Ghana Maternal Health Survey 2017

Ghana

Maternal Health Survey 2017

Ghana Statistical Service
Accra, Ghana

Ministry of Health
Accra, Ghana

The DHS Program
ICF
Rockville, Maryland, USA

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USAID
FROM THE AMERICAN PEOPLE

EUROPEAN UNION

STATISTICAL SERVICE GHANA

GHANA HEALTH SERVICE

MINISTRY OF HEALTH
REPUBLIC OF GHANA

UNFPA

The 2017 Ghana Maternal Health Survey (2017 GMHS) was implemented by the Ghana Statistical Service (GSS) and the Ghana Health Service (GHS) from 15 June through 12 October 2017. The funding for the 2017 GMHS was provided by the Government of Ghana, the United States Agency for International Development (USAID), the European Union (EU) delegation to Ghana, and the United Nations Population Fund (UNFPA). ICF provided technical assistance through The DHS Program, a USAID-funded project providing support and technical assistance in the implementation of population and health surveys in countries worldwide.

Additional information about the 2017 GMHS may be obtained from the Ghana Statistical Service, Head Office, P.O. Box GP 1098, Accra, Ghana; Telephone: +233-302-682-661/+233-302-663-578; Fax: +233-302-664-301; Email: info@statsghana.gov.gh.

Information about The DHS Program may be obtained from ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA; Telephone: +1-301-407-6500; Fax: +1-301-407-6501; E-mail: info@DHSprogram.com; Internet: www.DHSprogram.com.

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TABLES AND FIGURES

FOREWORD

This report presents the findings of the 2017 Ghana Maternal Health Survey (GMHS). The 2017 GMHS is the second nationally representative household survey to collect comprehensive information on maternal health issues, maternal mortality, and specific causes of death among women in the country, following the 2007 GMHS. The survey gathered information on maternal health in two phases. In Phase 1, 900 enumeration areas (EAs) (466 in urban areas and 434 in rural areas) were selected. All households in the selected clusters were listed, and households in which a woman age 12-49 had died since January 2012 were also identified for a verbal autopsy. In Phase 2, 26,324 households were interviewed, and in these households 25,062 eligible women age 15-49 were asked questions about a wide range of maternal health-related issues pertaining to pregnancies, live births, abortions and miscarriages, and utilisation of health services in relation to these events. Interviews with women also included a sibling history that allows for calculation of the maternal mortality rate in Ghana. The Verbal Autopsy Questionnaire was used to collect information that allows for determination of cause(s) of death among 1,240 women age 12-49 who died in the 5 years before the survey identified in Phase 1.

The primary aim of the 2017 GMHS was to collect data at the national level that will allow an assessment of the level of maternal mortality in Ghana for the country as a whole and for the Coastal, Middle, and Northern zones. Another goal was to identify specific causes of maternal and non-maternal deaths. The project also sought to collect data on women's perceptions of and experiences with antenatal, maternity, and emergency obstetrical care, especially with regard to care received before, during, and following the termination or abortion of a pregnancy, and to measure indicators of the utilisation of maternal health services, especially post-abortion care services. In addition, the project creates an avenue for follow-on studies that can contribute to possible reductions in maternal mortality as well as abortion-related mortality. The information collected is intended to help policymakers and programme managers evaluate and design programmes and strategies for improving maternal health in Ghana.

The 2017 GMHS was implemented by the Ghana Statistical Service (GSS) with technical assistance from ICF through The DHS Program, which is funded by the United States Agency for International Development (USAID) and offers financial support and technical assistance for population and health surveys in countries worldwide. Financial support for the 2017 GMHS was provided by the Government of Ghana through the Ministry of Health (MOH) and by USAID, the European Union (EU) delegation to Ghana, and the United Nations Population Fund (UNFPA).

The GMHS results show that 10% of deaths among women age 12-49 in Ghana are due to direct maternal causes, with obstetric haemorrhage the largest single cause of direct maternal deaths. Almost all pregnant women receive antenatal care from a skilled provider, 8 in 10 deliveries take place in a health facility and are attended by a skilled provider, and slightly more than 8 in 10 women receive postnatal care within 2 days after delivery. While the country's policy and programme emphasis on continuity of care has resulted in nearly three quarters of women receiving all three maternity care components (antenatal care, delivery care, and postnatal care), efforts to achieve Sustainable Development Goal (SDG) 3 must focus on the quarter of women who still have incomplete access.

I would like to acknowledge the EU delegation to Ghana, USAID, UNFPA, and the MOH for their financial support. The close cooperation between the GSS and the Ghana Health Service (GHS) was critical to the successful completion of the survey, and special thanks go to the project implementation team for tirelessly working hard up to the preparation of this valuable report. I am grateful to ICF for its technical support in all phases of the survey. Last but not least, I am grateful to the field staff who

sincerely committed to collecting the data, the households and individuals who willingly provided responses to all the questions and the medical doctors who coded causes of death, enabling us to identify maternal causes of death in Ghana. I am most grateful to all for the successful completion of this survey.

Baah Wadieh
Acting Government Statistician
Ghana Statistical Service

ABBREVIATIONS

ANC	antenatal care
CAPI	computer-assisted personal interviewing
CARMMA	Campaign for Accelerated Reduction of Maternal Mortality in Africa
CBR	crude birth rate
CPR	contraceptive prevalence rate
C-section	Caesarean section
CSPro	Censuses and Surveys Processing
D&C	dilation and curettage
D&E	dilation and evacuation
DHS	Demographic and Health Surveys
EA	enumeration area
EU	European Union
GDHS	Ghana Demographic and Health Survey
GFR	general fertility rate
GHS	Ghana Health Service
GMHS	Ghana Maternal Health Survey
GSS	Ghana Statistical Service
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th revision
ICF	ICF *(originally, Inner City Fund)*
IFSS	internet file streaming system
IUD	intrauterine contraceptive device
JHS	junior high school
JSS	junior secondary school
LAM	lactational amenorrhoea method
MAF	Millennium Development Goal 5 Accelerated Framework
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MMR	maternal mortality ratio
MOH	Ministry of Health
NGO	nongovernmental organization
NHIS	National Health Insurance Scheme
PHC	Population and Housing Census
PNC	postnatal care
PRMR	pregnancy-related mortality ratio

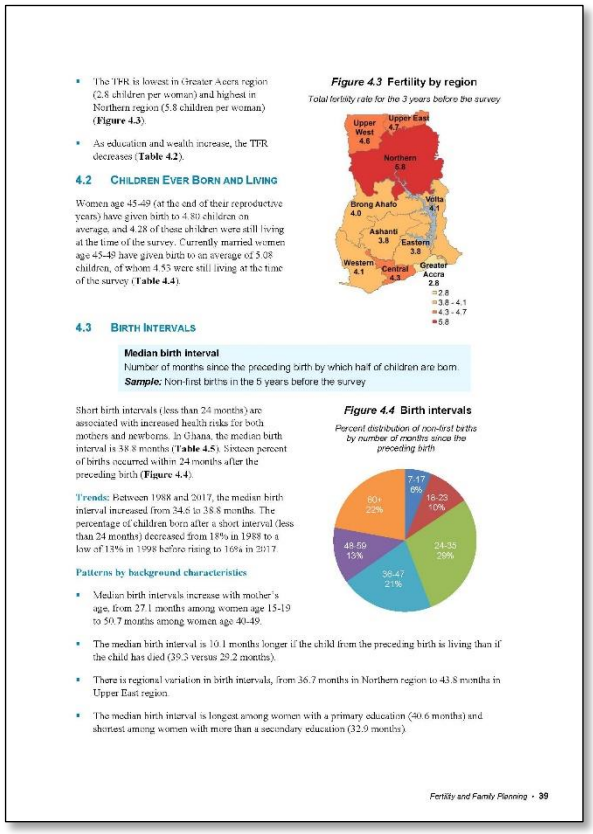
SD	standard deviations
SDG	Sustainable Development Goal
SDM	standard days method
SHS	senior high school
SSS	senior secondary school
TFR	total fertility rate
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VIP	ventilated improved pit (latrine)
WHO	World Health Organization

READING AND UNDERSTANDING TABLES FROM THE 2017 GHANA MATERNAL HEALTH SURVEY (GMHS)

The 2017 GMHS final report is based on approximately 138 tables of data. They are located for quick reference through links in the text (electronic version) and at the end of each chapter. Additionally, this report features about 47 figures that clearly highlight trends, subnational patterns, and background characteristics. Large colourful maps display breakdowns for regions in Ghana. The text highlights key points in bullets and clearly identifies indicator definitions in boxes.

While the text and figures featured in each chapter highlight some of the most important findings from the tables, not every finding can be discussed or displayed graphically. For this reason, GMHS data users should be comfortable reading and interpreting tables.

The following pages provide an introduction to the organization of GMHS tables, the presentation of background characteristics, and a brief summary of sampling and understanding denominators. In addition, this section provides some exercises for users as they practice their new skills in interpreting GMHS tables.



- The TFR is lowest in Greater Accra region (2.8 children per woman) and highest in Northern region (5.8 children per woman) (**Figure 4.3**).
- As education and wealth increase, the TFR decreases (**Table 4.2**).

Figure 4.3 Fertility by region

Total fertility rate for the 3 years before the survey

4.2 CHILDREN EVER BORN AND LIVING

Women age 45-49 (at the end of their reproductive years) have given birth to 4.80 children on average, and 4.28 of these children were still living at the time of the survey. Currently married women age 45-49 have given birth to an average of 5.08 children, of whom 4.53 were still living at the time of the survey (**Table 4.4**).

4.3 BIRTH INTERVALS

Median birth interval
Number of months since the preceding birth by which half of children are born
Sample: Non-first births in the 5 years before the survey

Short birth intervals (less than 24 months) are associated with increased health risks for both mothers and newborns. In Ghana, the median birth interval is 38.8 months (**Table 4.5**). Sixteen percent of births occurred within 24 months after the preceding birth (**Figure 4.4**).

Trends: Between 1988 and 2017, the median birth interval increased from 34.6 to 38.8 months. The percentage of children born after a short interval (less than 24 months) decreased from 18% in 1988 to a low of 13% in 1998 before rising to 16% in 2017.

Patterns by background characteristics

- Median birth intervals increase with mother's age, from 27.1 months among women age 15-19 to 50.7 months among women age 40-49.
- The median birth interval is 10.1 months longer if the child from the preceding birth is living than if the child has died (39.5 versus 29.2 months).
- There is regional variation in birth intervals, from 36.7 months in Northern region to 43.8 months in Upper East region.
- The median birth interval is longest among women with a primary education (40.6 months) and shortest among women with more than a secondary education (32.9 months).

Figure 4.4 Birth intervals

Percent distribution of non-first births by number of months since the preceding birth

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Example 1: Exposure to Mass Media

A Question Asked of All Survey Respondents

Table 2.12 Exposure to mass media 1

Percentage of women age 15-49 who are exposed to specific media on a weekly basis, according to background characteristics, Ghana MHS 2017

Background characteristic 3	Reads a newspaper 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 2	Number of women
Age						
15-19	9.4	57.1	38.6	4.4	30.8	4,785
20-24	8.4	63.9	47.8	5.1	23.4	4,208
25-29	9.0	64.2	52.7	6.4	23.0	4,229
30-34	7.3	61.7	56.2	5.2	23.4	3,709
35-39	4.8	56.1	53.7	3.5	27.2	3,313
40-44	3.6	55.2	55.3	2.7	27.7	2,481
45-49	3.2	49.4	54.3	2.6	30.5	2,337
Residence						
Urban	10.5	72.0	54.9	6.9	17.5	13,752
Rural	3.0	43.4	44.6	1.6	37.1	11,310
Zone						
Coastal	9.1	65.6	55.2	5.9	20.0	12,121
Middle	6.2	59.5	48.7	4.0	27.2	9,674
Northern	2.2	33.8	36.3	0.9	47.2	3,267
Zone						
Coastal	9.1	65.6	55.2	5.9	20.0	12,121
Middle	6.2	59.5	48.7	4.0	27.2	9,674
Northern	2.2	33.8	36.3	0.9	47.2	3,267
Region						
Western	4.2	61.7	50.5	2.0	22.0	3,230
Central	4.8	58.2	42.3	2.1	27.2	2,218
Greater Accra	16.2	76.7	63.0	11.2	12.0	4,673
Volta	5.1	54.0	59.1	3.7	27.2	2,000
Eastern	5.5	47.4	41.9	3.3	38.1	2,517
Ashanti	7.4	68.9	55.7	5.2	19.1	4,790
Brong Ahafo	4.4	53.3	41.7	2.4	32.2	2,367
Northern	1.3	34.2	34.8	0.6	49.6	1,786
Upper East	4.2	32.8	41.3	1.5	41.6	854
Upper West	2.1	34.1	34.1	0.9	48.1	628
Education						
No education	0.1	35.3	39.3	0.1	44.9	4,585
Primary	0.7	50.8	45.3	0.3	32.1	3,934
Middle/JSS/JHS	4.2	61.8	50.3	2.1	24.3	10,081
Secondary/SSS/SHS	14.1	74.4	57.3	8.7	15.0	4,550
More than secondary	35.8	82.3	69.4	26.2	7.2	1,912
Wealth quintile						
Lowest	1.0	16.0	34.7	0.3	57.5	4,064
Second	2.4	43.4	44.8	1.1	35.6	4,721
Middle	4.0	64.2	47.7	2.2	23.1	5,111
Fourth	6.6	76.0	54.5	3.8	14.7	5,443
Highest	18.6	82.0	64.1	13.0	10.4	5,723
Total 4	7.1	59.1	50.2	4.5	26.3	25,062

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Step 1: Read the title and subtitle—highlighted in orange in Example 1. They tell you the topic and the specific population group being described. In this case, the table is about women's exposure to mass media. All eligible female respondents age 15-49 were asked these questions.

Step 2: Scan the column headings—highlighted in green. They describe how the information is categorized. In this table, the first three columns of data show different types of media that women access at least once a week. The fourth column shows women who access all three types of media, while the fifth column shows women who do not access any of the three types of media at least once a week. The last column lists the number of women who were asked these questions.

Step 3: Scan the row headings—the first vertical column highlighted in blue. These show the different ways the data are divided into categories based on population characteristics. In this case, the table presents women's exposure to mass media by age, urban-rural residence, zone, region, educational level, and wealth quintile. Most of the tables in the GMHS report will be divided into these same categories.

Step 4: Look at the row at the bottom of the table highlighted in pink. These percentages represent the totals of all women age 15-49 and their access to different types of media. In this case, 7.1%* of women age 15-49 read a newspaper at least once a week, 59.1% watch television at least once a week, and 50.2% listen to the radio at least once a week.

Step 5: To find out what percentage of women with more than secondary education access all three media at least once a week, draw two imaginary lines, as shown on the table. This shows that 26.2% of women age 15-49 with more than secondary education access all three media at least once a week.

By looking at patterns by background characteristics, we can see how exposure to mass media varies across Ghana. Mass media are often used to communicate health messages. Knowing how mass media exposure varies among different groups can help program planners and policy makers determine how to most effectively reach their target populations.

*For the purpose of this tutorial, data are presented exactly as they appear in the table including decimal places. However, the text in the remainder of this report rounds data to the nearest whole percentage point.

Practice: Use the table in Example 1 to answer the following questions:

a) What percentage of women in Ghana do not access any of the three media at least once a week?
b) Which age group of women is most likely to listen to the radio at least once a week?
c) Compare women in urban areas to women in rural areas – which group is more likely to read a newspaper at least once a week?
d) What are the lowest and highest percentages (range) of women who do not access any of the three types of media at least once a week by region?
e) Is there a clear pattern in exposure to television at least once a week by education level?
f) Is there a clear pattern in exposure to newspapers at least once a week by wealth quintile?

Answers:
a) 26.3%
b) Women age 30-34: 56.2% of women in this age group listen to the radio at least once a week.
c) Women in urban areas, 10.5% read a newspaper at least once a week, compared to 3.0% of women in rural areas.
d) Women with no exposure at least once a week ranges from a low of 12.0% in Greater Accra to a high of 49.6% in Northern region.
e) Yes, exposure to television increases as a woman's level of education increases; 35.3% of women with no education watch television at least once a week, compared to 82.3% of women with more than secondary education.
f) Yes, exposure to newspapers at least once a week increases as household wealth increases; 1.0% of women in the lowest wealth quintile read a newspaper at least once a week, compared to 18.6% of women in the highest wealth quintile.

Example 2: Teenage Pregnancy and Motherhood

Minimum Number of Cases Necessary for Reliable Results

Table 4.8 Teenage pregnancy and motherhood 1

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, according to background characteristics, Ghana MHS 2017

Background characteristic 3	Percentage of women age 15-19 who: Have had a live birth	Are pregnant with first child	Percentage who have begun childbearing 2	Number of women
Age				
15-17	5.7	1.8	7.5	3,080
15	2.7	0.7	3.4	1,046
16	4.3	2.3	6.6	936
17	9.7	2.5	12.3	1,098
18	17.7	4.8	22.5	974
19	29.9	2.5	32.3	731
Residence				
Urban	9.2	1.8	11.0	2,411
Rural	14.5	3.3	17.8	2,374
Zone				
Coastal	11.9	2.2	14.1	2,206
Middle	12.2	2.4	14.6	1,916
Northern	10.5	4.0	14.5	663
Region				
Western	15.6	3.3	18.9	650
Central	13.6	2.2	15.8	413
Greater Accra	6.8	0.2	7.0	748
Volta	13.7	4.3	17.9	396
Eastern	11.1	1.9	13.0	490
Ashanti	12.2	2.6	14.8	936
Brong Ahafo	13.3	2.7	16.0	490
Northern	11.6	4.2	15.8	351
Upper East	12.7	4.6	17.3	176
Upper West	4.7	2.8	7.5	136
Education				
No education	27.1	7.7	34.7	164
Primary	19.9	3.2	23.1	835
Middle/JSS/JHS	12.3	2.7	15.0	2,595
Secondary/SSS/SHS	3.1	1.0	4.2	1,152
More than secondary	* 4	*	*	39
Wealth quintile				
Lowest	16.8	4.4	21.1	869
Second	18.5	2.9	21.4	1,027
Middle	13.2	3.2	16.3	1,051
Fourth	7.4	1.9	9.3	953
Highest	2.5	0.2	2.7	886
Total	11.8	2.5	14.4	4,785 4

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

Step 1: Read the title and subtitle. In this case, the table is about women age 15-19 and whether they have had a live birth or were pregnant at the time of the survey.

Step 2: Scan the column headings. The first column of data shows women age 15-19 who have had a live birth. The second column of data shows women age 15-19 who were pregnant at the time of the survey. The third column of data shows women who have begun childbearing, which includes both women who have had a live birth and women who were pregnant at the time of the survey. The final column lists the number of women age 15-19 interviewed in the survey.

Step 3: Scan the row headings. This table presents teenage pregnancy and motherhood by age, urban-rural residence, region, educational level, and wealth quintile.

Step 4: How many women age 15-19 were interviewed in the 2017 GMHS? It's 4,785. Once these women are further divided into the background characteristic categories, there may be too few cases for the percentages to be reliable.

- What percentage of women age 15-19 with more than secondary education have had a live birth? There is no number in this cell—only an asterisk. This is because fewer than 25 women age 15-19 with more than secondary education were interviewed. Results for this group are not reported. The subgroup is too small, and therefore the data are not reliable.

Note: When asterisks (or parentheses, although this table does not have any) are used in a table, the explanation will be noted under the table. If there are no parentheses or asterisks in a table, you can proceed with confidence that enough cases were included in all categories that the data are reliable.

Example 3: Understanding Sampling Weights in GMHS Tables

A sample is a group of people who have been selected for a survey. In the 2017 GMHS, the sample is designed to represent the national population age 15-49. In addition to national data, most countries want to collect and report data on smaller geographical or administrative areas. However, doing so requires a minimum sample size per area. For the 2017 GMHS, the survey sample is representative at the national and regional levels, across 3 zones, and for urban and rural areas.

Table 2.8 Background characteristics of respondents

Percent distribution of women age 15-49 by selected background characteristics, Ghana MHS 2017

Background characteristic	Number of women		
	Weighted percent	Weighted number	Unweighted number
	3	2	1
Region			
Western	12.9	3,230	2,334
Central	8.9	2,218	1,603
Greater Accra	18.6	4,673	2,535
Volta	8.0	2,000	1,466
Eastern	10.0	2,517	2,172
Ashanti	19.1	4,790	3,136
Brong Ahafo	9.4	2,367	2,302
Northern	7.1	1,786	4,202
Upper East	3.4	854	2,709
Upper West	2.5	628	2,603
Total 15-49	100.0	25,062	25,062

To generate statistics that are representative of the country as a whole and the 10 regions, the number of women surveyed in each region should contribute to the size of the total (national) sample in proportion to size of the region. However, if some regions have small populations, then a sample allocated in proportion to each region's population may not include sufficient women from each region for analysis. To solve this problem, regions with small populations are oversampled. For example, let's say that you have enough money to interview 25,062 women and want to produce results that are representative of Ghana as a whole and its regions (as in Table 2.8). However, the total population of Ghana is not evenly distributed among the regions: some regions, such as Ashanti, are heavily populated while others, such as Upper West, are not. Thus, Upper West must be oversampled.

A sampling statistician determines how many women should be interviewed in each region in order to get reliable statistics. The **blue column (1)** in the table at the top of this page shows the actual number of women interviewed in each region. Within the regions, the number of women interviewed ranges from 1,466 in Volta region to 4,202 in Northern region. The number of interviews is sufficient to get reliable results in each region.

With this distribution of interviews, some regions are overrepresented and some regions are underrepresented. For example, the population in Ashanti is 19% of the population in Ghana, while Upper West's population contributes only about 3% of the population in Ghana. But as the **blue column** shows, the number of women interviewed in Ashanti accounts for only about 13% of the total sample of women interviewed (3,136/25,602) and the number of women interviewed in Upper West accounts for about 10% of women interviewed (2,603/25,062). This unweighted distribution of women does not accurately represent the population.

