or a nurse to help them live longer?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
711	CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
712	I don't want to know the results, but have you ever been tested to see if you have the AIDS virus?	YES . . . . 1 NO 2	→ 716
713	How many months ago was your most recent HIV test?	MONTHS AGO . . . . ☐☐ TWO OR MORE YEARS 95	
714	I don't want to know the results, but did you get the results of the test?	YES . . . . 1 NO 2	

715	Where was the test done?
	
	PROBE TO IDENTIFY THE TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE)
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . . . 11
		  GOVT. HEALTH CENTER 12
		  GOVT. HEALTH POST/CHPS 13
		  STAND-ALONE VCT CENTER 14
		  FAMILY PLANNING CLINIC 15
		  MOBILE CLINIC 16
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR 17
		  OTHER PUBLIC _____ 18
		            (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC/
		    PRIVATE DOCTOR 21
		  STAND-ALONE VCT CENTER 22
		  PHARMACY 23
		  CHEMICAL/DRUG STORE 24
		  FP/PPAG CLINIC 25
		  MATERNITY HOME 26
		
		  OTHER PRIVATE
		    MEDICAL SECTOR
		                          27
		  _____
		            (SPECIFY)
		OTHER SOURCE
		  HOME 31
		  CORRECTIONAL FACILITY 32
		
		OTHER _____ 96
		            (SPECIFY)
			→ 718

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
716	Do you know of a place where people can go to get tested for the AIDS virus?	YES . . . . 1 NO 2	→ 718

717	Where is that?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . . . A
		  GOVT. HEALTH CENTER . . . . B
		  GOVT. HEALTH POST/CHPS C
		  STAND-ALONE VCT CENTER . . . . . D
		  FAMILY PLANNING CLINIC . . . . E
		  MOBILE CLINIC . . . . F
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR . . . . G
		  OTHER PUBLIC _____ H
		            (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC/
		    PRIVATE DOCTOR I
		  STAND-ALONE VCT CENTER . . . . . J
		  PHARMACY . . . . K
		  CHEMICAL/DRUG STORE L
		  FP/PPAG CLINIC . . . . M
		  MATERNITY HOME . . . . N
		
		  OTHER PRIVATE
		    MEDICAL SECTOR
		    _____ O
		          (SPECIFY)
		
		OTHER SOURCE
		  HOME . . . . P
		  CORRECTIONAL FACILITY . . . . Q
		
		OTHER _____ X
		       (SPECIFY)	

718	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
719	If a member of your family got infected with the AIDS virus, would you want it to remain a secret or not?	YES, REMAIN A SECRET .... 1 NO .... 2 DK/NOT SURE/DEPENDS 8	
720	If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household?	YES .... 1 NO .... 2 DK/NOT SURE/DEPENDS 8	
721	In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in the school?	SHOULD BE ALLOWED .... 1 SHOULD NOT BE ALLOWED .... 2 DK/NOT SURE/DEPENDS 8	
722	Should children age 12-14 be taught about using a condom to avoid getting AIDS?	YES .... 1 NO .... 2 DK/NOT SURE/DEPENDS 8	
723	CHECK 701: HEARD ABOUT ☐ NOT HEARD ☐ AIDS ABOUT AIDS a) Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? b) Have you heard about infections that can be transmitted through sexual contact?	YES .... 1 NO 2	
724	CHECK 414: HAS HAD SEXUAL ☐ NEVER HAD SEXUAL ☐ INTERCOURSE INTERCOURSE		732
725	CHECK 723: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES ☐ NO ☐		727
726	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES .... 1 NO .... 2 DON'T KNOW 8	
727	Sometimes men experience an abnormal discharge from their penis. During the last 12 months, have you had an abnormal discharge from your penis?	YES .... 1 NO .... 2 DON'T KNOW 8	
728	Sometimes men have a sore or ulcer near their penis. During the last 12 months, have you had a sore or ulcer near your penis?	YES .... 1 NO .... 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
729	CHECK 726, 727, AND 728: HAS HAD AN INFECTION (ANY 'YES') ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW		→ 732
730	The last time you had (PROBLEM FROM 726/727/728), did you seek any kind of advice or treatment?	YES . . . . 1 NO 2	→ 732

731	Where did you go?
	
	Any other place?
	
	PROBE TO IDENTIFY EACH TYPE OF SOURCE.
	
	IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.
	