In order to get statistics that are representative of Ghana, the distribution of the women in the sample needs to be weighted (or mathematically adjusted) such that it resembles the true distribution in the country. Women from a less populous region, like Upper West, should only contribute a small proportion to the national total. Women from a more populous region, like Ashanti, should contribute much more. Therefore, DHS statisticians mathematically calculate a "weight" which is used to adjust the number of women from each region so that each region's contribution to the total is proportional to the actual population of the region. The numbers in the **purple column (2)** represent the "weighted" values. The weighted values can be smaller or larger than the unweighted values at region level. The total national sample size of 25,062 women has not changed after weighting, but the distribution of the women in the regions has been changed to represent their contribution to the total population size.

How do statisticians weight each category? They take into account the probability that a woman was selected in the sample. If you were to compare the **green column (3)** to the actual population distribution of Ghana, you would see that women in each region are contributing to the total sample with the same weight that they contribute to the population of the country. The weighted number of women in the survey now accurately represents the proportion of women who live in Upper West region and the proportion of women who live in Ashanti region.

With sampling and weighting, it is possible to interview enough women to provide reliable statistics at national and region levels. In general, only the weighted numbers are shown in each of the GMHS tables, so don't be surprised if these numbers seem low: they may actually represent a larger number of women interviewed.

SUSTAINABLE DEVELOPMENT GOAL INDICATORS

Sustainable Development Goal Indicators

Ghana MHS 2017

Indicator	Sex		Total	Table number
	Male	Female		
3. Good health and well-being				
3.1.1 Maternal mortality ratio[1]	na	na	310	8.4
3.1.2 Proportion of births attended by skilled health personnel[2]	na	na	79.4	5.11
3.2.1 Under-five mortality rate[3]	57	47	52	7.2
3.2.2 Neonatal mortality rate[3]	28	21	25	7.2
3.7.2 Adolescent birth rates per 1,000 women				
a) Girls aged 10-14 years[4]	na	2	na	4.1
b) Women aged 15-19 years[5]	na	75	na	4.1
5. Gender equality				
5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18				
a) before age 15	na	4.9	na	3.3
b) before age 18	na	20.5	na	3.3
5.b.1 Proportion of individuals who own a mobile telephone[6]	na	70.2	na	2.13

	Residence		Total	Table number
	Urban	Rural		
7. Affordable clean energy				
7.1.1 Proportion of population with access to electricity	90.5	63.3	77.0	2.3
7.1.2 Proportion of population with primary reliance on clean fuels and technology[7]	35.6	7.1	21.5	2.3

	Sex		Total	Table number
	Male	Female		
8. Decent work and economic growth				
8.7.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider[8]	na	29.5	na	2.13
17. Partnerships for the goals				
17.8.1 Proportion of individuals using the Internet[9]	na	22.5	na	2.14

na = Not applicable

[1] Expressed in terms of maternal deaths per 100,000 live births in the 7-year period preceding the survey.

[2] Most recent live births and still births in the 5-year period preceding the survey.

[3] Expressed in terms of deaths per 1,000 live births for the 5-year period preceding the survey.

[4] Equivalent to the age-specific fertility rate for girls age 10-14 for the 3-year period preceding the survey, expressed in terms of births per 1,000 girls age 10-14.

[5] Equivalent to the age-specific fertility rate for women age 15-19 for the 3-year period preceding the survey, expressed in terms of births per 1,000 women age 15-19.

[6] Data are available for women age 15-49 only.

[7] Measured as the percentage of the population using clean fuel for cooking.

[8] Data are available for women age 15-49 who have and use and account at bank or other financial institution; information on use of a mobile-money-service provider is not available.

[9] Data are available for women age 15-49 who have used the internet in the past 12 months.

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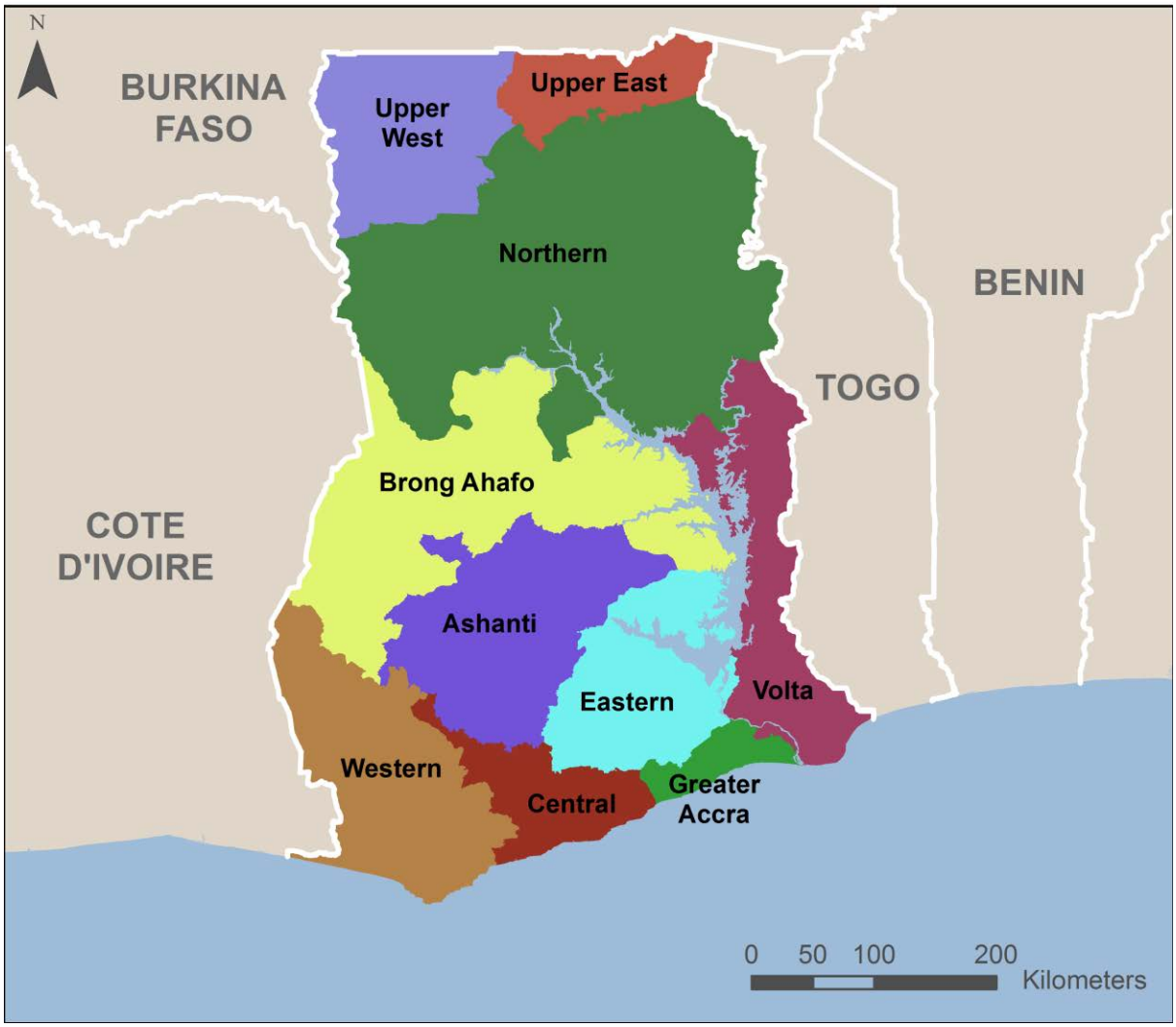

N
BURKINA FASO
Upper West
Upper East
Northern
BENIN
TOGO
Brong Ahafo
COTE D'IVOIRE
Ashanti
Eastern
Volta
Western
Central
Greater Accra
0 50 100 200
Kilometers

INTRODUCTION AND SURVEY METHODOLOGY 1

The 2017 Ghana Maternal Health Survey (GMHS) was implemented by the Ghana Statistical Service (GSS). Data collection took place from 15 June to 12 October 2017. ICF provided technical assistance through The DHS Program, which is funded by the United States Agency for International Development (USAID) and offers financial support and technical assistance for population and health surveys in countries worldwide. Financial support for the 2017 GMHS was provided by the Government of Ghana through the Ministry of Health (MOH) and by USAID, the European Union (EU) delegation to Ghana, and the United Nations Population Fund (UNFPA).

1.1 SURVEY OBJECTIVES

The primary objectives of the 2017 GMHS were as follows:

- To collect data at the national level that will allow an assessment of the level of maternal mortality in Ghana for the country as a whole and for three zones: Coastal (Western, Central, Greater Accra, and Volta regions), Middle (Eastern, Ashanti, and Brong Ahafo regions), and Northern (Northern, Upper East, and Upper West regions)
- To identify specific causes of maternal and non-maternal deaths, in particular deaths due to abortion-related causes, among adult women
- To collect data on women's perceptions of and experiences with antenatal, maternity, and emergency obstetrical care, especially with regard to care received before, during, and following the termination or abortion of a pregnancy
- To measure indicators of the utilisation of maternal health services, especially post-abortion care services
- To allow follow-on studies and surveys that will be used to observe possible reductions in maternal mortality as well as abortion-related mortality

The information collected through the 2017 GMHS is intended to assist policymakers and programme managers in evaluating and designing programmes and strategies for improving the health of the country's population.

1.2 SAMPLE DESIGN

The sample for the 2017 GMHS was designed to provide estimates of key reproductive health indicators for the country as a whole, for urban and rural areas separately, for three zonal levels (Coastal, Middle, and Northern), and for each of the 10 administrative regions in Ghana (Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo, Northern, Upper East, and Upper West).

The sampling frame used for the 2017 GMHS is the frame of the 2010 Population and Housing Census (PHC) conducted in Ghana. The 2010 PHC frame is maintained by GSS and updated periodically as new information is received from various surveys. The frame is a complete list of all census enumeration areas (EAs) created for the PHC. An EA is a geographic area that covers an average of 161 households (per updates to the PHC frame from the 2014 Ghana Demographic and Health Survey [GDHS]). Individual EA size is the number of residential households in the EA according to the 2010 PHC. The average size of urban EAs (185 households) is slightly larger than the average size of rural EAs (114 households). The

sampling frame contains information about the EA's location, type of residence (urban or rural), and estimated number of residential households.

The 2017 GMHS sample was stratified and selected from the sampling frame in two stages. Each region was separated into urban and rural areas; this yielded 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 the sample selection, according to administrative units at different levels, and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 900 EAs (466 EAs in urban areas and 434 EAs in rural areas) were selected with probability proportional to EA size and with independent selection in each sampling stratum. A household listing operation was implemented from 25 January to 9 April 2017 in all of the selected EAs. The resulting lists of households then served as a sampling frame for the selection of households in the second stage. The household listing operation included inquiring of each household if there had been any deaths in that household since January 2012 and, if so, the name, sex, and age at time of death of the deceased person(s).

Some of the selected EAs were very large. To minimise the task of household listing, each large EA selected for the 2017 GMHS was segmented. Only one segment was selected for the survey with probability proportional to segment size. Household listing was conducted only in the selected segment. Thus, in the GMHS, a cluster is either an EA or a segment of an EA. As part of the listing, the field teams updated the necessary maps and recorded the geographic coordinates of each cluster. The listing was conducted by 20 teams that included a supervisor, three listers/mappers, and a driver.

The second stage of selection provided two outputs: the list of households selected for the main survey (Household Questionnaire and Woman's Questionnaire) and the list of households selected for the verbal autopsy survey (Verbal Autopsy Questionnaire).

Selection for Main Survey

In the second stage of selection for the main survey, a fixed number of 30 households were selected from each cluster, resulting in a total sample size of 27,000 households. Replacement of nonresponding households was not allowed. Due to the non-proportional allocation of the sample to the different regions and the possible differences in response rates, sampling weights are required for any analysis that uses the 2017 GMHS data. This ensures the representativeness of the survey results at the national and regional levels. Results shown in this report have been weighted to account for the complex sample design.

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.

Selection for Verbal Autopsy Survey

In the second stage of selection for the verbal autopsy survey, all households in which a female resident age 10-54 died in 2012 or later were selected to be visited by an interviewer. However, only the deaths of female residents who were age 12-49 at the time of death were eligible to be included in the survey. A wider age range was used for the initial selection in case of minor inaccuracies on the part of the person who provided information during the household listing operation; the first questions in the Verbal Autopsy Questionnaire established true eligibility, and interviews ended if the deceased woman was discovered to have died before age 12, after age 49, or before 2012.

There is a chance that some households were both purposively selected for the verbal autopsy survey and randomly selected for the main survey.

1.3 QUESTIONNAIRES

Three questionnaires were used in the 2017 GMHS: the Household Questionnaire, the Woman's Questionnaire, and the Verbal Autopsy Questionnaire. The survey protocol was reviewed and approved by the ICF Institutional Review Board.

The Household Questionnaire and the Woman's Questionnaire were adapted from The DHS Program's standard Demographic and Health Survey questionnaires and the questionnaires used in the 2007 GMHS to reflect the specific interests and data needs of this survey. The Verbal Autopsy Questionnaire was adapted from the recent 2016 World Health Organization (WHO) verbal autopsy instrument.

For all questionnaires, input was solicited from stakeholders representing government ministries and development partners. After the finalization of the questionnaires in English, they were translated into three major languages: Akan, Ga, and Ewe. The Household and Woman's Questionnaires were programmed into tablet computers to facilitate computer-assisted personal interviewing (CAPI) for data collection purposes, with the capability to choose any of the four languages for either of the questionnaires. The Verbal Autopsy Questionnaire was filled out on paper during data collection and entered into the CAPI system afterwards. The tablet computers were equipped with Bluetooth® technology to enable remote electronic transfer of files, such as assignments from the team supervisor to the interviewers, individual questionnaires among survey team members, and completed questionnaires from interviewers to team supervisors. The CAPI data collection system employed in the 2017 GMHS was developed by The DHS Program using the mobile version of CSPro. The CSPro software was developed jointly by the U.S. Census Bureau, The DHS Program, and Serpro S.A.

Household Questionnaire

The Household Questionnaire was used to list all members of and visitors to 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. The data on age and sex of household members obtained in the Household Questionnaire were used to identify women who were eligible for individual interviews. The Household Questionnaire also collected information on 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.

Woman's Questionnaire

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

- **Background characteristics**
- **Pregnancy history:** number, outcome (live birth, stillbirth, miscarriage, abortion), and timing of all pregnancies
- **Family planning:** knowledge of contraception, current use and current source of contraception
- **Pregnancy and postnatal care for most recent live birth or stillbirth:** antenatal, delivery, and postnatal care; complications experienced and treatment sought during any of these stages
- **Abortion:** method used, complications experienced, and care sought for abortion; knowledge of abortion
- **Miscarriage:** perceived cause, complications experienced, and care sought for miscarriage

- **Marriage and sexual activity:** marital status, age at first marriage, number of unions, and age at first sexual intercourse
- **Adult and maternal mortality**
- **Health care access, insurance, and disability**

Verbal Autopsy Questionnaire

The Verbal Autopsy Questionnaire was used to collect information on the deaths of women who died on or after 1 January 2012 while age 12-49. Questions were asked on the following topics:

- **Background characteristics**
- **Narrative of illness/events leading to death**
- **History of injuries/accidents:** details of any injury/accident sustained by the deceased
- **History of diagnoses:** whether the deceased had been diagnosed with any of a list of specific illnesses/conditions
- **General signs/symptoms:** whether the deceased exhibited particular signs/symptoms (coughing, night sweats, fever, rash, etc.)
- **Signs/symptoms associated with pregnancy:** detailed questions on signs/symptoms associated with maternal causes of death
- **Risk factors:** consumption of alcohol and tobacco
- **Treatment received:** treatment/medical details of the deceased's contact with health services before death
- **Access to and quality of services:** contextual information about the deceased's contact with health services before death
- **Death certificate and burial permit:** information on timing and cause of death from the death certificate and burial permit (if available)

Fieldworkers for the 2017 GMHS also completed the Fieldworker Questionnaire, adapted from The DHS Program's standard questionnaire. The purpose of the Fieldworker Questionnaire is to collect basic background information on the people who are collecting data in the field, both supervisors and interviewers.

1.4 LISTING AND PRETEST

The listing training took place from 16-22 January 2017 in Winneba (Central region). GSS recruited and trained 89 people (78 men, 11 women) to serve as supervisors and listers/mappers. The listing for the 2017 GMHS was unusual among DHS Program surveys because it incorporated screening of households for deaths that would be eligible for inclusion in the verbal autopsy sample.

The pretest training took place from 8 March to 4 April 2017 in Winneba. GSS and ICF trained 15 female participants on survey procedures and how to administer the Household, Woman's, and Verbal Autopsy Questionnaires. The trainees had a mix of backgrounds and spoke a variety of languages, including Akan, Ga, and Ewe. A few had never participated in any survey, and the remainder had various degrees of experience with previous GSS and DHS surveys, including one individual who had participated in the 2007 GMHS. One had completed medical school. The pretest fieldwork was conducted on 1 and 3 March

2017 in clusters near the training venue that were not included in the 2017 GMHS survey sample area. GSS, the Ghana Health Service (GHS), and ICF held a debriefing on the field practice on 4 April 2017, and the questionnaires were modified based on lessons learned from the exercise.

1.5 Training of Field Staff

The main training took place from 8 May to 8 June 2017 in Winneba (Central region). GSS recruited 106 interviewer trainees (all women) and 27 supervisor trainees (19 men, 8 women). The trainees had a mix of backgrounds and spoke a variety of languages, including Akan, Ga, and Ewe. Some had never participated in any survey, while the remainder had varied degrees of experience with previous GSS and DHS surveys. In addition, some had trained as nurses or midwives. Prospective supervisors had all worked on many GSS surveys. The training course consisted of instruction regarding interviewing techniques and field procedures, a detailed review of questionnaire content, instruction on how to administer the paper and electronic questionnaires, mock interviews between participants in the classroom, quizzes and homework, and practice interviews with real respondents in locations outside the 2017 GMHS survey sample area. To help put the importance of the 2017 GMHS into context for the trainees, the training also included a presentation by a representative of GHS on maternal health and Ghana-specific maternal health policies.

Practice fieldwork was conducted on 27 May and from 5-6 June 2017 in clusters near the training venue that were not included in the 2017 GMHS survey sample area. GSS, GHS, and ICF held a debriefing after each field practice session and provided clarifications to trainees in addition to making modifications to the questionnaires based on lessons learned in the field.

Training participants were evaluated through classwork, in-class exercises, quizzes, and observations made during field practice. Ultimately, 100 of them were selected to serve as interviewers and 25 as supervisors. Selection of supervisors was based on their experience leading survey teams and their performance during the pretest (if applicable) and main training. Supervisors received additional instructions and practice using the CAPI system to perform supervisory activities. These activities included assigning households and receiving completed interviews from interviewers, recognising and dealing with error messages, receiving system updates and distributing updates to interviewers, dealing with duplicated cases, closing clusters, and transferring interviews to the central office via a secure internet file streaming system (IFSS). In addition to the CAPI material, supervisors received training on their roles and responsibilities and how to fulfil them.

1.6 Fieldwork

Data collection was carried out by 25 field teams, each consisting of one supervisor (male or female), four interviewers (all female), and one driver. Electronic data files were transferred from each interviewer's tablet computer to the team supervisor's tablet computer every day. Field supervisors transferred data to the central data processing office via the IFSS. Senior staff from GSS coordinated and monitored fieldwork activities. Data collection took place over a 4-month period, from 15 June through 12 October 2017.

1.7 Verbal Autopsy Cause of Death Training and Coding

For the verbal autopsy process to be complete, each questionnaire must be reviewed (ideally by a physician), and the reviewer must complete a death certificate with the immediate and underlying cause(s) of death. Coding the cause(s) of death recorded in the death certificate according to the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10), is a further step that produces internationally comparable data on the underlying cause of death.

The cause of death certification and ICD-10 coding training took place 15-25 January 2018 in Mankessim (Central region). GSS recruited six physicians (five men, one woman) who were trained on both cause of death certification and ICD-10 coding; two GSS staff (both men) were also trained on ICD-10 coding.

The cause of death certification and coding exercise took place over a 4-month period, from 26 January through 21 May 2018. As part of quality assurance, each Verbal Autopsy Questionnaire was independently reviewed and assigned a cause (or causes) of death by two different physicians to validate one another. When the two physicians had discordant results for a questionnaire, that questionnaire was re-reviewed by two physicians (not necessarily the original reviewers); for more details, see Chapter 9. In all, there were 1,367 Verbal Autopsy Questionnaires completed for women who died after 1 January 2012; 1,240 died in the 5 years preceding the survey (time between date of death and date of interview).

1.8 DATA PROCESSING

All electronic data files for the 2017 GMHS were transferred via the IFSS to the GSS central office in Accra, where they were stored on a password-protected computer. The data processing operation included registering and checking for any inconsistencies and outliers. Data editing and cleaning included structure and consistency checks to ensure completeness of work in the field. The central office also conducted secondary editing, which required resolution of computer-identified inconsistencies and coding of open-ended questions. The data were processed by five GSS staff members. Data editing was accomplished using CSPro software. Secondary editing and data processing were initiated in June and completed in November 2017.

1.9 RESPONSE RATES

A total of 27,001 households were selected for the sample, of which 26,500 were occupied at the time of fieldwork (**Table 1.1**). Of the occupied households, 26,324 were successfully interviewed, yielding a response rate of 99%. In the interviewed households, 25,304 eligible women were identified for individual interviews; interviews were completed with 25,062 women, yielding a response rate of 99%.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Ghana MHS 2017

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	13,980	13,021	27,001
Households occupied	13,720	12,780	26,500
Households interviewed	13,590	12,734	26,324
Household response rate[1]	99.1	99.6	99.3
Interviews with women age 15-49			
Number of eligible women	12,681	12,623	25,304
Number of eligible women interviewed	12,544	12,518	25,062
Eligible women response rate[2]	98.9	99.2	99.0

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

CHARACTERISTICS OF HOUSEHOLDS, HOUSEHOLD POPULATION, AND RESPONDENTS 2

Key Findings

- ***Drinking water:*** Nearly 9 in 10 households (89%) have access to an improved source of drinking water.
- ***Sanitation:*** Eight in 10 households (82%) have unimproved toilet facilities.
- ***Literacy:*** More than half of Ghanaian women age 15-49 are literate (54%).
- ***Education:*** Women in urban areas are four times as likely as women in rural areas to have more than secondary education (12% versus 3%).
- ***Media access:*** Twenty-six percent of women age 15-49 does not access newspaper, television or radio at least once a week.
- ***Health insurance:*** Twenty-one percent of women age 15-49 are neither registered nor covered under any health insurance scheme in Ghana.

Information on the socioeconomic characteristics of the household population in the 2017 GMHS provides context to interpret demographic and health indicators and can furnish an approximate indication of the representativeness of the survey. In addition, this information sheds light on the living conditions of the population.

This chapter presents information on source of drinking water, sanitation, wealth, and household population composition. This chapter also presents information on the demographic and socioeconomic characteristics of the survey respondents such as age, disability, education, place of residence, marital status, and wealth status. This information is useful for understanding the factors that affect use of reproductive health services, contraceptive use, and other health behaviours.

2.1 DRINKING WATER SOURCES AND TREATMENT

Improved sources of drinking water

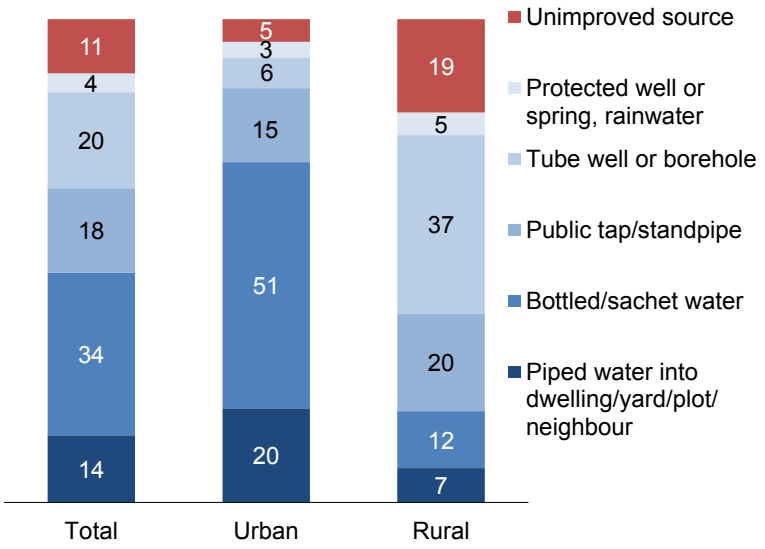
Include piped water, public taps, standpipes, tube wells, boreholes, protected dug wells and springs, and rainwater. Households that use bottled or sachet water for drinking are classified as using an improved source only if their water source for cooking and handwashing comes from an improved source.

Sample: Households

As seen in **Table 2.1** and **Figure 2.1**, 89% of households in Ghana get their drinking water from an improved source. One in three households uses bottled/sachet water for drinking and has an improved source of water used for other purposes (34% of households). Tube wells/boreholes are the second most common source for drinking water (20%), followed by public taps (18%). In urban households, half of households use bottled/sachet water for drinking and have an improved source for other uses (51%), 15% use a public tap, and 12% use piped water. For rural areas, the most common source of drinking water is tube wells/boreholes (37%), followed by public taps (20%). Nineteen percent of rural households use unimproved sources for drinking water. For 1 in 10 households (12%), it takes 30 or more minutes (round trip) to obtain drinking water.

***Figure 2.1* Household drinking water by residence**

Percent distribution of households by source of drinking water



Trends: The percentage of households using an improved source of drinking water increased from 61% in 1993 to 68% in 2007 to 90% in 2014 and remained stable at 89% in 2017.

2.2 SANITATION

Improved toilet facilities

Include any non-shared toilet of the following types: flush/pour flush toilets to piped sewer systems, septic tanks, and pit latrines; ventilated improved pit (VIP) latrines; pit latrines with slabs; and composting toilets.

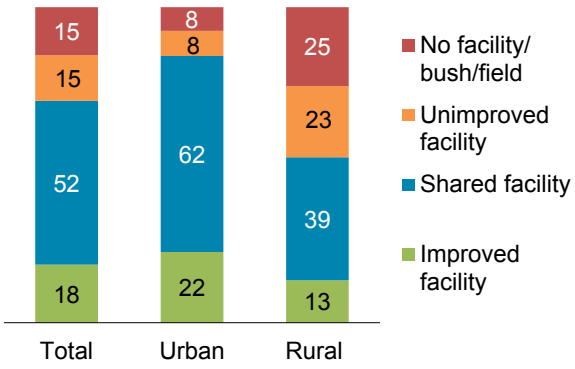
Sample: Households

Only 18% of households in Ghana have an improved toilet facility (**Table 2.2** and **Figure 2.2**). Fifty-two percent use facilities that would be considered improved if not shared by two or more households, 15% use unimproved facilities, and 15% have no facility at all and use open defecation. Nearly half of rural households use either unimproved facilities (23%) or open defecation (25%).

Trends: The percentage of households that have an improved toilet facility increased from 10% in 2007 to 18% in 2017.

***Figure 2.2* Household toilet facilities by residence**

Percent distribution of households by type of toilet facilities



2.3 OTHER HOUSEHOLD CHARACTERISTICS

Seventy-nine percent of Ghanaian households have electricity - 91% of households in urban areas and 65% in rural areas (**Table 2.3**). The percentage of households with electricity increased from 52% in 2007 to 79% in 2017. Cement is the most common flooring material used in Ghana (54% of all households, 46% of urban households, and 63% of rural households). The type of fuel used for cooking by a household can affect indoor air quality and household health. Seven in 10 households use either charcoal or wood (35% each), and one-quarter use liquefied petroleum gas/natural gas/biogas. Only about one-quarter of Ghanaian households (27%) use clean fuel for cooking.

2.4 HOUSEHOLD WEALTH

Household Durable Goods

The possession of household durable goods is a useful indicator of household socioeconomic status (**Table 2.4**). Nine in ten households in urban areas (95%) and eight in ten households in rural areas (85%) possess mobile phones. Sixty-four percent of households in Ghana have a radio, and an equal percentage own a television. A refrigerator is available in 36% of households, with urban households being more than twice as likely as rural households to own a refrigerator (50% compared with 18%). Bicycles are the most commonly owned means of transport, with 21% of households in Ghana owning a bicycle. Twelve percent of the households own motorcycle/scooter, while 10% own a car/truck. One-third of households own agricultural land, with rural households more likely to own land (50%) than urban households (18%). Thirty-six percent of households in the country possess farm animals; 56% in rural areas and 21% in urban areas.

Wealth Index

Wealth index

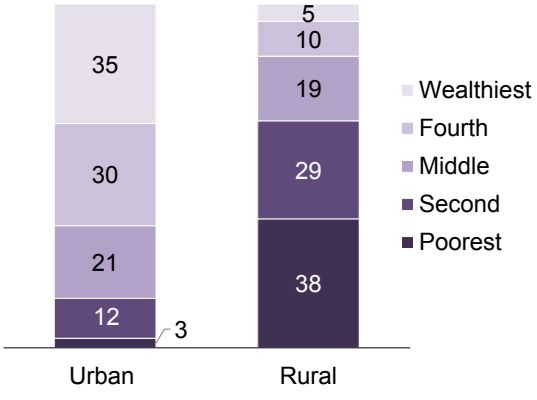
Households are given scores based on the number and kinds of consumer goods they own, ranging from a television to a bicycle or car, and housing characteristics such as source of drinking water, toilet facilities, and flooring materials. These scores are derived using principal component analysis. National wealth quintiles are compiled by assigning the household score to each usual (de jure) household member, ranking each person in the household population by their score, and then dividing the distribution into five equal categories, each with 20% of the population.

Sample: Households

Table 2.5 shows the distribution of the de jure household population by wealth quintile, according to place of residence and region. Eighty-six percent of urban residents are distributed among the top three quintiles, compared with just 34% of rural residents (**Figure 2.3**). At the regional level, Greater Accra region has the greatest percentage of the population in the highest wealth quintile (52%), compared with only 2% of the population in Upper East region, 3% in Northern region and 4% in Upper West region. More than half of the population in Northern, Upper East and Upper West regions is in the lowest wealth quintile (58%, 72% and 61% respectively).

Figure 2.3 **Household wealth by residence**

Percent distribution of de jure population by wealth quintiles



2.5 HOUSEHOLD POPULATION AND COMPOSITION

Household

A person or group of related or unrelated persons who live together in the same dwelling unit(s), who acknowledge one adult male or female as the head of the household, who share the same housekeeping arrangements, and who are considered a single unit.

De facto population

All persons who stayed in the selected households the night before the interview (whether usual residents or visitors).

De jure population

All persons who are usual residents of the selected households, whether or not they stayed in the household the night before the interview.

How data are calculated

All tables are based on the de facto population, unless specified otherwise.

Table 2.6 and **Figure 2.4** present the distribution of the de facto household population by age and sex according to urban and rural residence. The 2017 GMHS enumerated 98,564 persons, of which 52% are females, yielding a sex ratio (the number of males for every 100 females) of 92 (**Table 2.6**). The population is equally divided among the urban and rural areas. Forty percent of the population in Ghana is under age 15, and 5% is age 65 or older. Together, these two age groups constitute the dependent age group. The percentage of the population in the dependent age group is greater in rural than urban areas (46% and 41%, respectively). Further, 14% of the population is under age 5 and 22% are adolescents (age 10-19).

Figure 2.4 **Population pyramid**

Percent distribution of the household population

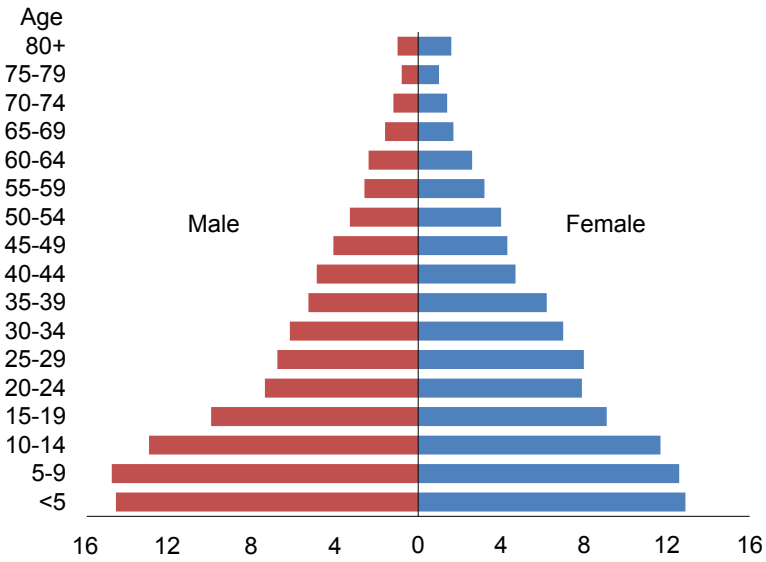


Table 2.7 shows that almost twice as many households are headed by men as by women (67% versus 34%), a pattern observed both in urban and in rural areas. The household size is larger in rural areas (mean size of 4.2 persons) than in urban areas (mean size of 3.4 persons). Single-member households are more common in urban areas (24%) than in rural areas (18%).

Trends: The percentage of households headed by females in 2017 (34%) is almost the same as in 2007 (32%). Within the same period, there was a decrease in the average size of households in Ghana from 4.2 to 3.8 persons.

2.6 BASIC CHARACTERISTICS OF SURVEY RESPONDENTS

Table 2.8 shows the weighted and unweighted numbers and the weighted percent distributions of women age 15-49 who were interviewed in the 2017 GMHS, by background characteristics. More than half of the

respondents age 15-49 are under age 30 (53%). The vast majority of respondents are Christians. More than 4 in 10 women (44%) are Pentecostal/Charismatic. Ten percent, 13%, and 14% are Catholic, Anglican/ Methodist/Presbyterian, and other Christian respectively. Fifteen percent of women are Muslim.

The Akans form the largest ethnic group, with about half of respondents (49%), followed by the Mole-Dagbanis (15%), and the Ewes (14%). One-third of women (34%) have never been married, and over half of women (57%) are married or living together with a partner (i.e., in union). Only 7% of women are divorced/separated, while 2% are widowed (2%). More than half of women age 15-49 live in urban areas (55%). The percentage of women in each of the 10 sub-national regions ranges from 3% in the Upper West region to 19% in the Ashanti and Greater Accra regions.

2.7 DISABILITY

The 2017 GMHS included The DHS Program disability module, a series of questions based on the Washington Group on Disability Statistics Short Set that are based on the framework of the World Health Organization's International Classification of Functioning, Disability, and Health. The questions address six core functional domains—seeing, hearing, communication, cognition, walking, and self-care. Each respondent was asked if she had no difficulty, some difficulty, a lot of difficulty, or did not have the ability at all in each domain.

Functional domains

Seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing.

Sample: Women age 15-49

Fifty-two percent of women age 15-49 had no difficulty in functioning in any of the domains studied. However, 10% had a lot of difficulty performing the functions of at least one domain, and 0.2% cannot function at all in at least one domain. The percentage of women who have a lot of difficulty or cannot function at all in a given domain ranges from 0.6% for communicating to 4% in remembering or concentrating. The percentage of women who have a lot of difficulty or cannot function at all in at least one of the six domains increases with age from 8% or less among women under age 30 to 18% among women age 40-49 (**Table 2.9**).

2.8 EDUCATION AND LITERACY

Literacy

Respondents who have attended higher than secondary school are assumed to be literate. All other respondents, shown a typed sentence to read aloud, are considered literate if they could read all or part of the sentence.

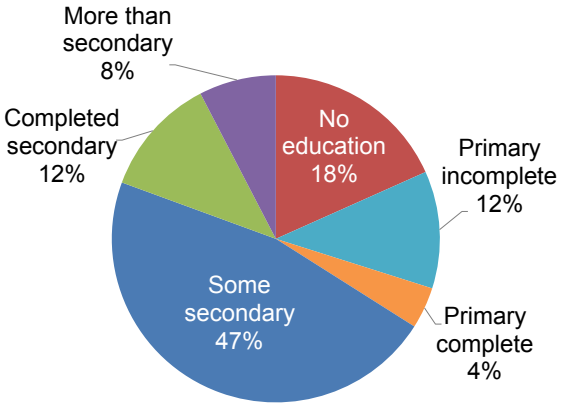
Sample: Women age 15-49

Nearly one-fifth (18%) of the women interviewed had no education, 12% had incomplete primary education, had 4% complete primary education, 47% had incomplete secondary education, and 12% completed secondary education, with only 8% attaining more than secondary education. More than half of women age 15-49 (54%) are literate (**Table 2.10**, **Table 2.11**, and **Figure 2.5**).

Trends: Women's educational attainment has improved since 2007. The percentage of women with no education decreased from 26% in 2007 to 18% in 2017. While the percentage of women with complete secondary education increased from 7% to 12%, those with more than secondary education increased from 3% to 8%.

Figure 2.5 Education of survey respondents

Percent distribution of women age 15-49 by highest level of schooling attended or completed



Patterns by background characteristics

- Women age 20-24 (28%) are more likely than women in other age groups to have complete secondary education (28%), while those age 25-29 are most likely to have attended more than secondary education, and women age 45-49 are the most likely to have never attended school.
- Among the regions, the percentage of women age 15-49 with no education is highest in the Northern region (58%) and lowest in Greater Accra (7%) (**Figure 2.6**).
- Women in urban areas (12%) are four times as likely to complete more than secondary education as women in the rural areas (3%).
- Whereas 46% of women in the highest wealth quintile have completed secondary education or more, only 3% of women in the lowest quintile have done so (**Figure 2.7**).

Figure 2.6 No education by region

Percentage of women age 15-49 with no education

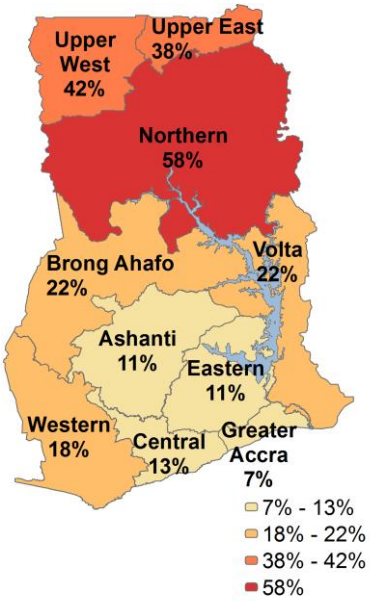
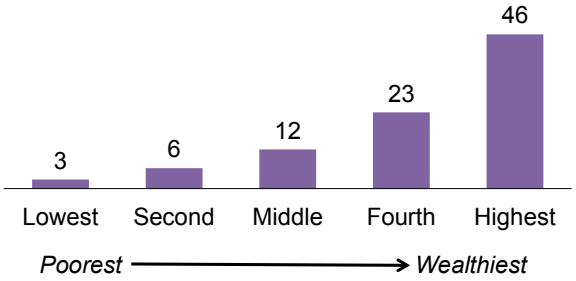


Figure 2.7 Secondary education by household wealth

Percentage of women age 15-49 with complete secondary education or higher



2.9 Mass Media Exposure

Exposure to mass media

Respondents were asked how often they read a newspaper, listened to the radio, or watched television. Those who responded *at least once a week* are considered regularly exposed to that form of media.

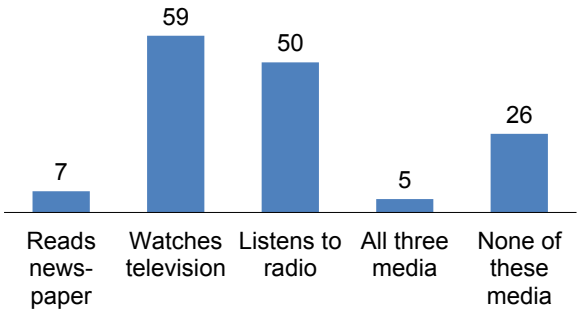
Sample: Women age 15-49

Women age 15-49 were asked how often they listen to the radio, watch television, or read the newspaper. Only 7% of women age 15-49 read a newspaper at least once a week whereas 59% watch television at least once a week, and 50% listen to the radio at least once a week. Only 5% of women access all three media at least once a week, while 26% access none of the three media at least once a week (**Table 2.12** and **Figure 2.8**).

Trends: The survey results show a decline in the percentage of women 15-49 who read a newspaper at least once a week from 12% in the 2007 GHMS, to 7% in the 2017 GMHS. Likewise, those who listen to the radio at least once a week decreased from 74% in 2007 to 50% in 2017. However, the percentage who watch television increased from 48% in the 2007 GMHS to 59% in 2017.

Figure 2.8 **Exposure to mass media**

Percentage of women age 15-49 who are exposed to media on a weekly basis



Patterns by background characteristics

- Seven percent of urban women accesses all three media at least once a week, compared with 2% of their counterparts in the rural areas.
- There is a wide variation in access to media by region. More than three in four women in Greater Accra region who watch television at least once a week (77%), compared with 33% of women in the Upper East region.
- Only 7% of women 15-49 with more than secondary education access none of the three media at least once a week, compared with 45% of those with no education.

2.10 Bank Accounts, Mobile Phones, and Internet Usage

Has and uses a bank account

Respondents who have an account in a bank or other financial institution that they themselves use

Sample: Women age 15-49

The 2017 GMHS asked women whether they have and use a bank account and whether they own a mobile phone. Women who own mobile phones were asked if they use their mobile phone for any financial transactions. Thirty percent of women age 15-49 have a bank account that they themselves use. Seventy percent of women own a mobile phone, and among these, 63% use their mobile phone for financial transactions (**Table 2.13**).

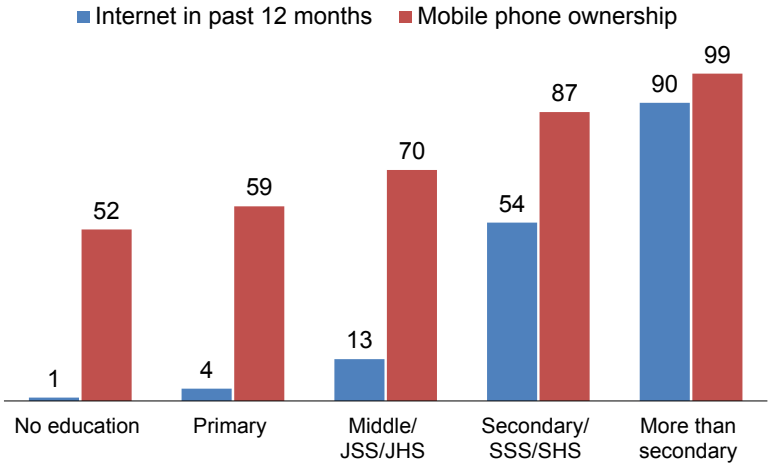
Respondents were also asked if they have ever used the internet and if they have used it in the last 12 months. Women who used the internet in the past 12 months were asked how often they used the internet in the past month. One in four women have ever used the internet (25%), and 23% used the internet in the past year. Among women who used the internet in the past 12 months, the majority of women (64%) said that during the past month, they used the internet almost every day (**Table 2.14**).

Patterns by background characteristics

- By age, women age 30-34 (39%) are most likely to have a bank account, while those age 25-29 are most likely to own a mobile phone (80%). Among those who own a mobile phone, those age 25-29 are also most likely to use it for financial transactions (70%).
- Women in the Northern zone are much less likely than those in the Middle and Coastal zones to have a bank account (11% vs. 32%), own a mobile phone (48% vs. 72% or higher), to use a mobile phone for financial transactions (46% of mobile phone owners vs. 64% or higher), and to have ever used the internet (10% vs. 24% or higher).
- Women in urban areas are more likely than those in rural areas to have and use a bank account, own a mobile phone, and, if they own a mobile phone, to use it for financial transaction compared with their rural counterparts. Urban women are also more likely to have ever used the internet (37% vs. 10%).
- Ownership of a bank account and mobile phone, use of a mobile phone for financial transactions, and use of the internet all increase markedly with education and wealth. For example, ownership of a mobile phone increases from 52% among women with no education to 99% among those with more than secondary education (**Figure 2.9**).

Figure 2.9 **Internet access in past 12 months and mobile phone ownership**

Percentage of women age 15-49 who have used the internet in the past 12 months and who own a mobile phone



2.11 Health Insurance Registration and Coverage

The National Health Insurance Scheme (NHIS) was established as one of the key pillars of the Poverty Reduction Programme of the Government of Ghana. It was introduced in 2003 by the National Health Insurance Act (Act 650) with the view of improving financial access of Ghanaians, especially the poor and the vulnerable, to quality basic health care services. The NHIS is a contributory scheme, renewable on an annual basis, and valid card holders can access both public and private healthcare facilities accredited by the National Health Insurance Authority. The contribution is structured in a way that people contribute according to their ability, and each person receives according to his/her need. In this way, the health insurance subsidises the health cost for the sick, and the economically active pay for children, the aged, and the indigent.