	_____
	(NAME OF PLACE(S))
		PUBLIC SECTOR
		  GOVT. HOSPITAL/POLYCLINIC . . . A
		  GOVT. HEALTH CENTER . . . . B
		  GOVT. HEALTH POST/CHPS C
		  STAND-ALONE VCT CENTER . . . D
		  FAMILY PLANNING CLINIC . . . . E
		  MOBILE CLINIC . . . . F
		  FIELDWORKER/OUTREACH/
		    PEER EDUCATOR . . . . G
		  OTHER PUBLIC _____ H
		              (SPECIFY)
		
		PRIVATE MEDICAL SECTOR
		  PRIVATE HOSPITAL/CLINIC/
		    PRIVATE DOCTOR I
		  STAND-ALONE VCT CENTER . . . J
		  PHARMACY . . . . K
		  CHEMICAL/DRUG STORE L
		  FP/PPAG CLINIC . . . . M
		  MATERNITY HOME . . . . N
		  OTHER PRIVATE
		    MEDICAL_____ O
		            (SPECIFY)
		
		OTHER SOURCE
		  HOME . . . . P
		  CORRECTIONAL FACILITY . . . . Q
		
		OTHER _____ X
		        (SPECIFY)	

732	If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
733	Is a wife justified in refusing to have sex with her husband when she knows he has sex with women other than his wives?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Some men are circumcised, that is, the foreskin is completely removed from the penis. Are you circumcised?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 805
802	How old were you when you got circumcised?	AGE IN COMPLETED YEARS . . . . ⬚⬚ DURING CHILDHOOD (<5 YEARS) . . . 95 DON'T KNOW 98	
803	Who did the circumcision?	TRADITIONAL PRACTITIONER/ FAMILY/FRIEND . . . . 1 HEALTH WORKER/PROFESSIONAL 2 OTHER . . . . 3 DON'T KNOW 8	
804	Where was it done?	HEALTH FACILITY . . . . 1 HOME OF A HEALTH WORKER/ PROFESSIONAL . . . . 2 CIRCUMCISION DONE AT HOME . . . 3 RITUAL SITE . . . . 4 OTHER HOME/PLACE . . . . 5 DON'T KNOW 8	
805	Now I would like to ask you some other questions relating to health matters. Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ⬚⬚ NONE 00	→ 808
806	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . ⬚⬚ NONE 00	→ 808
807	The last time you got an injection from a health worker, did he/she take the syringe and needle from a new, unopened package?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
808	Do you currently smoke cigarettes?	YES . . . . 1 NO 2	→ 810
809	In the last 24 hours, how many cigarettes did you smoke?	NUMBER OF CIGARETTES . . . . ⬚⬚	
810	Do you currently smoke or use any (other) type of tobacco?	YES . . . . 1 NO 2	→ 812
811	What (other) type of tobacco do you currently smoke or use? RECORD ALL MENTIONED.	PIPE . . . . A CHEWING TOBACCO . . . . B SNUFF . . . . C OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
812	Are you covered by any health insurance?	YES . . . . 1 NO 2	→ 813
812A	Are you registered with the National Health Insurance Scheme (NHIS)?	YES . . . . 1 NO 2	→ 819 → 816

813	What type of health insurance are you (covered/registered) by?
	
	RECORD ALL MENTIONED.
		NATIONAL /DISTRICT HEALTH
		   INSURANCE(NHIS) . . . . A
		HEALTH INSURANCE THROUGH
		   EMPLOYER . . . . B
		MUTUAL HEALTH ORGANIZATION/
		   COMMUNITY-BASED HEALTH
		   INSURANCE C
		OTHER PRIVATELY PURCHASED
		   COMMERCIAL HEALTH INSURANCE. D
		OTHER _____ X
		           (SPECIFY)	

814	Does your insurance cover any of the following maternity benefits: a) Antenatal health care? b) Childbirth health care in a health facility? c) Postnatal health care for the mother? d) Postnatal health care for the child? e) Cash benefits during maternity leave? f) Other?	YES NO DK ANTENATAL . . . . 1 2 8 CHILDBIRTH . . . . 1 2 8 PNC MOTHER . . . . 1 2 8 PNC CHILD . . . . 1 2 8 CASH BENEFITS . . . . . 1 2 8 OTHER 1 2 8	

815	CHECK 813:
	
	    CODE 'A' FOR ☐ CODE 'A' FOR ☐
	  NHIS <u>NOT</u> CIRCLED ↓ NHIS CIRCLED
			→ 817

816	Why have you not registered with the National Health Insurance Scheme (NHIS)?
	
	RECORD ALL MENTIONED
		NOT HEARD OF NHIS . . . . A
		CANNOT AFFORD PREMIUM B
		DO NOT TRUST C
		DON'T NEED HEALTH INSURANCE D
		NHIS DOES NOT COVER
		   HEALTH SERVICES I NEED . . . . . E
		DON'T UNDERSTANDS SCHEME . . . F
		DON'T KNOW WHERE TO REGISTER . G
		NO EASY ACCESS TO A HEALTH
		   FACILITY . . . . H
		DO NOT LIKE THE ATTITUDE OF
		   STAFF IN AHEALTH FACILITY . . . I
		THOSE WITH INSURANCE ARE GIVEN
		   SUBSTANDARD SERVICES AND
		   MEDICINE . . . . J
		
		OTHER _____ X
		           (SPECIFY)
			→ 828

817	Did you pay your NHIS membership yourself?	YES, PAID MYSELF . . . . 1 YES, PAID BY A RELATIVE/FRIEND . . . 2 YES, PAID BY EMPLOYER/SSNIT . . . 3 NO, EXEMPT AS ELDERLY . . . . 4 NO, EXEMPT AS PENSIONER . . . . 5 NO, EXEMPT AS INDIGENT . . . . 7 NO, OTHER _____ 6 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
818	Do you hold a valid National Health Insurance Scheme (NHIS) card? IF ANSWER IS 'YES', REQUEST TO SEE THE CARD	YES, CARD SEEN . . . . 1 YES, CARD NOT SEEN . . . . 2 NO 3	→ 820

819	Why do you not have a valid NHIS card?	REGISTERED, NOT PAID FULLY 1
		REGISTERED, CARD NOT
		   RECEIVED 2
		REGISTERED, WAITING PERIOD 3
		NOT RENEWED REGISTRATION 4
		LOST NHIS CARD 5
		OTHER _____ 6
		          (SPECIFY)
			→ 823
			
			→ 821
			
			→ 823

820	How many weeks did it take you to obtain your NHIS card?	NUMBER OF WEEKS ☐☐ DON'T KNOW 98	→ 823
821	Do you plan to renew the NHIS card?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	→ 823 → 823

822	Why do you not want to renew the NHIS card?
	
	Anything else?
	
	RECORD ALL MENTIONED.
		HAVE NOT BEEN SICK . . . . A
		PREMIUM EXPENSIVE . . . . B
		STILL PAY OUT OF POCKET C
		POOR QUALITY CARE WITH CARD . D
		WAITING TIME FOR CARD LONG . . . E
		USED SERVICES NOT COVERED . . . F
		DID NOT USE ANY HEALTH SERVICES G
		USE CLINICS OR TRADITIONAL
		  PRACTITIONERS WHO ARE NOT
		  COVERED . . . . H
		OTHER _____ X
		          (SPECIFY)	

823	Do you have to pay out of pocket for drugs and services?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	
824	Are there any services that you need from a health provider that are not covered by NHIS?	YES . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE 8	→ 826

825	What are these services?
	
	Anything else?
	
	RECORD ALL MENTIONED.
		FAMILY PLANNING . . . . A
		LABORATORY INVESTIGATION: . . . . . B
		ANTENATAL CARE C
		POSTNATAL CARE . . . . D
		CARE FOR NEWBORN FOR UP TO
		  3 MONTHS . . . . E
		OTHER _____ X
		          (SPECIFY)	

826	In your opinion, do NHIS card holders get better, the same, or worse servce than others?	BETTER . . . . 1 SAME . . . . 2 WORSE . . . . 3 DON'T KNOW/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP

827	In your opinion, did you receive good service last time you were treated at a clinic or hospital?
	
	IF NO, PROBE: "What was the main problem?"
		YES 1
		NO, WAITING TIMES TOO LONG 2
		NO, STAFF NOT POLITE 3
		NO, DID NOT RECEIVE ENOUGH
		  INFORMATION ABOUT ILLNESS
		   AND TREATMENT 4
		
		OTHER _____ 6
		          (SPECIFY)	

828	Are you aware of any programme that help pregnant women accessing health services?	YES . . . . 1 NO 2	→ 830

829	Which ones?
	
	    RECORD ALL MENTIONED.
		FREE NHIS PREMIUM FOR
		   PREGNANT WOMEN . . . . A
		
		OTHER _____ X
		          (SPECIFY)	