In Ghana, it is possible to be registered for health insurance without being covered, i.e. in possession of a valid insurance card and therefore able to access the benefits of health insurance. Being registered without being covered may happen if an individual has not fully paid their premium, or if an individual is in the

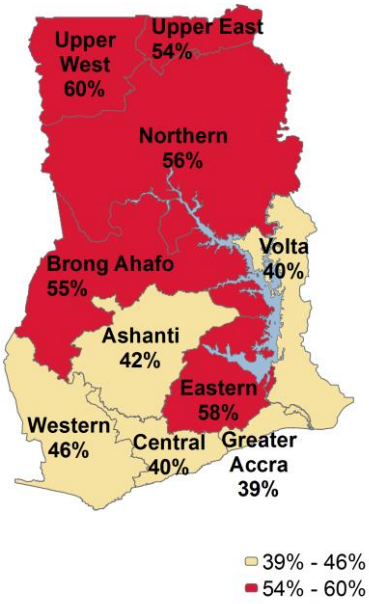
waiting period between completion of registration paperwork and receiving a card, or an individual's card has expired and has not been renewed. Seventy-nine percent of women age 15-49 have registered with any health insurance scheme in the country. However, only 46% are actually covered by any insurance scheme. One-fifth (21%) of women age 15-49 are neither registered nor covered under any scheme. The national/district health insurance schemes are the most common type of health insurance coverage, covering 46% of women age 15-49 (**Table 2.15**).

Patterns by background characteristics

- Urban and rural women are roughly equally likely to be registered with any insurance (80% vs. 78%). By region, being registered with any insurance ranges from 69% in Volta to 92% in the Upper East region (**Figure 2.10**).
- One-quarter of women with no education are neither registered nor covered under any insurance scheme compared with 12% of those with more than secondary education.
- Women in the poorest quintile (26%) are more likely to lack coverage compared with those in the richest quintile (17%).

Figure 2.10 Health insurance coverage by region

Percentage of women age 15-49 with health insurance coverage



Health Insurance and Maternity Benefits

Respondents were also asked about the maternity benefits associated with health insurance. Among women age 15-49 with health insurance, 83% indicated that their insurance covers antenatal care, 79% said their insurance covers childbirth health care in a facility, 78% said their insurance covers postnatal care health care for themselves, and 77% said their insurance covers postnatal health care for the child. Only 3% said they receive cash benefits during maternity leave, and 15% said they receive no benefits for any maternity-related services. (**Table 2.16**)

Sixty-eight percent of respondents said they sometimes have to pay out of their pockets for drugs and services, 16% said they always have to pay for drugs, and 15% said they never had to pay out of their pockets for drugs and services.

List of Tables

For more information on housing characteristics, household population, and survey respondents, see the following tables:

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- **Table 2.2 Household sanitation facilities**
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- **Table 2.4 Household possessions**
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Table 2.1 Household drinking water

Percent distribution of households and de jure population by source of drinking water, and by time to obtain drinking water according to residence, Ghana MHS 2017

	Households			Population		
Characteristic	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	95.3	80.7	88.8	94.9	79.6	87.3
Piped into dwelling/yard/plot	12.1	3.7	8.3	12.9	3.4	8.2
Piped to neighbour	7.4	3.4	5.6	8.2	3.4	5.9
Public tap/standpipe	15.3	20.1	17.5	16.6	19.4	18.0
Tube well/borehole	6.4	37.0	19.9	7.4	40.3	23.7
Protected dug well	2.8	3.7	3.2	3.4	3.8	3.6
Protected spring	0.1	0.3	0.2	0.2	0.4	0.3
Rain water	0.3	0.7	0.5	0.4	0.5	0.4
Bottled/sachet water, improved source for cooking/handwashing[1]	51.0	11.8	33.7	45.8	8.4	27.3
Unimproved source	4.7	19.3	11.2	5.1	20.4	12.7
Unprotected dug well	1.0	3.5	2.1	1.3	4.1	2.7
Unprotected spring	0.1	0.6	0.3	0.1	0.6	0.3
Tanker truck/cart with small tank	0.1	0.0	0.1	0.1	0.0	0.1
Surface water	0.8	13.6	6.5	1.1	14.6	7.8
Bottled/sachet water, unimproved source for cooking/handwashing[1]	2.6	1.5	2.2	2.5	1.0	1.8
Other source	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Time to obtain drinking water (round trip)						
Water on premises[2]	62.9	15.8	42.1	61.8	14.4	38.4
Less than 30 minutes	32.7	63.1	46.1	32.9	61.2	46.9
30 minutes or longer	4.1	20.8	11.5	4.9	24.0	14.4
Don't know/missing	0.3	0.4	0.3	0.3	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	14,678	11,646	26,324	50,094	49,077	99,171

[1] Households using bottled water for drinking are classified as using an improved or unimproved source according to their water source for cooking and handwashing.
[2] Includes water piped to a neighbour

Table 2.2 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities according to residence, Ghana MHS 2017

	Households			Population		
Type of toilet/latrine facility	Urban	Rural	Total	Urban	Rural	Total
Improved sanitation	22.4	13.4	18.4	24.7	13.9	19.4
Flush/pour flush to piped sewer system	0.5	0.1	0.3	0.6	0.1	0.3
Flush/pour flush to septic tank	16.8	3.1	10.7	18.0	2.7	10.4
Flush/pour flush to pit latrine	0.2	0.2	0.2	0.2	0.2	0.2
Ventilated improved pit (VIP) latrine	2.6	3.5	3.0	3.1	3.7	3.4
Pit latrine with a slab	2.2	6.5	4.1	2.7	7.2	4.9
Composting toilet	0.0	0.0	0.0	0.1	0.0	0.1
Unimproved sanitation	77.6	86.6	81.6	75.3	86.1	80.6
Shared facility[1]	62.1	39.0	51.9	58.7	33.1	46.0
Flush/pour flush to piped sewer system	0.6	0.0	0.4	0.5	0.0	0.2
Flush/pour flush to septic tank	21.6	3.0	13.4	19.1	2.0	10.6
Flush/pour flush to pit latrine	1.8	0.6	1.3	1.8	0.5	1.2
Ventilated improved pit (VIP) latrine	28.9	17.9	24.0	28.5	15.2	21.9
Pit latrine with a slab	9.0	17.4	12.7	8.8	15.2	12.0
Composting toilet	0.1	0.1	0.1	0.1	0.1	0.1
Unimproved facility	8.0	22.6	14.5	8.2	23.6	15.8
Flush/pour flush not to sewer/septic tank/pit latrine	0.3	0.1	0.2	0.3	0.1	0.2
Pit latrine without slab/open pit	6.8	22.1	13.5	7.0	23.3	15.1
Bucket	0.2	0.2	0.2	0.2	0.1	0.2
Hanging toilet/hanging latrine	0.0	0.1	0.0	0.0	0.0	0.0
Other	0.7	0.1	0.5	0.7	0.1	0.4
Open defecation (No facility/bush/field)	7.5	25.0	15.2	8.4	29.4	18.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/population	14,678	11,646	26,324	50,094	49,077	99,171

[1] Facilities that would be considered improved if they were not shared by two or more households.

Table 2.3 Household characteristics

Percent distribution of households and de jure population by housing characteristics, percentage using solid fuel for cooking and percentage using clean fuel for cooking, according to residence, Ghana MHS 2017

	Households			Population		
Housing characteristic	Urban	Rural	Total	Urban	Rural	Total
Electricity						
Yes	90.5	65.0	79.2	90.5	63.3	77.0
No	9.5	35.0	20.8	9.5	36.7	23.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Flooring material						
Earth/sand	3.3	14.5	8.2	3.7	15.5	9.6
Dung	0.1	0.6	0.3	0.1	0.8	0.4
Wood planks	0.5	0.1	0.3	0.3	0.0	0.2
Palm/bamboo	0.0	0.0	0.0	0.0	0.0	0.0
Parquet or polished wood	0.2	0.3	0.3	0.2	0.3	0.3
Vinyl or asphalt strips	0.0	0.0	0.0	0.0	0.0	0.0
Ceramic or porcelain tiles/ marble/terrazzo	16.6	3.2	10.7	17.1	3.1	10.1
Cement	45.8	63.4	53.6	48.9	65.7	57.2
Woolen carpet/synthetic carpet	19.4	9.0	14.8	17.4	7.0	12.3
Linoleum/rubber carpet	14.1	8.8	11.7	12.3	7.4	9.9
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Rooms used for sleeping						
One	61.3	51.7	57.0	47.3	35.5	41.4
Two	25.2	28.1	26.5	30.8	31.6	31.2
Three or more	13.5	20.2	16.5	21.9	32.9	27.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Cooking fuel						
Electricity	1.2	0.9	1.1	1.0	0.8	0.9
LPG/natural gas/biogas	38.7	9.6	25.8	34.6	6.3	20.6
Kerosene	0.1	0.0	0.1	0.1	0.0	0.0
Coal/lignite	0.1	0.0	0.0	0.1	0.0	0.0
Charcoal	44.4	22.1	34.6	47.5	18.0	32.9
Wood	11.8	64.5	35.1	15.5	73.0	44.0
Straw/shrubs/grass	0.0	0.9	0.4	0.1	1.1	0.6
Agricultural crops	0.0	0.2	0.1	0.0	0.3	0.2
No food cooked in household	3.6	1.7	2.8	1.2	0.5	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	56.3	87.8	70.2	63.1	92.5	77.6
Percentage using clean fuel for cooking[2]	39.9	10.5	26.9	35.6	7.1	21.5
Number of households/population	14,678	11,646	26,324	50,094	49,077	99,171

LPG = Liquefied petroleum gas
[1] Includes coal/lignite, charcoal, wood, straw/shrubs/grass, and agricultural crops
[2] Includes electricity and LPG/natural gas/biogas

Table 2.4 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land and livestock/farm animals, according to residence, Ghana MHS 2017

	Residence		
Possession	Urban	Rural	Total
Household effects			
Radio	67.8	59.4	64.1
Television	78.6	44.6	63.6
Mobile phone	94.7	85.0	90.4
Computer	24.9	7.3	17.1
Non-mobile telephone	1.6	0.3	1.0
Refrigerator	50.1	18.2	36.0
Means of transport			
Bicycle	16.5	26.8	21.1
Animal drawn cart	0.4	1.4	0.9
Motorcycle/scooter	9.3	14.7	11.7
Car/truck	13.8	4.8	9.8
Boat with a motor	0.5	0.4	0.5
Ownership of agricultural land	18.4	50.3	32.5
Ownership of farm animals[1]	20.9	55.9	36.4
Number	14,678	11,646	26,324

[1] Milk cows, other cattle, horses, donkeys, mules, goats, sheep, chickens, other poultry, pigs, rabbits and/or grasscutters

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 MHS 2017

Residence/region	Wealth quintile					Total	Number of persons	Gini coefficient
	Lowest	Second	Middle	Fourth	Highest			
Residence								
Urban	2.8	11.6	21.1	29.7	34.7	100.0	50,094	0.16
Rural	37.5	28.5	18.8	10.1	5.0	100.0	49,077	0.30
Region								
Western	14.7	24.4	24.1	20.8	16.0	100.0	10,765	0.30
Central	9.8	27.3	25.9	23.1	13.9	100.0	9,091	0.24
Greater Accra	0.7	5.9	13.9	26.9	52.5	100.0	16,457	0.16
Volta	31.2	29.0	19.5	13.5	6.7	100.0	8,980	0.36
Eastern	15.7	23.1	21.6	23.4	16.1	100.0	10,441	0.25
Ashanti	6.6	17.4	25.2	25.6	25.3	100.0	18,677	0.22
Brong Ahafo	21.7	28.3	25.5	17.2	7.3	100.0	9,468	0.31
Northern	58.0	19.7	11.2	7.7	3.4	100.0	8,481	0.40
Upper East	72.1	13.9	7.2	4.5	2.3	100.0	4,074	0.38
Upper West	60.6	21.2	7.9	6.4	3.9	100.0	2,738	0.35
Total	20.0	20.0	20.0	20.0	20.0	100.0	99,171	0.28

Table 2.6 Household population by age, sex, and residence

Percent distribution of the de facto household population by various age groups and percentage of the de facto household population age 10-19, according to sex and residence, Ghana MHS 2017

Age	Urban			Rural					
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	13.9	12.1	12.9	15.2	13.8	14.5	14.6	12.9	13.7
5-9	13.3	11.2	12.2	16.1	14.0	15.1	14.8	12.6	13.6
10-14	11.6	11.3	11.4	14.3	12.2	13.2	13.0	11.7	12.3
15-19	9.4	8.9	9.1	10.6	9.4	10.0	10.0	9.1	9.6
20-24	8.1	8.6	8.4	6.9	7.2	7.0	7.4	7.9	7.7
25-29	7.8	9.1	8.5	5.8	7.0	6.4	6.8	8.0	7.4
30-34	7.2	7.7	7.4	5.3	6.2	5.7	6.2	7.0	6.6
35-39	6.0	6.6	6.3	4.7	5.9	5.3	5.3	6.2	5.8
40-44	5.4	4.9	5.1	4.4	4.5	4.5	4.9	4.7	4.8
45-49	4.3	4.4	4.4	3.9	4.2	4.1	4.1	4.3	4.2
50-54	3.5	4.3	4.0	3.1	3.5	3.3	3.3	4.0	3.6
55-59	2.9	3.2	3.1	2.3	3.3	2.8	2.6	3.2	2.9
60-64	2.3	2.6	2.5	2.4	2.6	2.5	2.4	2.6	2.5
65-69	1.7	1.6	1.6	1.5	1.8	1.7	1.6	1.7	1.6
70-74	1.0	1.3	1.2	1.4	1.5	1.4	1.2	1.4	1.3
75-79	0.7	0.9	0.8	0.9	1.1	1.0	0.8	1.0	0.9
80 +	0.8	1.4	1.2	1.1	1.8	1.5	1.0	1.6	1.3
Don't know/missing	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dependency age groups									
0-14	38.8	34.5	36.5	45.7	40.0	42.8	42.3	37.2	39.6
15-64	57.0	60.2	58.7	49.3	53.7	51.6	53.1	57.1	55.2
65+	4.2	5.2	4.7	4.9	6.3	5.6	4.6	5.7	5.2
Don't know/missing	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Child and adult populations									
0-17	44.7	40.1	42.2	52.6	46.2	49.3	48.7	43.0	45.8
18+	55.2	59.9	57.7	47.4	53.8	50.6	51.2	57.0	54.2
Don't know/missing	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Adolescents 10-19	21.1	20.1	20.6	24.9	21.6	23.2	23.0	20.8	21.9
Number of persons	23,079	26,634	49,714	24,093	24,757	48,850	47,173	51,391	98,564

Table 2.7 Household composition

Percent distribution of households by sex of head of household and by household size; and mean size of households, according to residence, Ghana MHS 2017

Characteristic	Residence		Total
	Urban	Rural	
Household headship			
Male	63.3	70.5	66.5
Female	36.7	29.5	33.5
Total	100.0	100.0	100.0
Number of usual members			
0	0.0	0.1	0.0
1	24.0	17.7	21.2
2	16.2	12.4	14.5
3	16.3	14.5	15.5
4	15.3	14.8	15.0
5	12.2	12.7	12.4
6	7.6	10.1	8.7
7	3.9	7.4	5.5
8	2.2	4.4	3.1
9+	2.2	6.0	3.9
Total	100.0	100.0	100.0
Mean size of households	3.4	4.2	3.8
Number of households	14,678	11,646	26,324

Note: Table is based on de jure household members, i.e., usual residents.

Table 2.8 Background characteristics of respondents

Percent distribution of women age 15-49 by selected background characteristics, Ghana MHS 2017

Background characteristic	Number of women		
	Weighted percent	Weighted number	Unweighted number
Age			
15-19	19.1	4,785	4,888
20-24	16.8	4,208	4,259
25-29	16.9	4,229	4,179
30-34	14.8	3,709	3,628
35-39	13.2	3,313	3,262
40-44	9.9	2,481	2,448
45-49	9.3	2,337	2,398
Disability status[1]			
A lot of difficulty or unable to function in at least one domain	10.2	2,554	2,582
Some or no difficulty in all domains	89.8	22,508	22,480
Religion			
Catholic	9.6	2,411	3,322
Anglican/Methodist/Presbyterian	12.7	3,193	2,441
Pentecostal/Charismatic	44.2	11,076	9,013
Other Christian	13.9	3,479	2,975
Muslim	15.4	3,860	6,080
Traditional/Spiritualist	1.8	462	617
No religion	2.3	578	611
Other	0.0	4	3
Ethnic group			
Akan	48.6	12,191	8,837
Ga/Dangme	8.1	2,038	1,279
Ewe	13.9	3,471	2,474
Guan	3.3	824	905
Mole-Dagbani	15.1	3,790	7,651
Grusi	2.8	703	1,284
Gurma	5.1	1,287	1,799
Mande	0.9	222	293
Other	2.1	535	540
Marital status			
Never married	33.5	8,397	7,936
Married	36.3	9,098	10,869
Living together	21.0	5,262	4,183
Divorced/separated	6.9	1,736	1,430
Widowed	2.3	568	644

Continued

Table 2.8—*Continued*

Background characteristic	Number of women		
	Weighted percent	Weighted number	Unweighted number
Residence			
Urban	54.9	13,752	12,544
Rural	45.1	11,310	12,518
Zone			
Coastal	48.4	12,121	7,938
Middle	38.6	9,674	7,610
Northern	13.0	3,267	9,514
Region			
Western	12.9	3,230	2,334
Central	8.9	2,218	1,603
Greater Accra	18.6	4,673	2,535
Volta	8.0	2,000	1,466
Eastern	10.0	2,517	2,172
Ashanti	19.1	4,790	3,136
Brong Ahafo	9.4	2,367	2,302
Northern	7.1	1,786	4,202
Upper East	3.4	854	2,709
Upper West	2.5	628	2,603
Education			
No education	18.3	4,585	6,508
Primary	15.7	3,934	3,897
Middle/JSS/JHS	40.2	10,081	8,695
Secondary/SSS/SHS	18.2	4,550	4,180
More than secondary	7.6	1,912	1,782
Wealth quintile			
Lowest	16.2	4,064	6,925
Second	18.8	4,721	4,714
Middle	20.4	5,111	4,447
Fourth	21.7	5,443	4,631
Highest	22.8	5,723	4,345
Total 15-49	100.0	25,062	25,062

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
na = Not applicable
[1] If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown. Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing.

Table 2.9 Disability by domain and age

Percent distribution of women age 15-49 by degree of difficulty in functioning according to domain, and percent distribution by the highest degree of difficulty in functioning in at least one domain by age, Ghana MHS 2017

Domain and age	Degree of difficulty					Total	A lot of difficulty or cannot do at all	Number of women
	No difficulty	Some difficulty	A lot of difficulty	Cannot do at all	Don't know/ missing			
Domain								
Difficulty seeing	77.8	19.4	2.8	0.0	0.0	100.0	2.8	25,062
Difficulty hearing	93.8	5.5	0.7	0.0	0.0	100.0	0.7	25,062
Difficulty communicating	95.8	3.6	0.5	0.1	0.0	100.0	0.6	25,062
Difficulty remembering or concentrating	73.7	21.9	4.4	0.0	0.0	100.0	4.4	25,062
Difficulty walking or climbing steps	81.7	15.0	3.3	0.1	0.0	100.0	3.3	25,062
Difficulty washing all over or dressing	95.3	4.0	0.6	0.0	0.0	100.0	0.7	25,062
Difficulty in at least one domain[1]								
15-19	55.6	36.9	7.4	0.1	0.0	100.0	7.5	4,785
20-29	58.4	34.2	7.2	0.3	0.0	100.0	7.4	8,437
30-39	52.6	37.2	10.1	0.1	0.0	100.0	10.2	7,022
40-49	34.3	48.1	17.3	0.3	0.0	100.0	17.6	4,818
Total[1]	51.6	38.2	10.0	0.2	0.0	100.0	10.2	25,062

[1] If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown.

Table 2.10 Educational attainment

Percent distribution of women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Ghana MHS 2017

Background characteristic	Highest level of schooling						Total	Median years completed	Number of women
	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary			
Age									
15-24	5.9	10.5	4.0	57.0	17.7	4.9	100.0	8.2	8,993
15-19	3.4	13.0	4.4	69.7	8.6	0.8	100.0	7.8	4,785
20-24	8.7	7.7	3.5	42.6	28.1	9.5	100.0	8.6	4,208
25-29	16.0	9.6	4.5	39.3	16.8	13.8	100.0	8.4	4,229
30-34	22.3	12.4	3.7	39.7	9.0	12.8	100.0	8.1	3,709
35-39	27.5	13.6	3.9	41.4	6.7	6.8	100.0	7.0	3,313
40-44	31.3	13.6	4.4	43.2	3.1	4.4	100.0	5.7	2,481
45-49	36.7	13.2	4.2	41.3	1.3	3.3	100.0	5.0	2,337
Disability status[3]									
A lot of difficulty or unable to function in at least one domain	26.3	14.9	4.6	43.8	6.9	3.5	100.0	6.2	2,554
Some or no difficulty in all domains	17.4	11.2	4.0	46.9	12.4	8.1	100.0	8.1	22,508
Residence									
Urban	11.2	9.3	3.6	48.1	16.2	11.7	100.0	8.5	13,752
Rural	27.0	14.5	4.7	44.7	6.5	2.7	100.0	6.1	11,310
Zone									
Coastal	13.6	11.1	4.5	48.7	13.0	9.0	100.0	8.2	12,121
Middle	13.5	12.0	3.9	51.8	11.9	6.9	100.0	8.2	9,674
Northern	49.9	12.2	2.9	23.0	7.1	4.8	100.0	0.0	3,267
Region									
Western	17.6	10.1	3.8	51.5	11.5	5.5	100.0	8.0	3,230
Central	13.2	14.7	2.6	53.6	10.8	5.1	100.0	8.1	2,218
Greater Accra	7.3	8.9	4.7	46.1	17.8	15.2	100.0	8.7	4,673
Volta	22.2	13.9	7.4	45.0	6.9	4.5	100.0	6.3	2,000
Eastern	11.0	13.6	5.7	52.6	11.4	5.7	100.0	8.1	2,517
Ashanti	10.8	10.9	3.2	53.6	13.2	8.4	100.0	8.4	4,790
Brong Ahafo	21.8	12.8	3.5	47.1	9.9	5.0	100.0	7.1	2,367
Northern	58.3	9.3	2.6	18.4	6.7	4.6	100.0	0.0	1,786
Upper East	38.2	15.7	3.6	29.9	8.1	4.6	100.0	4.2	854
Upper West	41.8	16.0	3.1	26.8	6.6	5.7	100.0	3.4	628
Wealth quintile									
Lowest	47.8	17.3	4.5	27.7	2.5	0.2	100.0	1.0	4,064
Second	22.7	16.5	5.4	49.4	5.4	0.7	100.0	6.1	4,721
Middle	15.8	12.7	4.3	55.5	9.7	2.0	100.0	7.8	5,111
Fourth	10.5	9.5	4.0	53.2	16.7	6.1	100.0	8.4	5,443
Highest	3.3	4.6	2.6	43.3	21.1	25.1	100.0	9.8	5,723
Total	18.3	11.6	4.1	46.6	11.8	7.6	100.0	8.1	25,062

[1] Completed 6th grade at the primary level
[2] Completed 6th grade at the secondary level
[3] If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown. Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing.