830	Are you aware of any programme that help children under age 18 accessing health services?	YES . . . . 1 NO 2	→ 832

831	Which ones?
	
	    RECORD ALL MENTIONED.
		FREE NHIS PREMIUM FOR
		CHILDREN UNDER THE AGE OF 18 . A
		
		OTHER _____ X
		          (SPECIFY)	

832	Next questions are about common health problems in Ghana. Have you ever heard of an illness called tuberculosis or TB?	YES . . . . 1 NO 2	→ 836

833	How does tuberculosis spread from one person to another?
	
	PROBE: Any other ways?
	
	RECORD ALL MENTIONED.
		THROUGH THE AIR WHEN
		   COUGHING OR SNEEZING . . . . A
		THROUGH SHARING UTENSILS . . . B
		THROUGH TOUCHING A PERSON
		   WITH TB C
		THROUGH FOOD . . . . D
		THROUGH SEXUAL CONTACT . . . . . E
		THROUGH MOSQUITO BITES . . . . F
		
		OTHER _____ X
		          (SPECIFY)
		DON'T KNOW . . . . Z	

834	Can tuberculosis be cured?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
835	If a member of your family got tuberculosis, would you want it to remain a secret or not?	YES, REMAIN A SECRET . . . . 1 NO . . . . 2 DON'T KNOW/NOT SURE/ DEPENDS 8	
836	These next questions are about blood pressure. Have you ever been told by a doctor or other health professional that you had hypertension or high blood pressure?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	→ 839