Table 2.11 Literacy

Percent distribution of women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Ghana MHS 2017

Background characteristic	Higher than secondary schooling	No schooling or primary or secondary school					Total	Percentage 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	Blind/visually impaired			
Age									
15-24	4.9	54.8	14.3	25.8	0.2	0.0	100.0	74.0	8,993
15-19	0.8	62.0	15.9	21.0	0.2	0.0	100.0	78.7	4,785
20-24	9.5	46.6	12.5	31.2	0.2	0.1	100.0	68.6	4,208
25-29	13.8	32.3	11.5	42.3	0.1	0.0	100.0	57.6	4,229
30-34	12.8	24.6	10.1	52.4	0.1	0.0	100.0	47.6	3,709
35-39	6.8	18.3	11.8	62.9	0.1	0.1	100.0	37.0	3,313
40-44	4.4	16.1	10.6	68.7	0.1	0.1	100.0	31.1	2,481
45-49	3.3	15.4	8.9	71.9	0.1	0.4	100.0	27.6	2,337
Residence									
Urban	11.7	40.9	12.2	35.0	0.1	0.1	100.0	64.8	13,752
Rural	2.7	26.0	11.8	59.3	0.2	0.0	100.0	40.5	11,310
Zone									
Coastal	9.0	37.9	13.6	39.3	0.2	0.1	100.0	60.5	12,121
Middle	6.9	34.7	11.1	47.2	0.1	0.1	100.0	52.6	9,674
Northern	4.8	19.0	8.9	66.9	0.2	0.0	100.0	32.8	3,267
Region									
Western	5.5	34.1	12.8	47.3	0.2	0.2	100.0	52.4	3,230
Central	5.1	33.6	14.0	47.1	0.1	0.1	100.0	52.7	2,218
Greater Accra	15.2	44.5	14.0	26.2	0.0	0.0	100.0	73.7	4,673
Volta	4.5	33.5	13.3	48.2	0.5	0.0	100.0	51.3	2,000
Eastern	5.7	40.1	14.8	39.4	0.0	0.0	100.0	60.5	2,517
Ashanti	8.4	35.7	9.9	45.9	0.0	0.2	100.0	54.0	4,790
Brong Ahafo	5.0	26.9	9.5	58.3	0.3	0.0	100.0	41.4	2,367
Northern	4.6	15.8	8.6	70.8	0.1	0.0	100.0	29.1	1,786
Upper East	4.6	24.2	9.9	60.9	0.5	0.1	100.0	38.6	854
Upper West	5.7	21.2	8.6	64.2	0.3	0.0	100.0	35.5	628
Wealth quintile									
Lowest	0.2	15.6	9.1	74.8	0.2	0.1	100.0	24.9	4,064
Second	0.7	26.5	12.5	60.1	0.2	0.0	100.0	39.7	4,721
Middle	2.0	35.3	13.1	49.4	0.1	0.1	100.0	50.3	5,111
Fourth	6.1	42.1	13.7	37.9	0.1	0.1	100.0	61.9	5,443
Highest	25.1	45.2	11.1	18.4	0.0	0.1	100.0	81.5	5,723
Total	7.6	34.2	12.0	46.0	0.1	0.1	100.0	53.8	25,062

[1] Refers to women who attended schooling higher than the secondary level and women who can read a whole sentence or part of a sentence

Table 2.12 Exposure to mass media

Percentage of women age 15-49 who are exposed to specific media on a weekly basis, according to background characteristics, Ghana MHS 2017

Background characteristic	Reads a newspaper 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	9.4	57.1	38.6	4.4	30.8	4,785
20-24	8.4	63.9	47.8	5.1	23.4	4,208
25-29	9.0	64.2	52.7	6.4	23.0	4,229
30-34	7.3	61.7	56.2	5.2	23.4	3,709
35-39	4.8	56.1	53.7	3.5	27.2	3,313
40-44	3.6	55.2	55.3	2.7	27.7	2,481
45-49	3.2	49.4	54.3	2.6	30.5	2,337
Residence						
Urban	10.5	72.0	54.9	6.9	17.5	13,752
Rural	3.0	43.4	44.6	1.6	37.1	11,310
Zone						
Coastal	9.1	65.6	55.2	5.9	20.0	12,121
Middle	6.2	59.5	48.7	4.0	27.2	9,674
Northern	2.2	33.8	36.3	0.9	47.2	3,267
Zone						
Coastal	9.1	65.6	55.2	5.9	20.0	12,121
Middle	6.2	59.5	48.7	4.0	27.2	9,674
Northern	2.2	33.8	36.3	0.9	47.2	3,267
Region						
Western	4.2	61.7	50.5	2.0	22.0	3,230
Central	4.8	58.2	42.3	2.1	27.2	2,218
Greater Accra	16.2	76.7	63.0	11.2	12.0	4,673
Volta	5.1	54.0	59.1	3.7	27.2	2,000
Eastern	5.5	47.4	41.9	3.3	38.1	2,517
Ashanti	7.4	68.9	55.7	5.2	19.1	4,790
Brong Ahafo	4.4	53.3	41.7	2.4	32.2	2,367
Northern	1.3	34.2	34.8	0.6	49.6	1,786
Upper East	4.2	32.8	41.3	1.5	41.6	854
Upper West	2.1	34.1	34.1	0.9	48.1	628
Education						
No education	0.1	35.3	39.3	0.1	44.9	4,585
Primary	0.7	50.8	45.3	0.3	32.1	3,934
Middle/JSS/JHS	4.2	61.8	50.3	2.1	24.3	10,081
Secondary/SSS/SHS	14.1	74.4	57.3	8.7	15.0	4,550
More than secondary	35.8	82.3	69.4	26.2	7.2	1,912
Wealth quintile						
Lowest	1.0	16.0	34.7	0.3	57.5	4,064
Second	2.4	43.4	44.8	1.1	35.6	4,721
Middle	4.0	64.2	47.7	2.2	23.1	5,111
Fourth	6.6	76.0	54.5	3.8	14.7	5,443
Highest	18.6	82.0	64.1	13.0	10.4	5,723
Total	7.1	59.1	50.2	4.5	26.3	25,062

Table 2.13 Ownership and use of bank accounts and mobile phones

Percentage of women age 15-49 who have and use an account in a bank or other financial institution and percentage who own a mobile phone; among women who own a mobile phone, percentage who use it for financial transactions, according to background characteristics, Ghana MHS 2017

Background characteristic	Have and use a bank account	Own a mobile phone	Number of women	Use mobile phone for financial transactions	Number of women who own a mobile phone
Age					
15-19	5.5	39.9	4,785	46.1	1,909
20-24	28.3	78.2	4,208	69.0	3,290
25-29	37.6	80.0	4,229	69.6	3,383
30-34	39.4	77.5	3,709	66.0	2,874
35-39	37.3	76.8	3,313	61.0	2,545
40-44	34.8	76.7	2,481	58.2	1,903
45-49	33.4	72.0	2,337	61.8	1,683
Residence					
Urban	40.9	81.5	13,752	67.8	11,206
Rural	15.6	56.4	11,310	54.9	6,380
Zone					
Coastal	32.0	75.1	12,121	65.7	9,102
Middle	32.3	71.7	9,674	63.5	6,933
Northern	11.4	47.5	3,267	46.0	1,552
Region					
Western	25.6	70.8	3,230	61.6	2,287
Central	23.7	70.6	2,218	65.1	1,566
Greater Accra	48.2	85.4	4,673	69.3	3,989
Volta	13.7	63.0	2,000	63.0	1,259
Eastern	27.7	72.8	2,517	69.5	1,832
Ashanti	36.2	74.9	4,790	65.2	3,589
Brong Ahafo	29.4	63.9	2,367	52.5	1,512
Northern	9.4	45.4	1,786	43.6	811
Upper East	12.8	55.1	854	49.3	471
Upper West	15.5	43.1	628	47.6	271
Education					
No education	12.2	51.8	4,585	39.3	2,376
Primary	16.6	58.8	3,934	54.9	2,311
Middle/JSS/JHS	25.0	69.8	10,081	62.6	7,035
Secondary/SSS/SHS	42.4	87.3	4,550	72.4	3,972
More than secondary	89.6	98.9	1,912	85.7	1,892
Wealth quintile					
Lowest	3.8	36.4	4,064	37.2	1,479
Second	11.5	57.7	4,721	51.0	2,723
Middle	21.9	72.0	5,111	61.4	3,681
Fourth	38.1	82.7	5,443	68.6	4,504
Highest	60.9	90.8	5,723	73.3	5,199
Total	29.5	70.2	25,062	63.1	17,586

Table 2.14 Internet usage

Percentage of women age 15-49 who have ever used the internet, and percentage who have used the internet in the past 12 months; and among women who have used the internet in the past 12 months, percent distribution by frequency of internet use in the past month, according to background characteristics, Ghana MHS 2017

Background characteristic	Ever used the internet	Used the internet in the past 12 months	Number	Among respondents who have used the internet in the past 12 months, percentage who, in the past month, used internet: Almost every day	At least once a week	Less than once a week	Not at all	Total	Number
Age									
15-19	23.8	21.4	4,785	50.2	28.1	14.8	6.9	100.0	1,023
20-24	41.6	38.2	4,208	65.7	21.8	7.5	5.0	100.0	1,606
25-29	35.0	32.2	4,229	65.8	19.0	10.8	4.4	100.0	1,360
30-34	24.9	22.7	3,709	67.6	21.4	7.1	3.9	100.0	843
35-39	16.0	14.4	3,313	68.8	20.2	7.4	3.6	100.0	479
40-44	9.0	8.3	2,481	65.8	16.9	12.6	4.6	100.0	206
45-49	6.0	5.4	2,337	65.4	27.9	5.9	0.8	100.0	126
Residence									
Urban	36.5	33.6	13,752	66.1	20.7	8.7	4.4	100.0	4,618
Rural	10.3	9.1	11,310	51.5	27.9	14.0	6.6	100.0	1,025
Zone									
Coastal	29.3	26.8	12,121	65.3	20.5	9.4	4.9	100.0	3,248
Middle	24.0	22.0	9,674	61.5	23.3	10.3	4.9	100.0	2,127
Northern	9.6	8.2	3,267	57.9	30.8	8.0	3.3	100.0	267
Region									
Western	22.9	19.7	3,230	48.6	27.1	18.3	6.0	100.0	638
Central	20.6	19.0	2,218	60.5	25.4	9.2	4.8	100.0	422
Greater Accra	44.7	41.5	4,673	70.8	17.6	6.8	4.8	100.0	1,938
Volta	13.3	12.5	2,000	73.3	16.9	7.1	2.7	100.0	249
Eastern	21.2	19.6	2,517	60.9	19.7	15.4	3.9	100.0	494
Ashanti	29.6	27.8	4,790	64.0	23.2	8.2	4.5	100.0	1,329
Brong Ahafo	15.6	12.8	2,367	51.1	29.5	11.3	8.0	100.0	304
Northern	9.4	8.4	1,786	61.8	26.4	7.7	4.1	100.0	150
Upper East	10.4	8.4	854	48.5	41.5	7.6	2.5	100.0	72
Upper West	9.1	7.2	628	59.8	28.5	10.1	1.7	100.0	46
Education									
No education	1.4	1.0	4,585	(54.4)	(23.7)	(19.1)	(2.8)	(100.0)	47
Primary	4.4	3.7	3,934	54.1	24.9	10.4	10.6	100.0	146
Middle/JSS/JHS	14.5	12.6	10,081	46.5	29.3	16.6	7.6	100.0	1,272
Secondary/SSS/SHS	59.7	53.9	4,550	60.9	24.0	9.7	5.4	100.0	2,453
More than secondary	92.5	90.1	1,912	80.7	13.5	4.3	1.5	100.0	1,723
Wealth quintile									
Lowest	2.0	1.3	4,064	33.0	33.2	30.0	3.7	100.0	51
Second	6.6	5.4	4,721	39.1	34.7	16.4	9.8	100.0	253
Middle	15.8	13.6	5,111	49.7	27.9	14.3	8.1	100.0	698
Fourth	29.7	27.1	5,443	55.2	27.0	11.0	6.7	100.0	1,477
Highest	58.7	55.3	5,723	72.8	17.2	7.2	2.8	100.0	3,163
Total	24.7	22.5	25,062	63.5	22.0	9.7	4.8	100.0	5,642

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

Table 2.15 Health insurance registration and coverage

Percentage of women age 15-49 registered with any health insurance, percentage covered by any health insurance, percentage covered by specific types of health insurance, and percentage neither registered with nor covered by any health insurance, according to background characteristics, Ghana MHS 2017

Background characteristic	Registered with any insurance[1]	Covered by any insurance	Covered by[2]: National/ district health insurance	Employer based insurance	Mutual health organisation/ community-based insurance	Privately purchased commercial health insurance	Other	Neither registered nor covered	Number of women
Age									
15-19	72.7	43.1	43.0	0.2	0.1	0.0	0.0	27.3	4,785
20-24	79.5	45.4	45.3	0.2	0.0	0.1	0.0	20.5	4,208
25-29	82.1	50.2	49.8	0.8	0.2	0.1	0.0	17.9	4,229
30-34	84.2	50.9	50.2	0.7	0.3	0.5	0.2	15.8	3,709
35-39	81.7	45.3	45.0	0.6	0.1	0.4	0.0	18.3	3,313
40-44	80.1	45.5	45.3	0.8	0.0	0.1	0.0	19.9	2,481
45-49	76.0	41.6	40.7	0.4	0.1	0.3	0.0	24.0	2,337
Residence									
Urban	80.2	47.2	46.6	0.8	0.2	0.3	0.1	19.8	13,752
Rural	78.4	45.1	45.0	0.1	0.0	0.1	0.0	21.6	11,310
Zone									
Coastal	73.5	40.9	40.3	0.6	0.2	0.3	0.1	26.5	12,121
Middle	84.6	49.5	49.4	0.6	0.0	0.2	0.0	15.4	9,674
Northern	85.5	56.2	56.1	0.2	0.0	0.0	0.0	14.5	3,267
Region									
Western	76.2	45.6	45.5	0.2	0.1	0.1	0.0	23.8	3,230
Central	74.4	39.7	39.6	0.2	0.0	0.1	0.0	25.6	2,218
Greater Accra	73.1	38.7	37.2	1.2	0.3	0.6	0.2	26.9	4,673
Volta	69.0	40.0	39.9	0.1	0.2	0.1	0.0	31.0	2,000
Eastern	84.5	57.9	57.8	0.6	0.1	0.0	0.0	15.5	2,517
Ashanti	82.5	42.4	42.2	0.7	0.0	0.2	0.0	17.5	4,790
Brong Ahafo	89.1	55.0	54.9	0.3	0.0	0.2	0.0	10.9	2,367
Northern	80.7	55.7	55.6	0.2	0.0	0.0	0.0	19.3	1,786
Upper East	91.8	54.4	54.4	0.1	0.0	0.0	0.0	8.2	854
Upper West	90.5	60.0	60.0	0.1	0.1	0.0	0.0	9.5	628
Education									
No education	75.5	43.5	43.5	0.1	0.0	0.0	0.0	24.5	4,585
Primary	74.5	38.8	38.7	0.2	0.0	0.0	0.0	25.5	3,934
Middle/JSS/JHS	79.6	44.2	44.0	0.2	0.0	0.1	0.0	20.4	10,081
Secondary/SSS/SHS	83.0	51.9	51.7	0.6	0.1	0.1	0.0	17.0	4,550
More than secondary	88.2	65.2	62.4	3.7	1.1	2.1	0.4	11.8	1,912
Wealth quintile									
Lowest	74.5	40.9	40.9	0.0	0.0	0.0	0.0	25.5	4,064
Second	76.9	41.0	41.0	0.1	0.0	0.0	0.0	23.1	4,721
Middle	78.4	44.0	43.9	0.1	0.0	0.1	0.0	21.6	5,111
Fourth	81.8	49.1	49.0	0.5	0.0	0.1	0.0	18.2	5,443
Highest	83.3	53.6	52.3	1.6	0.4	0.7	0.2	16.7	5,723
Total	79.4	46.2	45.9	0.5	0.1	0.2	0.0	20.6	25,062

[1] Registered includes those who are covered.
[2] Respondents may be covered by more than one type of health insurance.

Table 2.16 Health insurance and maternity benefits

Among women age 15-49 with health insurance coverage, percentage whose insurance covers specific maternity benefits, and percent distribution by payment for drugs and services, according to background characteristics, Ghana MHS 2017

	Insurance covers							Required to pay for drugs and services					
Background characteristic	Antenatal health care	Childbirth health care in a facility	Postnatal health care for the mother	Postnatal health care for the child	Cash benefits during maternity leave	Other maternity benefits	No maternity benefits	Always	Some-times	Never	Don't know	Total	Number of women with insurance
Age													
15-19	58.7	54.1	54.2	51.6	1.1	1.0	36.8	12.0	61.2	21.8	5.0	100.0	2,062
20-24	83.4	77.5	78.0	76.1	2.0	1.6	14.4	14.3	68.1	15.7	1.9	100.0	1,912
25-29	89.3	85.4	85.5	83.9	3.5	1.6	9.4	15.8	68.7	14.6	0.9	100.0	2,122
30-34	93.4	87.5	88.5	86.5	4.0	1.8	5.3	15.7	70.0	13.7	0.6	100.0	1,888
35-39	90.5	87.0	85.6	84.4	2.5	1.6	8.6	19.2	66.9	13.2	0.8	100.0	1,502
40-44	87.1	84.7	84.2	80.8	3.5	1.2	10.9	18.7	70.7	10.0	0.7	100.0	1,130
45-49	81.1	80.0	77.7	77.1	2.1	1.1	15.8	18.0	69.6	10.8	1.6	100.0	971
Residence													
Urban	80.0	75.1	75.3	72.9	3.6	1.6	17.3	18.9	66.9	12.2	1.9	100.0	6,489
Rural	86.4	83.0	82.4	81.0	1.5	1.2	12.1	11.8	68.2	18.4	1.6	100.0	5,098
Zone													
Coastal	81.5	76.0	76.1	72.4	3.9	1.6	16.0	17.8	69.8	10.1	2.3	100.0	4,961
Middle	83.6	79.5	79.5	78.4	1.8	1.3	14.2	17.6	65.6	15.4	1.4	100.0	4,791
Northern	84.0	83.1	81.9	82.4	1.6	1.6	14.4	5.6	66.2	27.0	1.2	100.0	1,836
Region													
Western	83.8	80.3	73.8	71.4	1.4	0.3	14.4	13.3	77.2	7.4	2.1	100.0	1,473
Central	84.1	79.3	80.7	77.7	3.0	2.3	13.6	10.0	74.6	13.9	1.5	100.0	881
Greater Accra	76.1	66.6	71.2	67.7	7.8	3.0	20.2	21.9	65.3	9.1	3.7	100.0	1,807
Volta	86.8	85.8	86.4	79.1	0.9	0.0	12.2	25.4	61.1	13.0	0.5	100.0	800
Eastern	87.1	84.0	84.4	82.6	1.9	2.3	11.4	8.6	77.3	13.6	0.5	100.0	1,456
Ashanti	81.5	76.6	76.9	75.7	1.7	0.4	16.3	26.5	55.3	15.9	2.3	100.0	2,033
Brong Ahafo	82.9	79.0	78.0	78.0	1.7	1.5	14.1	13.7	68.7	16.6	1.0	100.0	1,302
Northern	84.0	83.0	80.5	82.0	1.6	0.4	14.9	3.6	60.6	34.3	1.6	100.0	995
Upper East	87.3	86.6	86.5	86.4	1.8	4.0	10.7	6.2	80.0	13.3	0.5	100.0	465
Upper West	80.2	79.0	79.6	78.6	1.4	1.6	17.5	9.9	64.1	24.6	1.4	100.0	377
Education													
No education	91.3	89.0	86.8	86.2	1.8	1.0	7.8	10.8	68.1	19.7	1.4	100.0	1,995
Primary	82.8	80.5	79.7	77.5	1.8	1.8	15.4	14.2	67.6	15.9	2.3	100.0	1,528
Middle/JSS/JHS	82.1	77.1	78.0	75.6	2.2	1.3	15.6	17.3	67.5	13.5	1.6	100.0	4,454
Secondary/SSS/ SHS	76.7	71.0	71.5	69.2	1.9	1.6	19.8	16.1	68.0	14.0	1.9	100.0	2,363
More than secondary	83.2	78.9	78.4	76.6	8.3	2.2	14.8	19.5	65.4	13.1	2.0	100.0	1,247
Wealth quintile													
Lowest	85.1	83.4	80.8	79.7	1.1	1.2	13.7	10.2	64.1	24.1	1.6	100.0	1,663
Second	87.0	83.6	83.3	81.5	1.2	1.8	11.3	11.1	68.8	18.0	2.1	100.0	1,937
Middle	85.1	80.2	80.5	77.9	1.7	1.1	12.7	17.7	67.9	13.0	1.4	100.0	2,248
Fourth	82.0	77.7	78.3	76.2	2.5	1.4	15.9	16.3	69.6	13.0	1.1	100.0	2,673
Highest	77.9	72.3	72.6	70.7	5.3	1.8	18.9	19.9	66.4	11.2	2.5	100.0	3,066
Total	82.8	78.6	78.4	76.5	2.7	1.5	15.0	15.8	67.5	15.0	1.8	100.0	11,588

MARRIAGE AND SEXUAL ACTIVITY 3

Key Findings

- ***Marital status:*** Fifty-seven percent of women age 15-49 are currently in union, and 34% have never been married.
- ***Age at first marriage:*** The median age at first marriage among women age 25-49 is 21.5 years.
- ***Polygyny:*** Fourteen percent of currently married women age 15-49 reported that their husband or partner has multiple wives.
- ***Age at first sexual intercourse:*** The median age at first sexual intercourse among women age 25-49 is 18.1 years.

Marriage and sexual activity help determine the extent to which women are exposed to the risk of pregnancy. Thus, they are important determinants of fertility levels. The timing and circumstances of marriage and sexual activity also have profound consequences for women's lives.

3.1 MARITAL STATUS

Currently married

Women who report being married or living together with a partner as though married at the time of the survey.

Sample: Women age 15-49

More than half of women age 15-49 are currently in union (36% are married and 21% are living together with a partner as though married), just over one-third have never been married (34%), and smaller percentages are divorced (3%), separated (5%), or widowed (2%) (**Table 3.1**). The percentage of women who have never been married decreases dramatically with age; only 3% of women age 45-49 have never been married.

Trends: The percentage of women age 15-49 who are in union decreased from 70% in 1988 and 1993 to 57% in 2014 and 2017.

3.2 POLYGYNY

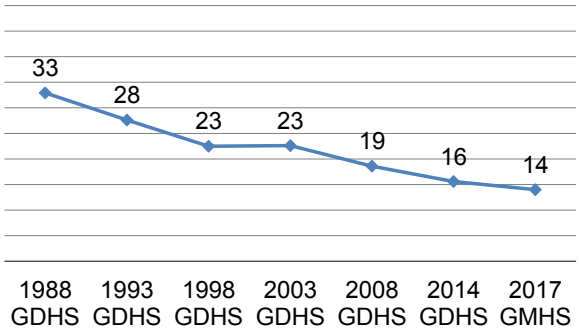
Polygyny
Women who report that their husband or partner has other wives are considered to be in a polygynous marriage.
Sample: Currently married women age 15-49

Fourteen percent of women age 15-49 who are currently in a union reported that their husband or partner has other wives. Twelve percent indicated that they have one co-wife, and 2% indicated that they have two or more co-wives (**Table 3.2**).

Trends: The percentage of currently married women age 15-49 who are in a polygynous union has generally decreased over time, from 33% in 1988 to 23% in 1998, 19% in 2008, and 14% in 2017 (**Figure 3.1**).

Figure 3.1 **Trends in polygyny**

Percentage of married women age 15-49 in a polygynous union



Patterns by background characteristics

- The percentage of married women with one or more co-wives increases with age, from 5% among those age 15-19 to 22% among those age 45-49.
- Women living in rural areas are more likely to report having one or more co-wives (19%) than their counterparts living in urban areas (10%).
- The percentage of married women with one or more co-wives ranges from 7% in Eastern region to 38% in Northern region.
- Increases in education and wealth correspond to decreases in the percentage of married women with one or more co-wives.

3.3 AGE AT FIRST MARRIAGE

Median age at first marriage
Age by which half of respondents have been married.
Sample: Women age 20-49 and 25-49

The median age at first marriage among women age 25-49 in Ghana is 21.5 years (**Table 3.3**).

The percentage of women age 25-49 who were first married by exact age 15 is 8%. More than one-quarter of women age 25-49 were first married by age 18 (26%), 41% were first married by age 20, and more than half were first married by age 22 (53%). Women currently age 25 or older (7% or higher) are more likely than women currently age 20-24 (5%) or age 15-19 (2%) to have been married by age 15. The percentage of women age 15-49 who have never been married drops quickly from 91% among those age 15-19 to 52% among those age 20-24 and 25% among those age 25-29. Among women age 45-49, only 3% have never been married.

Trends: The median age at first marriage among women age 25-49 has increased steadily over time, from 18.1 years in 1988 to 19.4 years in 2003, 20.7 years in 2014, and 21.5 years in 2017.

Patterns by background characteristics

- Rural women marry about 3 years earlier than urban women; the median age at first marriage among rural women age 25-49 is 19.8 years, as compared with 23.1 years for their urban counterparts (**Table 3.4**).
- The median age at first marriage among women age 25-49 ranges from 19.3 years in Upper East region to 24.8 years in Greater Accra region.
- Median age at first marriage among women age 25-49 increases markedly with increasing education and wealth. For example, the median age at first marriage increases from 19.2 years among women with no education to 24.9 years among those with a secondary education. Similarly, median age at first marriage increases from 19.0 years in the lowest wealth quintile to 22.1 years in the fourth wealth quintile. The median age at first marriage among women age 25-49 in the highest education and wealth categories cannot be reported because less than half of the women in these groups were married by age 25 (indicating that the median age is greater than 25.0 years).

3.4 AGE AT FIRST SEXUAL INTERCOURSE

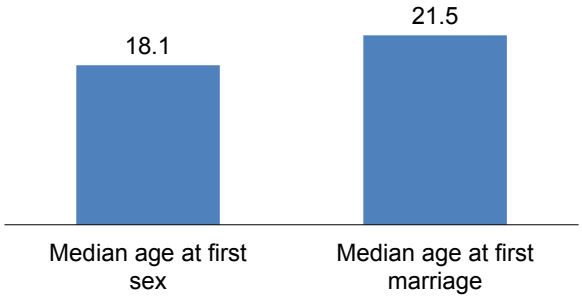
Median age at first sexual intercourse
Age by which half of respondents have had sexual intercourse.
Sample: Women age 20-49 and 25-49

The median age at first sexual intercourse among women age 20-49 and age 25-49 is 18.1 years. Three percent of women age 20-49, 1% of women age 25-49, and 38% of women age 15-24 have never had sexual intercourse. Among women age 25-49 in Ghana, the median age at first intercourse (18.1 years) is more than 3 years below the median age at first marriage (21.5 years), indicating that many women engage in sex before marriage (**Table 3.5** and **Figure 3.2**).

Twelve percent of women age 20-49 had sexual intercourse by age 15. Among women currently age 15-19, the percentage who had sex by age 15 is somewhat lower, at 9%. Nearly half of women age 20-49 had sex by age 18 (49%) and almost three-quarters by age 20 (73%).

Figure 3.2 **Women's median age at first sex and first marriage**

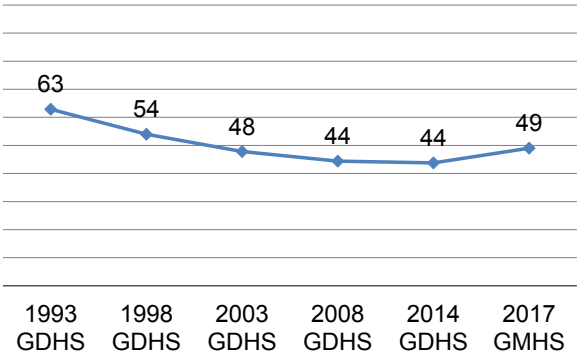
Median age in years



Trends: The percentage of women age 25-49 who had sexual intercourse by age 18 declined steadily from 63% in 1993 to 44% in 2008, remained at 44% in 2014, and then increased to 49% in 2017 (**Figure 3.3**).

***Figure 3.3* Trends in early sexual intercourse among women**

Percentage of women age 25-49 who had first sexual intercourse by age 18



Patterns by background characteristics

- Rural women age 20-49 start having sex a year earlier than urban women. The median age at first sex is 17.5 years among rural women, as compared with 18.5 years among urban women (**Table 3.6**).
- The median age at first sexual intercourse among women age 20-49 ranges from 17.5 years in Volta and Eastern regions to 19.1 years in Greater Accra region.
- Among women age 20-49 and 25-49, median age at first sex generally increases with increasing education and wealth. For example, among women age 25-49, the median age at first sex increases from 17.2 years among those with no education to 21.4 years among those with more than a secondary education.

3.5 Recent Sexual Activity

Among women age 15-49, 43% reported having sexual intercourse during the 4 weeks preceding the survey. Three in 10 women had sex within the past year but not in the 4 weeks preceding the survey (30%), and 13% last had sex more than 1 year before the survey. More than 1 in 10 women (14%) have never had sexual intercourse (**Table 3.7**).

Trends: There is no clear trend over time in the percentage of women age 15-49 who had sex in the past 4 weeks, with percentages ranging from a low of 38% in the 1998 GDHS to a high of 47% in the 1993 GDHS.

Patterns by background characteristics

- The percentage of women who had sex in the past 4 weeks increases from 13% among those age 15-19 to 56% among those age 30-34 before decreasing to 46% among those age 45-49.
- Sixty-three percent of currently married women had sex in the past 4 weeks, as compared with 15% of never-married women and 17% of women who are divorced, widowed, or separated.
- Rural women are more likely to have had sex in the past 4 weeks than urban women (47% versus 39%).

List of Tables

For more information on marriage and sexual activity, see the following tables:

- **Table 3.1 Current marital status**
- **Table 3.2 Number of women's co-wives**
- **Table 3.3 Age at first marriage**

- **Table 3.4 Median age at first marriage by background characteristics**
- **Table 3.5 Age at first sexual intercourse**
- **Table 3.6 Median age at first sexual intercourse by background characteristics**
- **Table 3.7 Recent sexual activity**

Table 3.1 Current marital status

Percent distribution of women age 15-49 by current marital status, according to age, Ghana MHS 2017

	Marital status								
Age	Never married	Married	Living together	Divorced	Separated	Widowed	Total	Percentage of respondents currently in union	Number of respondents
15-19	90.9	1.8	6.6	0.1	0.6	0.0	100.0	8.4	4,785
20-24	52.2	16.6	27.2	0.4	3.5	0.2	100.0	43.7	4,208
25-29	25.1	36.9	31.2	1.1	5.1	0.6	100.0	68.0	4,229
30-34	10.8	54.0	25.8	2.7	5.7	1.0	100.0	79.8	3,709
35-39	6.2	57.4	22.5	4.1	6.4	3.4	100.0	79.8	3,313
40-44	4.1	60.8	18.1	5.4	6.2	5.4	100.0	78.9	2,481
45-49	3.4	57.4	14.2	7.7	6.6	10.6	100.0	71.6	2,337
Total	33.5	36.3	21.0	2.5	4.5	2.3	100.0	57.3	25,062

Table 3.2 Number of women's co-wives

Percent distribution of currently married women age 15-49 by number of co-wives, and percentage of currently married women with one or more co-wives, according to background characteristics, Ghana MHS 2017

	Number of co-wives						
Background characteristic	0	1	2+	Don't know	Total	Percentage with one or more co-wives[1]	Number of women
Age							
15-19	93.7	4.7	0.3	1.2	100.0	5.1	404
20-24	89.7	8.4	0.7	1.2	100.0	9.0	1,841
25-29	89.7	8.4	0.8	1.1	100.0	9.2	2,878
30-34	86.0	12.0	1.2	0.7	100.0	13.3	2,961
35-39	83.1	13.5	2.7	0.6	100.0	16.2	2,646
40-44	80.5	15.7	3.4	0.4	100.0	19.1	1,957
45-49	77.6	18.0	3.9	0.5	100.0	21.9	1,674
Residence							
Urban	89.5	8.1	1.4	1.0	100.0	9.5	7,226
Rural	80.8	16.1	2.5	0.6	100.0	18.6	7,135
Zone							
Coastal	87.7	10.0	1.4	0.8	100.0	11.5	6,622
Middle	89.9	8.2	0.9	0.9	100.0	9.1	5,452
Northern	66.6	27.2	5.8	0.3	100.0	33.1	2,287
Region							
Western	90.2	8.3	0.8	0.7	100.0	9.1	1,799
Central	87.6	10.9	0.9	0.6	100.0	11.8	1,285
Greater Accra	90.7	7.1	1.1	1.2	100.0	8.1	2,354
Volta	78.1	17.7	3.7	0.5	100.0	21.3	1,183
Eastern	92.3	6.5	0.7	0.5	100.0	7.2	1,414
Ashanti	90.7	7.5	0.8	1.0	100.0	8.3	2,655
Brong Ahafo	86.1	11.4	1.3	1.3	100.0	12.7	1,384
Northern	61.3	32.2	6.2	0.3	100.0	38.4	1,309
Upper East	74.0	20.5	5.1	0.5	100.0	25.6	569
Upper West	73.5	20.6	5.7	0.2	100.0	26.3	409
Education							
No education	71.7	23.2	4.5	0.5	100.0	27.8	3,736
Primary	83.8	13.4	1.7	1.1	100.0	15.1	2,458
Middle/JSS/JHS	89.9	8.2	1.0	0.9	100.0	9.2	5,479
Secondary/SSS/SHS	94.9	4.1	0.2	0.8	100.0	4.3	1,724
More than secondary	96.8	2.1	0.7	0.4	100.0	2.8	963
Wealth quintile							
Lowest	72.5	23.3	3.8	0.5	100.0	27.1	2,766
Second	82.5	14.3	2.5	0.7	100.0	16.8	2,765
Middle	86.8	10.7	1.7	0.8	100.0	12.4	2,796
Fourth	89.6	8.1	1.2	1.1	100.0	9.3	2,899
Highest	93.2	5.3	0.6	0.9	100.0	5.9	3,135
Total	85.2	12.1	1.9	0.8	100.0	14.0	14,361

[1] Excludes women who responded "don't know" when asked if their husband has other wives

Table 3.3 Age at first marriage

Percentage of women age 15-49 who were first married by specific exact ages and median age at first marriage, according to current age, Ghana MHS 2017

	Percentage first married by exact age:					Percentage never married	Number of respondents	Median age at first marriage
Current age	15	18	20	22	25			
15-19	2.3	na	na	na	na	90.9	4,785	a
20-24	4.9	20.5	33.7	na	na	52.2	4,208	a
25-29	7.1	22.6	35.5	47.6	65.4	25.1	4,229	22.4
30-34	7.8	25.1	37.7	49.5	65.4	10.8	3,709	22.1
35-39	7.8	26.0	41.4	55.5	68.4	6.2	3,313	21.2
40-44	9.6	29.6	45.9	58.3	73.2	4.1	2,481	20.6
45-49	7.9	28.2	47.9	61.5	76.6	3.4	2,337	20.3
20-49	7.3	24.7	39.2	na	na	20.0	20,277	a
25-49	7.9	25.8	40.6	53.3	68.9	11.5	16,069	21.5

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

Table 3.4 Median age at first marriage by background characteristics

Median age at first marriage among women age 20-49 and age 25-49, according to background characteristics, Ghana MHS 2017

	Women age	
Background characteristic	20-49	25-49
Residence		
Urban	a	23.1
Rural	20.0	19.8
Zone		
Coastal	a	22.2
Middle	a	21.3
Northern	19.8	19.7
Region		
Western	a	21.1
Central	a	21.0
Greater Accra	a	24.8
Volta	a	20.1
Eastern	a	21.0
Ashanti	a	22.2
Brong Ahafo	a	20.2
Northern	19.9	19.9
Upper East	19.6	19.3
Upper West	20.0	19.7
Education		
No education	19.1	19.2
Primary	19.5	19.6
Middle/JSS/JHS	a	21.4
Secondary/SSS/SHS	a	24.9
More than secondary	a	a
Wealth quintile		
Lowest	19.0	19.0
Second	19.9	19.7
Middle	a	20.8
Fourth	a	22.1
Highest	a	a
Total	a	21.5

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

Table 3.5 Age at first sexual intercourse

Percentage of women 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 MHS 2017

	Percentage who had first sexual intercourse by exact age:					Percentage who never had intercourse	Number	Median age at first intercourse
Current age	15	18	20	22	25			
15-19	9.2	na	na	na	na	60.5	4,785	a
20-24	10.5	47.2	74.8	na	na	12.0	4,208	18.2
25-29	11.7	45.9	70.3	84.9	93.8	2.9	4,229	18.3
30-34	11.3	45.5	69.4	82.9	91.8	0.7	3,709	18.3
35-39	11.9	48.6	72.3	85.5	92.3	0.3	3,313	18.1
40-44	13.0	54.2	76.3	87.9	93.2	0.2	2,481	17.7
45-49	12.6	55.2	78.5	90.8	94.9	0.1	2,337	17.7
20-49	11.7	48.6	73.1	na	na	3.3	20,277	18.1
25-49	12.0	49.0	72.6	85.9	93.1	1.0	16,069	18.1
15-24	9.8	na	na	na	na	37.8	8,993	a

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

Table 3.6 Median age at first sexual intercourse by background characteristics

Median age at first sexual intercourse among women age 20-49 and age 25-49, according to background characteristics, Ghana MHS 2017

	Women age	
Background characteristic	20-49	25-49
Residence		
Urban	18.5	18.5
Rural	17.5	17.4
Zone		
Coastal	18.3	18.3
Middle	17.8	17.8
Northern	18.0	17.9
Region		
Western	17.8	17.8
Central	18.1	18.0
Greater Accra	19.1	19.1
Volta	17.5	17.5
Eastern	17.5	17.5
Ashanti	18.1	18.0
Brong Ahafo	17.7	17.7
Northern	18.0	18.0
Upper East	18.0	17.8
Upper West	18.1	18.0
Education		
No education	17.2	17.2
Primary	17.0	17.1
Middle/JSS/JHS	17.9	18.1
Secondary/SSS/SHS	19.1	19.3
More than secondary	a	21.4
Wealth quintile		
Lowest	17.2	17.1
Second	17.4	17.4
Middle	17.8	17.7
Fourth	18.2	18.2
Highest	19.5	19.5
Total	18.1	18.1

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

Table 3.7 Recent sexual activity

Percent distribution of women age 15-49 by timing of last sexual intercourse, according to background characteristics, Ghana MHS 2017

Background characteristic	Timing of last sexual intercourse				Never had sexual intercourse	Total	Number of women
	Within the past 4 weeks	Within 1 year[1]	One or more years	Missing			
Age							
15-19	13.1	19.1	7.3	0.0	60.5	100.0	4,785
20-24	37.0	37.9	13.1	0.0	12.0	100.0	4,208
25-29	52.6	33.7	10.8	0.0	2.9	100.0	4,229
30-34	56.0	32.5	10.7	0.0	0.7	100.0	3,709
35-39	55.3	29.9	14.5	0.0	0.3	100.0	3,313
40-44	53.7	29.2	16.8	0.0	0.2	100.0	2,481
45-49	45.8	26.2	27.9	0.0	0.1	100.0	2,337
Marital status							
Never married	14.7	27.0	16.0	0.0	42.4	100.0	8,397
Married or living together	63.4	30.9	5.6	0.0	0.0	100.0	14,361
Divorced/separated/widowed	16.6	32.7	50.6	0.0	0.1	100.0	2,305
Marital duration[2]							
0-4 years	61.7	34.2	4.0	0.0	0.1	100.0	3,013
5-9 years	64.6	30.5	4.9	0.0	0.0	100.0	2,437
10-14 years	65.6	29.3	5.1	0.0	0.0	100.0	1,858
15-19 years	65.6	28.3	6.1	0.0	0.0	100.0	1,620
20-24 years	61.0	30.6	8.3	0.1	0.0	100.0	1,128
25+ years	60.9	28.8	10.3	0.0	0.0	100.0	1,113
Married more than once	63.6	31.4	5.0	0.0	0.0	100.0	3,193
Residence							
Urban	39.4	30.2	15.1	0.0	15.2	100.0	13,752
Rural	46.9	29.3	10.8	0.0	13.0	100.0	11,310
Zone							
Coastal	41.5	30.0	14.0	0.0	14.5	100.0	12,121
Middle	43.4	29.8	13.0	0.0	13.7	100.0	9,674
Northern	45.8	29.0	10.6	0.0	14.6	100.0	3,267
Region							
Western	45.9	28.5	12.1	0.0	13.5	100.0	3,230
Central	42.0	30.3	13.3	0.0	14.4	100.0	2,218
Greater Accra	36.6	29.4	17.1	0.0	16.9	100.0	4,673
Volta	45.1	33.3	10.7	0.0	10.8	100.0	2,000
Eastern	45.2	30.1	11.4	0.0	13.4	100.0	2,517
Ashanti	43.2	28.7	13.4	0.0	14.7	100.0	4,790
Brong Ahafo	42.0	31.8	14.0	0.0	12.2	100.0	2,367
Northern	49.3	29.1	8.8	0.0	12.8	100.0	1,786
Upper East	41.7	28.9	13.4	0.0	16.1	100.0	854
Upper West	41.7	28.7	11.9	0.0	17.7	100.0	628
Education							
No education	54.1	29.6	14.3	0.0	2.1	100.0	4,585
Primary	46.4	29.1	11.6	0.0	12.9	100.0	3,934
Middle/JSS/JHS	41.5	29.5	12.2	0.0	16.8	100.0	10,081
Secondary/SSS/SHS	32.5	30.9	14.1	0.0	22.5	100.0	4,550
More than secondary	39.4	30.6	17.2	0.0	12.8	100.0	1,912
Wealth quintile							
Lowest	47.4	29.7	11.0	0.0	11.8	100.0	4,064
Second	44.3	29.8	12.6	0.0	13.3	100.0	4,721
Middle	40.4	32.1	14.0	0.0	13.5	100.0	5,111
Fourth	40.5	31.4	14.0	0.0	14.1	100.0	5,443
Highest	42.6	26.1	13.9	0.0	17.4	100.0	5,723
Total	42.8	29.8	13.2	0.0	14.2	100.0	25,062

[1] Excludes women who had sexual intercourse within the last 4 weeks
[2] Excludes women who are not currently married or living together with a partner as if married

FERTILITY AND FAMILY PLANNING 4

Key Findings

- ***Total fertility rate:*** The total fertility rate in Ghana for the 3 years preceding the survey is 3.9 children per woman, which is a decline from 4.2 children per woman in 2014.
- ***Birth intervals:*** The median birth interval is 38.8 months, with 16% of births occurring less than 24 months after the preceding birth.
- ***Age at first birth:*** The median age at first birth among women age 25-49 is 21.5 years.
- ***Teenage childbearing:*** Fourteen percent of women age 15-19 have begun childbearing.
- ***Contraceptive use:*** One in four married women age 15-49 use a modern method of contraception (25%). The three most commonly used methods among married women are injectables (8%), implants (7%), and the pill (4%).
- ***Knowledge of a source of family planning among nonusers:*** Four in five women age 15-49 who are not currently using any method of family planning (80%) know of a source where family planning methods can be obtained.