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
837	Were you told on two or more different occasions by a doctor or other health professional that you had hypertension or high blood pressure?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	
838	To lower your hypertension or high blood pressure, are you now: a) Taking prescribed medicine? b) Controlling your weight or losing weight? c) Cutting down on salt in your diet? d) Exercising? e) Cutting down on alcohol? f) Stopping smoking?	YES NO N/A TAKE MEDICINE . . . . 1 2 3 CONTROL WEIGHT . . . . 1 2 3 CUT DOWN SALT . . . . 1 2 3 EXERCISE . . . . 1 2 3 CUT DOWN ALCOHOL . . . 1 2 3 STOP SMOKING 1 2 3	
839	Have you ever heard about iodized salt?	YES . . . . 1 NO 2	→ 842
840	Can you mention benefits for consuming iodized salt? PROBE: Any other benefits? RECORD ALL MENTIONED.	IMPROVE INTELLIGENCE . . . . A PROVIDES ENERGY . . . . B PREVENTS STILL BIRTH . . . . C PREVENTS MENTAL RETARDATION . . D PREVENTS MISCARRIAGES . . . . E PREVENTS GOITER . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	
841	How can you tell iodized salt from non-iodized salt? RECORD ALL MENTIONED.	TESTING SALT . . . . A IODIZED SALT LOGO . . . . B FINE POWDERED SALT . . . . C OTHER _____ X (SPECIFY) DON'T KNOW . . . . Z	
842	During the last 7 days, on how many days did you eat fruits, for example, mangoes, pawpaw, banana, orange, avocados, tomatoes, passion fruit, etc?	NUMBER OF DAYS . . . . [ ] NONE . . . . 0 DON'T KNOW/NOT SURE 8	
844	During the last 7 days, on how many days did you eat vegetables, for example carrots, cabbage, dark green, leafy vegetables (e.g. kontomire), pumpkin, squash, etc?	NUMBER OF DAYS . . . . [ ] NONE . . . . 0 DON'T KNOW/NOT SURE 8	
846	In the last 6 months, did you visit a health facility?	YES . . . . 1 NO 2	→ 859
847	What type of facility did you visit during your most recent visit? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC/GOVERNMENT . . . . 1 PRIVATE . . . . 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
848	What type of service did you receive during this most recent visit?	OUTPATIENT 　FAMILY PLANNING . . . . 01 　ANC/DELIVERY/PNC . . . . 02 　NEWBORN CARE . . . . 03 　MALARIA . . . . 04 　FEVER . . . . 05 　DIARRHOEA . . . . 06 　HIV/AIDS/STI . . . . 07 　HIGH BLOOD PRESSURE . . . . 08 　EAR/NOSE/THROAT INFECTION . . . 09 　DIABETES . . . . 10 　EYE INFECTION . . . . 11 　CHECKUP/PREVENTIVE CARE . . . 12 　ACCIDENT/INJURY . . . . 13 　OTHER OUTPT. _____ 14 　　　　　　　(SPECIFY) INPATIENT 　PREGNANCY/DELIVERY . . . . 15 　CHILD ILLNESS . . . . 16 　HER OWN ILLNESS . . . . 17 　ACCIDENT/INJURY . . . . 18 　OTHER INPT. _____ 19 　　　　　　　(SPECIFY) OTHER _____ 96 　　　　　(SPECIFY)	
849	How did you pay for the service during this most recent visit?	CASH . . . . 1 NATIONAL HEALTH INSURANCE . . . 2 OTHER INSURANCE . . . . 3 COMBINATION OF ANY 　OF THE ABOVE . . . . 4 OTHER _____ 6 　　　　　(SPECIFY)	
850	Now I want to ask you about the ease of getting care. In your opinion, was it very easy, easy, fairly easy, difficult, or very difficult to see the health provider?	VERY EASY . . . . 1 EASY . . . . 2 FAIRLY EASY . . . . 3 DIFFICULT . . . . 4 VERY DIFFICULT 5	
851	Is the location of the health facility very convenient, conveniant, fairly convenient, not convenient, or very inconvenient for you?	VERY CONVENIENT . . . . 1 CONVENIENT . . . . 2 FAIRLY CONVENIENT . . . . 3 NOT CONVENIENT . . . . 4 VERY INCONVENIENT 5	
852	Are the hours the health facility open during the day very good, good, fair, poor, or very poor for you?	VERY GOOD . . . . 1 GOOD . . . . 2 FAIR . . . . 3 POOR . . . . 4 VERY POOR 5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES						SKIP
853	Now I want to talk about waiting time at the health facility. Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied about:	VERY SATISFIED = 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5 NOT APPLICABLE = 6						
	a) Time to wait for your turn?	1	2	3	4	5	6	
	b) Time spent in consulting/examination room?	1	2	3	4	5	6	
	c) Time to wait for tests to be performed?	1	2	3	4	5	6	
	d) Time to wait for test results?	1	2	3	4	5	6	
	e) Time at pharmacy/dispensary?	1	2	3	4	5	6	
854	Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied with the staff at the health facility when they:	VERY SATISFIED = 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5						
	a) Listened to you?	1	2	3	4	5		
	b) Explained what you wanted to you?	1	2	3	4	5		
	c) Gave advice and information on options for treatment?	1	2	3	4	5		
855	In your opinion, did the health provider spend enough time with you?	YES . . . . 1 NO 2						
856	Did the health provider seek your consent before providing treatment?	YES . . . . 1 NO 2						
857	Was the health provider friendly to you?	YES . . . . 1 NO 2						
858	Now I want to ask you about the condition of the health facility. Were you very satisfied, satisfied, fairly satisfied, not satisfied, or very dissatisfied with:	VERY SATISFIED = 1 SATISFIED = 2 FAIRLY SATISFIED = 3 NOT SATISFIED = 4 VERY DISSATISFIED = 5						
	a) The cleanliness of the facility?	1	2	3	4	5		
	b) Ease of finding where to go?	1	2	3	4	5		
	c) Comfort and safety while waiting?	1	2	3	4	5		
	d) Privacy during examination?	1	2	3	4	5		
	e) Confidentiality and protection of personal information?	1	2	3	4	5		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
859	CHECK 101A: AGREED TO MEASUREMENT ↓ DID NOT AGREE TO MEASUREMENT ☐		→ 901
860	RECORD THE TIME.	HOUR . . . . ☐☐ MINUTES . . . . ☐☐	
861	May I measure your blood pressure at this time? INTERVIEWR SIGNATURE DATE _____ _____	YES, RESPONDENT AGREES . . . . 1 NO, RESPONDENT DOES NOT AGREE 2	→ 901
862	TAKE THE BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE. THEN PROCEED TO Q.901 IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON.	SYSTOLIC . . . . ☐☐☐ DIASTOLIC . . . . ☐☐☐ REFUSED . . . . 994 TECHNICAL PROBLEMS . . . . 995 OTHER 996	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	CHECK Q500C AND Q862: SYSTOLIC AND DIASTOLIC BLOOD PRESSURE RECORDED IN BOTH Q500C AND Q862 □ SYSTOLIC AND DIASTOLIC BLOOD PRESSURE MEASURES NOT RECORDED IN BOTH Q500C AND Q862 □		→ 907
902	RECORD AND CALCULATE THE AVERAGE OF THE SYSTOLIC AND DIASTOLIC BLOOD PRESSURE FROM Q500C AND Q862.		
903	BLOOD PRESSURE MEASUREMENTS FROM Q500C	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	
904	BLOOD PRESSURE MEASUREMENTS FROM Q862	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	
905	RECORD THE SUM OF THE SYSTOLIC AND DIASTOLIC MEASURES.	SUM SYSTOLIC ☐☐☐ SUM DIASTOLIC ☐☐☐	
906	CALCULATE THE AVERAGE SYSTOLIC AND DIASTOLIC PRESSURES BY DIVIDING THE SUM IN Q905 BY 2.	AVERAGE SYSTOLIC ☐☐☐ AVERAGE DIASTOLIC ☐☐☐	→ 911
907	CHECK Q862: SYSTOLIC AND DIASTOLIC BLOOD PRESSURE NOT RECORDED IN Q862 □ BOTH SYSTOLIC AND DIASTOLIC BLOOD PRESSURE RECORDED IN Q862 □		→ 910
908	CHECK Q500C: SYSTOLIC AND DIASTOLIC BLOOD PRESSURE NOT RECORDED IN Q500C □ BOTH SYSTOLIC AND DIASTOLIC BLOOD PRESSURE RECORDED IN Q500C □		→ 910
909	CHECK Q101E: SYSTOLIC AND DIASTOLIC BLOOD PRESSURE RECORDED IN Q101E □ BOTH SYSTOLIC AND DIASTOLIC BLOOD PRESSURE **NOT** RECORDED IN Q101E □		913
910	RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE.	SYSTOLIC ☐☐☐ DIASTOLIC ☐☐☐	

911	USE THE TABLE BELOW TO DETERMINE THE CORRECT CODE TO RECORD ON THE BLOOD PRESSURE REPORT AND REFERRAL FORM.

CIRCLE THE **ROW** IN WHICH THE VALUE FOR THE **SYSTOLIC** BLOOD PRESSURE FROM Q906 OR Q910 IS FOUND.

THEN CIRCLE THE **COLUMN** IN WHICH THE VALUE FOR THE **DIASTOLIC** BLOOD FROM Q906 OR Q910 IS FOUND.

THE VALUE WHERE THE ROW AND COLUMN YOU HAVE CIRCLED INTERSECT IN THE TABLE WILL BE USED IN COMPLETING Q912.

AVERAGE SYSTOLIC PRESSURE	AVERAGE DIASTOLIC PRESSURE					
	<84	85-89	90-99	100-109	110-119	$\geq$ 120
$\leq$129	1	2	3	4	5	6
130-139	2	2	3	4	5	6
140-159	3	3	3	4	5	6
160-179	4	4	4	4	5	6
180-209	5	5	5	5	5	6
$\geq$ 210	6	6	6	6	6	6

912	RECORD THE NUMBER YOU CIRCLED IN Q911 IN THE CHART BELOW. THEN USE THE INSTRUCTIONS TO THE RIGHT OF THAT NUMBER TO COMPLETE A BLOOD PRESSURE REPORT AND REFERRAL FORM FOR THE RESPONDENT. GIVE THE FORM TO THE RESPONDENT AND ANSWER ANY QUESTIONS HE MAY HAVE.

	RESPONDENT'S BLOOD PRESSURE CATEGORY	CONSULT HEALTH PROVIDER TO CHECK BLOOD PRESSURE <u>WITHIN</u>:
1	NORMAL	**24 MONTHS**
2	AT THE HIGH END OF THE NORMAL RANGE	**12 MONTHS**
3	ABOVE NORMAL RANGE	**2 MONTHS**
4	MODERATELY HIGH	**1 MONTH**
5	VERY HIGH	**7 DAYS**
6	EXTREMELY HIGH	**TODAY**

913	Thank you for taking the time to answer these questions. RECORD THE TIME.	HOUR . . . . MINUTES	

<u>INTERVIEWER'S OBSERVATIONS</u>

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

_____

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COMMENTS ON SPECIFIC QUESTIONS:

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ANY OTHER COMMENTS:

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<u>SUPERVISOR'S OBSERVATIONS</u>

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NAME OF SUPERVISOR: _____   DATE: _____

<u>EDITOR'S OBSERVATIONS</u>

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NAME OF EDITOR: _____   DATE: _____