The number of children that a woman bears depends on many factors, including the age she begins childbearing, how long she waits between births, and her fecundity. Postponing first births and extending the interval between births have played a role in reducing fertility levels in many countries. These factors also have positive health consequences. In contrast, short birth intervals (of less than 24 months) can lead to harmful outcomes for both newborns and their mothers, such as preterm birth, low birth weight, and death. Childbearing at a very young age is associated with an increased risk of complications during pregnancy and childbirth and higher rates of neonatal mortality.

This chapter describes the current level of fertility in Ghana and some of its proximate determinants. It presents information on the total fertility rate, birth intervals, age at first birth, and teenage childbearing.

Couples can use contraceptive methods to limit or space the number of children they have. Information on knowledge and use of contraceptive methods is also presented.

4.1 CURRENT FERTILITY

Total fertility rate

The average number of children a woman would have by the end of her childbearing years if she bore children at the current age-specific fertility rates. Age-specific fertility rates are calculated for the 3 years before the survey, based on detailed birth histories provided by women.

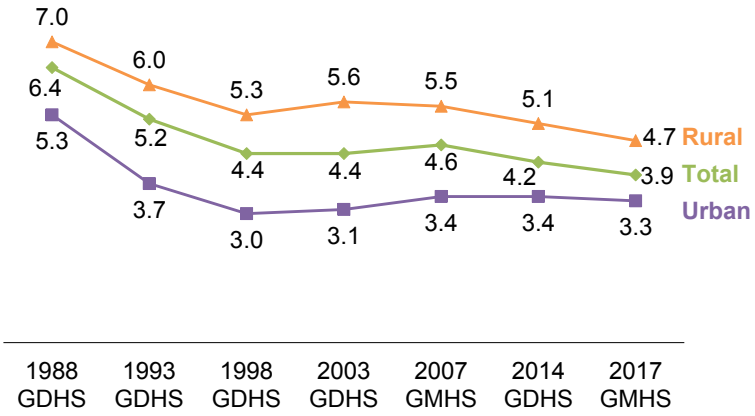
Sample: Women age 15-49

The total fertility rate (TFR) in Ghana is 3.9 children per woman (**Table 4.1**).

Trends: The TFR in Ghana declined steeply from 1988 (6.4 children per woman) to 1993 (5.2 children per woman) and 1998 (4.4 children per woman), remained stable in 2003 (4.4 children per woman), rose slightly in 2007 (4.6 children per woman), and declined somewhat in 2014 (4.2 children per woman) and 2017 (3.9 children per woman) (**Figure 4.1**).

Figure 4.1 **Trends in fertility by residence**

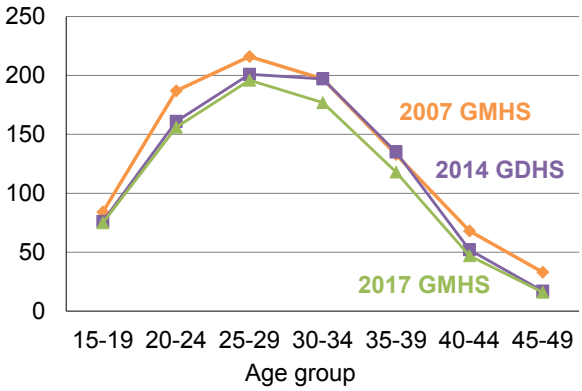
TFR for the 3 years before each survey



The findings from the 2007 GMHS, 2014 GDHS, and 2017 GMHS show that the age-specific fertility rate consistently peaks among women age 25-29 (**Table 4.3.2** and **Figure 4.2**).

Figure 4.2 **Trends in age-specific fertility**

Births per 1,000 women



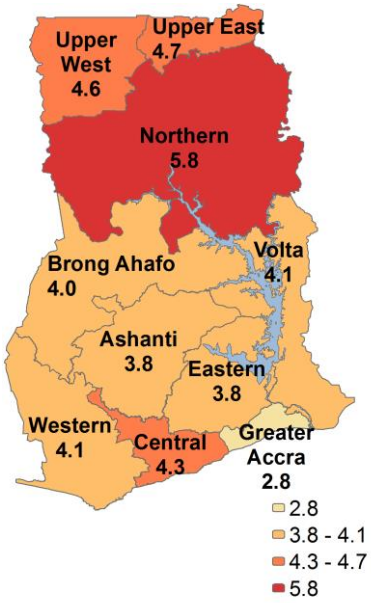
Patterns by background characteristics

- Age-specific fertility initially increases with age, peaks among women age 25-29 (196 births per 1,000 women), and then declines with age (**Table 4.1**).
- Fertility is higher among women in rural areas than women in urban areas (4.7 versus 3.3 children per woman) (**Table 4.2**).

- The TFR is lowest in Greater Accra region (2.8 children per woman) and highest in Northern region (5.8 children per woman) (**Figure 4.3**).
- As education and wealth increase, the TFR decreases (**Table 4.2**).

Figure 4.3 Fertility by region

Total fertility rate for the 3 years before the survey



4.2 Children Ever Born and Living

Women age 45-49 (at the end of their reproductive years) have given birth to 4.80 children on average, and 4.28 of these children were still living at the time of the survey. Currently married women age 45-49 have given birth to an average of 5.08 children, of whom 4.53 were still living at the time of the survey (**Table 4.4**).

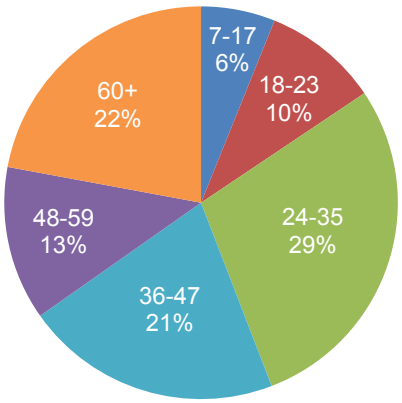
4.3 Birth Intervals

Median birth interval
Number of months since the preceding birth by which half of children are born.
Sample: Non-first births in the 5 years before the survey

Short birth intervals (less than 24 months) are associated with increased health risks for both mothers and newborns. In Ghana, the median birth interval is 38.8 months (**Table 4.5**). Sixteen percent of births occurred within 24 months after the preceding birth (**Figure 4.4**).

Figure 4.4 Birth intervals

Percent distribution of non-first births by number of months since the preceding birth



Trends: Between 1988 and 2017, the median birth interval increased from 34.6 to 38.8 months. The percentage of children born after a short interval (less than 24 months) decreased from 18% in 1988 to a low of 13% in 1998 before rising to 16% in 2017.

Patterns by background characteristics

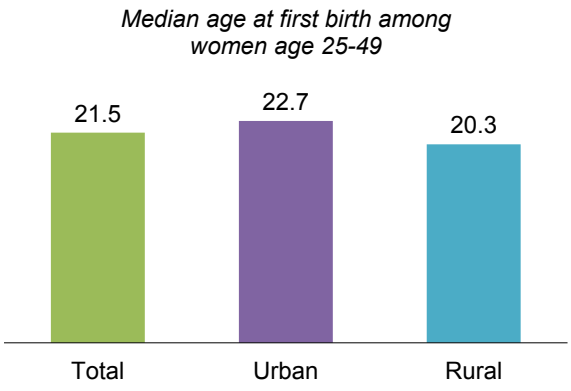
- Median birth intervals increase with mother's age, from 27.1 months among women age 15-19 to 50.7 months among women age 40-49.
- The median birth interval is 10.1 months longer if the child from the preceding birth is living than if the child has died (39.3 versus 29.2 months).
- There is regional variation in birth intervals, from 36.7 months in Northern region to 43.8 months in Upper East region.
- The median birth interval is longest among women with a primary education (40.6 months) and shortest among women with more than a secondary education (32.9 months).

4.4 AGE AT FIRST BIRTH

Median age at first birth
Age by which half of women have had their first child.
Sample: Women age 20-49 and 25-49

The age at which childbearing begins has a direct influence on a woman's cumulative fertility, particularly when there is little or no contraceptive use. Earlier childbearing may lengthen the reproductive period, result in higher fertility, and increase health risks for both mother and child. In Ghana, the median age at first birth among women age 25-49 is 21.5 years (**Table 4.6**).

Figure 4.5 **Median age at first birth by residence**



Patterns by background characteristics

- The median age at first birth is more than 2 years later among women age 25-49 in urban areas than among those in rural areas (22.7 years versus 20.3 years) (**Table 4.7** and **Figure 4.5**).
- The median age at first birth among women age 25-49 ranges from 20.4 years in Upper East region to 24.0 years in Greater Accra region (**Table 4.7**).

4.5 TEENAGE CHILDBEARING

Teenage childbearing
Percentage of women age 15-19 who have given birth or are pregnant with their first child.
Sample: Women age 15-19

Teenage pregnancy and motherhood has been a major health concern and social issue in Ghana for some time. Fourteen percent of women age 15-19 have begun childbearing; 12% have had a live birth, and 3% are pregnant with their first child (**Table 4.8**).

Trends: The percentage of teenage women who have begun childbearing was stable between 1988 (23%) and 1993 (22%), dropped in 1998 (14%), and has remained stable since, at 14% in 2003, 15% in 2007, and 14% in 2014 and 2017.

Patterns by background characteristics

- The proportion of women age 15-19 who have begun childbearing increases with age, from 3% among those age 15 to 32% among those age 19.
- Eighteen percent of women age 15-19 in rural areas and 11% of women age 15-19 in urban areas have begun childbearing (**Figure 4.6**).
- The percentage of women age 15-19 who have begun childbearing ranges from 7% in Greater Accra region to 19% in Western region (**Figure 4.7**).
- The proportion of women age 15-19 who have begun childbearing generally decreases with increasing education and wealth.

Figure 4.6 Teenage pregnancy and motherhood by residence

Percentage of women age 15-19 who have begun childbearing

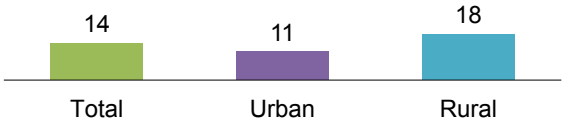
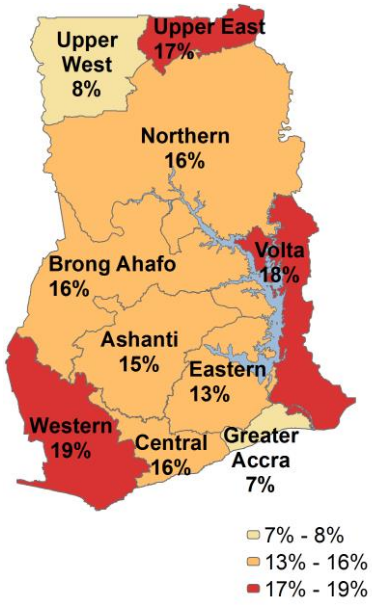


Figure 4.7 Teenage pregnancy and motherhood by region

Percentage of women age 15-19 who have begun childbearing



4.6 CONTRACEPTIVE KNOWLEDGE AND USE

Knowledge of contraceptive methods is almost universal in Ghana; 99% of women age 15-49 have heard of any contraceptive method (**Table 4.10**). The most commonly known modern method is the male condom (98% of women age 15-49). The mean number of methods known by all women is 9.2.

Contraceptive prevalence rate

Percentage of women who use any contraceptive method

Sample: All women age 15-49, currently married women age 15-49, and sexually active unmarried women age 15-49

The contraceptive prevalence rate (CPR) among all women age 15-49 is 25%, with 20% using modern methods. Twenty-five percent of currently married women age 15-49 and 31% of sexually active unmarried women age 15-49 use a modern method of contraception (**Table 4.12**).

Modern methods

Include male and female sterilisation, injectables, intrauterine devices (IUDs), contraceptive pills, implants, female and male condoms, lactational amenorrhea method, and emergency contraception

The most commonly used methods among currently married women are injectables (8%), implants (7%), and pills (4%). Among sexually active unmarried women, injectables are the most commonly used method (8%), followed by implants (6%), male condoms (6%), and pills (5%) (**Table 4.13.1** and **Figure 4.8**).

Trends: Modern contraceptive use among currently married women age 15-49 increased from 5% in 1988 to 25% in 2017. The use of traditional methods has seen less change (8% in 1988 and 6% in 2017) (**Figure 4.9**).

Patterns by background characteristics

- Six percent of sexually active unmarried women use male condoms, as compared with 1% of currently married women (**Table 4.12**).
- Currently married women age 45-49 (17%) are less likely than younger women (22%-28%) to use a modern contraceptive method.
- Modern contraceptive use increases with number of living children, from 11% among currently married women with no children to 30% among those with five or more children (**Table 4.13.1**).
- There is a small difference by residence in modern contraceptive use among currently married women; 23% of urban women use a modern contraceptive method, as compared with 27% of rural women (**Figure 4.10**).

Figure 4.8 Contraceptive use

Percentage of women age 15-49 currently using a contraceptive method

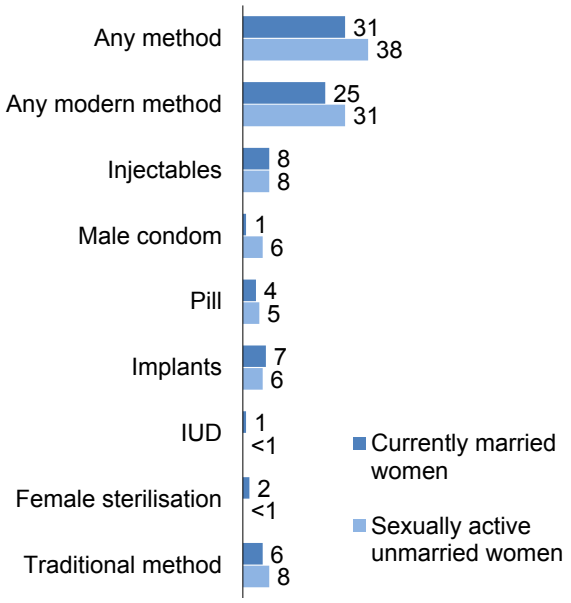


Figure 4.9 Trends in contraceptive use

Percentage of currently married women currently using a contraceptive method

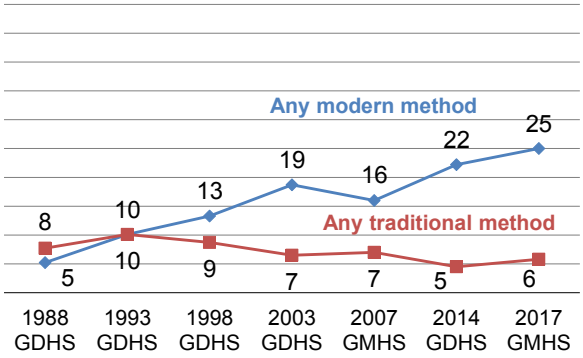
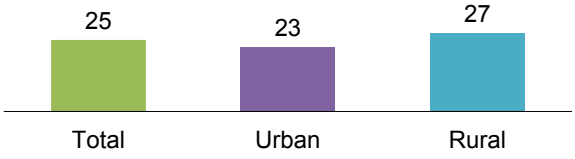


Figure 4.10 Use of modern methods by residence

Percentage of currently married women age 15-49



- Modern contraceptive use among married women ranges from a low of 17% in Northern region to a high of 32% in Upper East region (**Figure 4.11**).

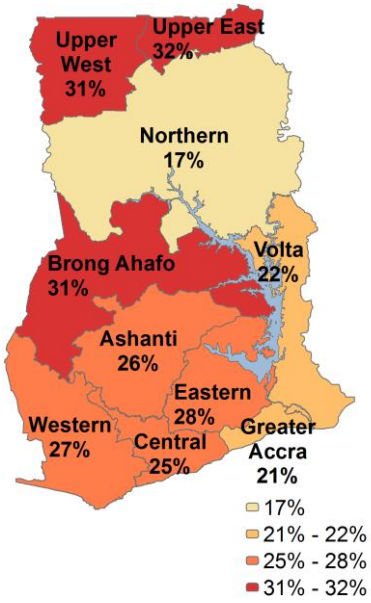
- Currently married women with a primary (29%) or middle (27%) education are more likely than those with no (22%) or a higher (21%-22%) education to use a modern method of contraception.

Knowledge of a Source of Family Planning among Non-Users

Eight in 10 women age 15-49 who are not using contraceptives know of a place where they can obtain a method of family planning (80%). Seventy-six percent know of a public sector source, and 21% know of a private sector source. Knowledge of any source is highest among women age 30-34 (90%) and lowest among women age 15-19 (59%) (**Table 4.14**).

Figure 4.11 Modern contraceptive use by region

Percentage of currently married women age 15-49



Knowledge of the Fertile Period

Sixty-five percent of users of the rhythm method reported correctly that the most fertile time in a woman's cycle is halfway between two menstrual periods (**Table 4.15**).

LIST OF TABLES

For more information on fertility levels, some of the determinants of fertility, and contraceptive knowledge and use, see the following tables:

- **Table 4.1 Current fertility**
- **Table 4.2 Fertility by background characteristics**
- **Table 4.3.1 Trends in age-specific fertility rates**
- **Table 4.3.2 Trends in age-specific and total fertility**
- **Table 4.4 Children ever born and living**
- **Table 4.5 Birth intervals**
- **Table 4.6 Age at first birth**
- **Table 4.7 Median age at first birth**
- **Table 4.8 Teenage pregnancy and motherhood**
- **Table 4.9 Sexual and reproductive health behaviours before age 15**
- **Table 4.10 Knowledge of contraceptive methods**
- **Table 4.11 Knowledge of contraceptive methods according to background characteristics**
- **Table 4.12 Current use of contraception according to age**
- **Table 4.13.1 Current use of contraception by background characteristics**
- **Table 4.13.2 Trends in current use of contraception**
- **Table 4.14 Knowledge of a source of family planning among nonusers**
- **Table 4.15 Knowledge of fertile period**
- **Table 4.16 Knowledge of fertile period by age**

Table 4.1 Current fertility

Age-specific and total fertility rates, general fertility rate, and crude birth rate for the 3 years preceding the survey, according to residence, Ghana MHS 2017

	Residence		
Age group	Urban	Rural	Total
10-14	[1]	[3]	[2]
15-19	57	95	75
20-24	123	200	156
25-29	171	230	196
30-34	168	188	177
35-39	100	139	118
40-44	38	59	47
45-49	[10]	[23]	[16]
TFR (15-49)	3.3	4.7	3.9
GFR	115	158	134
CBR	28.3	31.7	30.0

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates are for the period 1-36 months prior to interview. Rates for women age 10-14 are based on retrospective data from women age 15-17.
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

Table 4.2 Fertility by background characteristics

Total fertility rate for the 3 years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49, according to background characteristics, Ghana MHS 2017

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	3.3	5.5	3.8
Rural	4.7	7.4	5.5
Zone			
Coastal	3.6	5.8	4.3
Middle	3.8	6.2	4.6
Northern	5.3	9.2	6.0
Region			
Western	4.1	6.4	4.8
Central	4.3	6.1	5.1
Greater Accra	2.8	5.0	3.3
Volta	4.1	6.0	4.6
Eastern	3.8	5.9	4.6
Ashanti	3.8	6.0	4.5
Brong Ahafo	4.0	6.8	5.0
Northern	5.8	10.1	6.3
Upper East	4.7	8.5	5.4
Upper West	4.6	7.4	5.9
Education			
No education	5.5	8.3	5.5
Primary	4.7	6.5	5.0
Middle/JSS/JHS	4.0	6.0	4.1
Secondary/SSS/SHS	3.1	5.2	3.0
More than secondary	2.7	6.3	2.4
Wealth quintile			
Lowest	5.7	8.6	6.3
Second	4.5	7.1	5.4
Middle	3.9	5.9	4.8
Fourth	3.4	5.8	3.9
Highest	2.8	5.2	3.0
Total	3.9	6.4	4.6

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

Table 4.3.1 Trends in age-specific fertility rates

Age-specific fertility rates for 5-year periods preceding the survey, according to age group, Ghana MHS 2017

	Number of years preceding survey			
Age group	0-4	5-9	10-14	15-19
10-14	[2]	4	5	8
15-19	76	77	88	92
20-24	154	173	180	201
25-29	203	200	207	222
30-34	180	189	187	[217]
35-39	119	132	[143]	
40-44	50	[66]		
45-49	[17]			

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview. Rates for women age 10-14 for the 0-4 year period are based on retrospective data from women age 15-19.

Table 4.3.2 Trends in age-specific and total fertility

Age-specific and total fertility rates (TFR) for the 3-year period preceding several surveys, according to mother's age at the time of the birth, Ghana MHS 2017

	2007 GMHS	2014 GDHS	2017 GMHS
Mother's age at birth	2004-2007	2012-2014	2014-2017
15-19	84	76	75
20-24	187	161	156
25-29	216	201	196
30-34	197	197	177
35-39	133	135	118
40-44	68	52	47
45-49	[33]	[17]	[16]
TFR (15-49)	4.6	4.2	3.9

Note: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation and are therefore displayed in brackets.

Table 4.4 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 MHS 2017

	Number of children ever born														
Age group	0	1	2	3	4	5	6	7	8	9	10+	Total	Number of women	Mean number of children ever born	Mean number of living children
ALL WOMEN															
15-19	88.2	10.5	1.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	4,785	0.13	0.13
20-24	50.3	29.6	14.8	4.1	1.0	0.2	0.0	0.0	0.0	0.0	0.0	100.0	4,208	0.77	0.73
25-29	24.4	23.5	24.7	16.3	7.6	2.6	0.8	0.1	0.0	0.0	0.0	100.0	4,229	1.71	1.60
30-34	9.6	14.8	20.7	21.4	15.1	11.0	5.4	1.2	0.6	0.1	0.1	100.0	3,709	2.83	2.65
35-39	5.1	8.6	13.0	21.7	18.4	15.8	9.5	4.3	2.5	0.8	0.4	100.0	3,313	3.70	3.44
40-44	3.4	7.3	9.9	15.1	17.8	13.9	13.2	9.5	5.9	2.8	1.3	100.0	2,481	4.44	3.99
45-49	3.0	6.9	9.3	12.3	16.8	12.9	12.4	11.5	7.5	4.6	2.9	100.0	2,337	4.80	4.28
Total	32.1	15.6	13.5	12.1	9.4	6.8	4.7	2.8	1.7	0.8	0.5	100.0	25,062	2.24	2.06
CURRENTLY MARRIED WOMEN															
15-19	33.5	55.3	9.7	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	404	0.79	0.77
20-24	17.4	44.5	27.8	8.0	1.8	0.5	0.0	0.0	0.0	0.0	0.0	100.0	1,841	1.34	1.27
25-29	9.6	24.2	29.6	21.8	10.1	3.5	1.0	0.1	0.0	0.0	0.0	100.0	2,878	2.14	2.01
30-34	4.5	12.4	20.8	23.3	17.4	12.8	6.4	1.4	0.7	0.1	0.1	100.0	2,961	3.14	2.94
35-39	3.4	5.8	12.0	21.9	19.5	17.4	10.7	4.9	3.1	0.8	0.4	100.0	2,646	3.96	3.68
40-44	1.9	6.1	8.3	15.0	17.8	14.6	14.4	10.4	6.7	3.3	1.5	100.0	1,957	4.70	4.24
45-49	1.6	6.3	7.6	10.9	17.0	13.1	13.6	12.7	8.5	5.4	3.1	100.0	1,674	5.08	4.53
Total	7.1	17.3	18.3	17.6	13.8	10.1	7.0	4.1	2.6	1.3	0.7	100.0	14,361	3.23	2.98

Table 4.5 Birth intervals

Percent distribution of non-first births in the 5 years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Ghana MHS 2017

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+			
Age									
15-19	17.7	20.0	50.0	4.6	7.7	0.0	100.0	67	27.1
20-29	7.9	11.3	33.5	22.9	11.5	12.9	100.0	3,700	35.1
30-39	5.6	9.0	27.4	20.6	13.2	24.2	100.0	5,654	40.2
40-49	3.0	5.9	19.2	18.9	14.0	38.9	100.0	1,386	50.7
Sex of preceding birth									
Male	6.0	8.5	28.7	21.5	12.2	23.1	100.0	5,522	39.3
Female	6.3	10.5	28.4	20.6	13.2	20.9	100.0	5,284	38.2
Survival of preceding birth									
Living	4.9	9.2	29.0	21.4	12.9	22.6	100.0	10,183	39.3
Dead	26.8	14.0	20.7	15.5	9.5	13.5	100.0	624	29.2
Birth order									
2-3	6.0	9.9	27.8	20.7	12.3	23.4	100.0	5,790	39.1
4-6	6.4	8.7	29.0	21.7	13.0	21.1	100.0	4,092	38.7
7+	6.0	10.4	31.3	20.8	13.7	17.9	100.0	924	36.8
Residence									
Urban	6.1	9.6	27.0	20.1	12.3	24.9	100.0	4,893	39.9
Rural	6.2	9.4	29.8	21.8	13.0	19.7	100.0	5,914	38.1
Zone									
Coastal	6.3	9.8	27.7	19.8	12.2	24.2	100.0	4,788	39.0
Middle	6.9	10.0	28.2	20.2	12.1	22.6	100.0	4,128	38.4
Northern	4.0	7.6	31.5	26.2	15.1	15.6	100.0	1,891	38.9
Region									
Western	5.7	10.7	26.4	22.4	12.9	22.0	100.0	1,475	38.9
Central	7.7	7.9	30.2	20.2	7.7	26.3	100.0	1,005	38.1
Greater Accra	5.8	11.0	25.8	16.1	14.4	26.9	100.0	1,369	40.8
Volta	6.3	8.7	30.1	20.8	12.9	21.2	100.0	939	38.1
Eastern	8.3	11.5	27.8	19.0	10.3	23.1	100.0	1,037	37.0
Ashanti	7.2	10.3	28.2	19.2	12.2	23.0	100.0	1,959	38.3
Brong Ahafo	5.3	8.2	28.6	23.0	13.5	21.5	100.0	1,131	39.3
Northern	4.4	8.6	35.2	26.4	12.4	13.1	100.0	1,188	36.7
Upper East	2.6	6.0	23.3	25.5	20.3	22.3	100.0	392	43.8
Upper West	4.3	5.8	27.6	26.3	19.0	17.0	100.0	310	40.9
Education									
No education	5.5	8.3	31.0	24.7	12.3	18.3	100.0	3,290	38.0
Primary	6.8	9.3	25.6	20.3	14.2	23.8	100.0	2,068	40.6
Middle/JSS/JHS	5.6	9.5	28.0	19.6	12.7	24.5	100.0	4,037	39.3
Secondary/SSS/SHS	8.4	10.7	26.9	18.3	10.7	24.9	100.0	905	37.9
More than secondary	7.4	15.8	32.4	17.2	12.4	14.8	100.0	507	32.9
Wealth quintile									
Lowest	6.4	9.5	34.0	24.5	11.5	14.1	100.0	2,701	36.0
Second	5.8	8.8	30.2	21.0	13.3	20.8	100.0	2,447	38.3
Middle	6.1	8.7	24.6	20.4	13.6	26.7	100.0	2,065	41.7
Fourth	5.9	8.5	24.2	20.2	13.2	28.0	100.0	1,989	42.7
Highest	6.5	12.8	27.4	17.3	11.8	24.1	100.0	1,605	38.3
Total	6.1	9.5	28.6	21.1	12.7	22.1	100.0	10,807	38.8

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.

Table 4.6 Age at first birth

Percentage of women age 15-49 who gave birth by specific exact ages, percentage who have never given birth, and median age at first birth, according to current age, Ghana MHS 2017

	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
Current age	15	18	20	22	25			
15-19	1.1	na	na	na	na	88.2	4,785	a
20-24	2.2	16.0	32.3	na	na	50.3	4,208	a
25-29	2.5	18.2	33.4	48.0	65.4	24.4	4,229	22.3
30-34	3.7	19.1	34.5	50.5	68.2	9.6	3,709	21.9
35-39	3.5	20.6	39.0	55.3	72.4	5.1	3,313	21.3
40-44	4.8	26.1	44.0	60.6	76.8	3.4	2,481	20.6
45-49	4.8	22.8	43.9	63.0	80.7	3.0	2,337	20.6
20-49	3.4	19.8	36.8	na	na	18.8	20,277	a
25-49	3.7	20.8	38.0	54.2	71.5	10.6	16,069	21.5

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

Table 4.7 Median age at first birth

Median age at first birth among women age 20-49 and age 25-49, according to background characteristics, Ghana MHS 2017

	Women age	Women age
Background characteristic	20-49	25-49
Residence		
Urban	a	22.7
Rural	a	20.3
Zone		
Coastal	a	21.9
Middle	a	21.2
Northern	a	20.7
Region		
Western	a	20.9
Central	a	21.1
Greater Accra	a	24.0
Volta	a	20.7
Eastern	a	21.3
Ashanti	a	21.6
Brong Ahafo	a	20.6
Northern	a	20.8
Upper East	a	20.4
Upper West	a	21.0
Education		
No education	19.6	19.7
Primary	19.7	19.8
Middle/JSS/JHS	a	21.3
Secondary/SSS/SHS	a	a
More than secondary	a	a
Wealth quintile		
Lowest	19.8	19.7
Second	a	20.1
Middle	a	20.5
Fourth	a	21.8
Highest	a	a
Total	a	21.5

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

Table 4.8 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, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage of women age 15-19 who: Have had a live birth	Are pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15-17	5.7	1.8	7.5	3,080
15	2.7	0.7	3.4	1,046
16	4.3	2.3	6.6	936
17	9.7	2.5	12.3	1,098
18	17.7	4.8	22.5	974
19	29.9	2.5	32.3	731
Residence				
Urban	9.2	1.8	11.0	2,411
Rural	14.5	3.3	17.8	2,374
Zone				
Coastal	11.9	2.2	14.1	2,206
Middle	12.2	2.4	14.6	1,916
Northern	10.5	4.0	14.5	663
Region				
Western	15.6	3.3	18.9	650
Central	13.6	2.2	15.8	413
Greater Accra	6.8	0.2	7.0	748
Volta	13.7	4.3	17.9	396
Eastern	11.1	1.9	13.0	490
Ashanti	12.2	2.6	14.8	936
Brong Ahafo	13.3	2.7	16.0	490
Northern	11.6	4.2	15.8	351
Upper East	12.7	4.6	17.3	176
Upper West	4.7	2.8	7.5	136
Education				
No education	27.1	7.7	34.7	164
Primary	19.9	3.2	23.1	835
Middle/JSS/JHS	12.3	2.7	15.0	2,595
Secondary/SSS/SHS	3.1	1.0	4.2	1,152
More than secondary	*	*	*	39
Wealth quintile				
Lowest	16.8	4.4	21.1	869
Second	18.5	2.9	21.4	1,027
Middle	13.2	3.2	16.3	1,051
Fourth	7.4	1.9	9.3	953
Highest	2.5	0.2	2.7	886
Total	11.8	2.5	14.4	4,785

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

Table 4.9 Sexual and reproductive health behaviours before age 15

Among women age 15-19, percentage who initiated sexual intercourse, were married, and had a live birth before age 15, Ghana MHS 2017

	Had sexual intercourse before age 15	Married before age 15	Gave birth before age 15	Number
Women	9.2	2.3	1.1	4,785

Table 4.10 Knowledge of contraceptive methods

Percentage of all women, currently married women, and sexually active unmarried women age 15-49 who have heard of any contraceptive method, according to specific method, Ghana MHS 2017

Method	All women	Currently married women	Sexually active unmarried women[1]
Any method	98.9	99.4	99.8
Any modern method	98.9	99.4	99.8
Female sterilisation	79.5	82.8	79.3
Male sterilisation	37.9	40.2	38.8
Pill	90.5	95.0	93.5
IUD	58.9	65.6	57.3
Injectables	93.3	97.2	94.7
Implants	90.5	95.9	93.1
Male condom	97.6	98.1	99.1
Female condom	86.8	88.3	91.4
Emergency contraception	68.7	70.5	80.2
Lactational amenorrhoea (LAM)	47.2	57.6	41.8
Other modern method	0.1	0.1	0.0
Any traditional method	91.0	94.0	96.6
Rhythm	82.0	84.9	87.0
Withdrawal	82.4	87.7	91.8
Other traditional method	7.8	8.7	9.4
Mean number of methods known by respondents 15-49	9.2	9.7	9.6
Number of respondents	25,062	14,361	1,616

[1] Had last sexual intercourse within 30 days preceding the survey

Table 4.11 Knowledge of contraceptive methods according to background characteristics

Percentage of currently married women 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 MHS 2017

Background characteristic	Heard of any method	Heard of any modern method[1]	Number
Age			
15-19	98.8	98.7	404
20-24	99.2	99.2	1,841
25-29	99.6	99.6	2,878
30-34	99.5	99.5	2,961
35-39	99.5	99.5	2,646
40-44	99.3	99.3	1,957
45-49	99.0	99.0	1,674
Residence			
Urban	99.8	99.8	7,226
Rural	98.9	98.9	7,135
Zone			
Coastal	99.8	99.8	6,622
Middle	99.7	99.7	5,452
Northern	97.5	97.4	2,287
Region			
Western	99.4	99.4	1,799
Central	99.9	99.9	1,285
Greater Accra	99.9	99.9	2,354
Volta	100.0	100.0	1,183
Eastern	99.8	99.8	1,414
Ashanti	99.7	99.7	2,655
Brong Ahafo	99.7	99.7	1,384
Northern	96.0	96.0	1,309
Upper East	99.6	99.5	569
Upper West	99.4	99.2	409
Education			
No education	98.0	98.0	3,736
Primary	99.6	99.6	2,458
Middle/JSS/JHS	99.9	99.9	5,479
Secondary/SSS/SHS	100.0	100.0	1,724
More than secondary	100.0	100.0	963
Wealth quintile			
Lowest	97.7	97.6	2,766
Second	99.7	99.6	2,765
Middle	99.7	99.7	2,796
Fourth	99.9	99.9	2,899
Highest	100.0	100.0	3,135
Total	99.4	99.4	14,361

[1] Female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom, female condom, emergency contraception, lactational amenorrhoea method (LAM), and other modern methods

Table 4.12 Current use of contraception according to 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 MHS 2017

			Modern method												Traditional method					
Age	Any method	Any modern method	Female sterili-sation	Male sterili-sation	Pill	IUD	Inject-ables	Implants	Male condom	Female condom	Dia-phragm	Foam/ jelly	Emer-gency contra-ception	LAM	Any tradi-tional method	Rhythm	With-drawal	Other	Not currently using	Total	Number of women
									ALL WOMEN												
15-19	9.8	6.9	0.0	0.1	1.1	0.1	1.3	1.7	1.6	0.0	0.0	0.0	1.0	0.0	2.9	2.0	0.7	0.2	90.2	100.0	4,785
20-24	28.6	22.7	0.0	0.0	3.7	0.2	6.4	6.2	2.8	0.1	0.0	0.0	3.0	0.1	5.9	4.1	1.5	0.3	71.4	100.0	4,208
25-29	32.1	25.2	0.0	0.1	4.7	0.1	9.0	7.3	2.3	0.0	0.0	0.0	1.5	0.3	6.9	5.0	1.5	0.3	67.9	100.0	4,229
30-34	31.9	25.5	0.6	0.0	4.6	1.2	8.5	7.5	1.2	0.0	0.0	0.0	1.2	0.5	6.4	4.5	1.3	0.6	68.1	100.0	3,709
35-39	28.8	23.1	2.5	0.1	4.1	0.8	7.6	6.1	1.0	0.0	0.1	0.0	0.6	0.3	5.6	4.4	1.0	0.2	71.2	100.0	3,313
40-44	24.5	19.5	3.6	0.1	2.7	1.0	5.8	4.7	1.0	0.0	0.0	0.0	0.3	0.2	5.1	3.8	0.8	0.4	75.5	100.0	2,481
45-49	18.1	14.2	4.1	0.1	2.0	1.0	2.8	2.9	0.4	0.0	0.1	0.0	0.6	0.0	3.9	3.0	0.6	0.3	81.9	100.0	2,337
Total	24.7	19.5	1.2	0.0	3.3	0.5	6.0	5.3	1.6	0.0	0.0	0.0	1.3	0.2	5.3	3.8	1.1	0.3	75.3	100.0	25,062
									CURRENTLY MARRIED WOMEN												
15-19	27.6	23.8	0.0	0.0	2.5	0.0	8.7	10.3	1.1	0.0	0.0	0.0	1.2	0.0	3.8	3.0	0.8	0.0	72.4	100.0	404
20-24	32.4	27.9	0.1	0.0	4.7	0.4	9.3	9.4	1.5	0.2	0.0	0.0	1.9	0.3	4.5	3.0	1.5	0.0	67.6	100.0	1,841
25-29	33.3	26.7	0.0	0.1	4.7	0.1	10.5	8.5	1.3	0.0	0.0	0.0	1.1	0.4	6.6	4.8	1.6	0.2	66.7	100.0	2,878
30-34	33.9	27.7	0.7	0.0	5.2	1.3	9.3	8.5	1.0	0.0	0.0	0.0	1.0	0.6	6.2	4.5	1.2	0.4	66.1	100.0	2,961
35-39	31.5	25.5	3.0	0.0	4.9	0.7	8.2	6.7	0.9	0.0	0.1	0.1	0.5	0.3	6.1	4.7	1.1	0.3	68.5	100.0	2,646
40-44	28.0	22.1	4.1	0.1	3.2	1.2	6.4	5.5	1.2	0.0	0.0	0.0	0.3	0.3	5.9	4.3	1.0	0.5	72.0	100.0	1,957
45-49	22.2	17.1	4.9	0.2	2.3	1.4	3.3	3.8	0.4	0.0	0.1	0.0	0.7	0.0	5.0	3.7	0.9	0.4	77.8	100.0	1,674
Total	30.8	25.0	1.9	0.0	4.3	0.8	8.2	7.4	1.1	0.0	0.0	0.0	0.9	0.3	5.8	4.2	1.3	0.3	69.2	100.0	14,361
									SEXUALLY ACTIVE UNMARRIED WOMEN[1]												
15-19	35.6	27.2	0.0	0.6	4.6	1.0	4.8	4.7	6.7	0.0	0.0	0.0	4.8	0.0	8.4	4.8	3.5	0.0	64.4	100.0	392
20-24	48.8	39.1	0.0	0.0	6.2	0.1	8.0	8.0	7.5	0.0	0.0	0.0	9.2	0.0	9.7	7.3	2.4	0.0	51.2	100.0	455
25+	33.7	27.2	0.5	0.2	4.4	0.3	8.6	5.2	4.5	0.0	0.0	0.0	3.5	0.0	6.5	3.9	1.7	0.9	66.3	100.0	769
Total	38.4	30.6	0.3	0.3	4.9	0.4	7.5	5.9	5.9	0.0	0.0	0.0	5.4	0.0	7.8	5.1	2.3	0.4	61.6	100.0	1,616

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

Table 4.13.1 Current use of contraception by background characteristics

Percent distribution of currently married and sexually active unmarried women age 15-49 by contraceptive method currently used, according to background characteristics, Ghana MHS 2017

Background characteristic	Any method	Any modern method	Modern method												Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	Diaphragm	Foam/ jelly	Emergency contraception	LAM		Rhythm	Withdrawal	Other			
									CURRENTLY MARRIED WOMEN												
Number of living children																					
0	16.9	11.1	0.3	0.0	2.8	0.2	2.1	2.0	1.8	0.2	0.0	0.0	1.8	0.0	5.9	4.7	1.1	0.1	83.1	100.0	1,131
1-2	29.0	23.2	0.3	0.0	3.6	0.6	8.6	7.3	1.3	0.0	0.0	0.0	1.0	0.4	5.8	4.2	1.6	0.1	71.0	100.0	5,417
3-4	34.2	27.4	2.3	0.0	5.1	1.0	8.9	7.6	1.0	0.0	0.1	0.0	0.7	0.5	6.8	5.2	1.2	0.4	65.8	100.0	4,768
5+	33.8	29.7	4.5	0.2	4.7	1.1	8.8	9.2	0.4	0.0	0.0	0.0	0.7	0.1	4.1	2.7	0.9	0.6	66.2	100.0	3,045
Disability status[1]																					
A lot of difficulty or unable to function in at least one domain	31.2	25.3	2.0	0.1	4.8	0.6	9.3	7.2	0.2	0.0	0.0	0.0	0.7	0.3	5.9	3.7	1.8	0.4	68.8	100.0	1,605
Some or no difficulty in all domains	30.8	25.0	1.8	0.0	4.2	0.8	8.1	7.4	1.2	0.0	0.0	0.0	0.9	0.3	5.8	4.3	1.2	0.3	69.2	100.0	12,756
Residence																					
Urban	30.2	22.6	1.8	0.0	3.9	1.1	6.6	6.0	1.6	0.0	0.0	0.0	1.2	0.4	7.6	5.7	1.5	0.4	69.8	100.0	7,226
Rural	31.4	27.4	1.9	0.1	4.7	0.5	9.9	8.8	0.5	0.1	0.1	0.0	0.7	0.3	4.0	2.8	1.0	0.2	68.6	100.0	7,135
Zone																					
Coastal	29.3	23.5	2.2	0.1	4.0	0.9	6.9	7.2	1.1	0.1	0.0	0.0	0.6	0.4	5.9	3.8	1.7	0.3	70.7	100.0	6,622
Middle	35.2	27.7	2.1	0.0	5.1	0.9	8.3	8.0	1.3	0.0	0.1	0.0	1.7	0.4	7.5	6.0	1.1	0.4	64.8	100.0	5,452
Northern	24.5	23.0	0.3	0.0	3.2	0.3	11.9	6.4	0.4	0.0	0.0	0.0	0.2	0.3	1.5	1.2	0.3	0.0	75.5	100.0	2,287
Region																					
Western	32.3	27.0	2.9	0.2	5.8	0.0	8.9	7.1	1.0	0.1	0.0	0.0	0.4	0.6	5.2	3.8	1.1	0.3	67.7	100.0	1,799
Central	28.1	24.6	2.8	0.1	3.9	0.7	6.1	10.4	0.4	0.0	0.0	0.0	0.1	0.1	3.5	2.4	0.7	0.4	71.9	100.0	1,285
Greater Accra	28.4	20.8	1.6	0.0	3.0	1.9	5.3	5.5	1.7	0.1	0.1	0.0	1.2	0.3	7.7	5.1	2.2	0.3	71.6	100.0	2,354
Volta	27.9	22.2	1.7	0.0	3.4	0.4	7.8	7.3	0.9	0.0	0.0	0.1	0.2	0.5	5.7	2.8	2.7	0.2	72.1	100.0	1,183
Eastern	35.6	27.7	1.6	0.1	3.1	1.6	7.9	10.5	1.7	0.0	0.0	0.0	0.7	0.4	7.9	5.8	1.7	0.4	64.4	100.0	1,414
Ashanti	35.0	26.0	2.6	0.0	5.2	0.8	6.6	6.2	1.4	0.0	0.1	0.0	2.7	0.4	9.0	7.4	1.1	0.5	65.0	100.0	2,655
Brong Ahafo	35.3	31.1	1.5	0.0	6.8	0.5	12.0	8.9	0.5	0.0	0.0	0.0	0.7	0.2	4.2	3.5	0.6	0.0	64.7	100.0	1,384
Northern	18.5	16.8	0.2	0.0	3.6	0.3	9.3	2.3	0.4	0.0	0.0	0.0	0.1	0.4	1.7	1.3	0.4	0.1	81.5	100.0	1,309
Upper East	32.4	31.6	0.3	0.0	2.2	0.3	15.3	13.2	0.3	0.0	0.0	0.0	0.0	0.1	0.8	0.6	0.2	0.0	67.6	100.0	569
Upper West	32.6	30.7	0.9	0.0	3.1	0.3	15.3	10.1	0.6	0.0	0.1	0.0	0.3	0.0	2.0	1.7	0.3	0.0	67.4	100.0	409
Education																					
No education	23.8	21.8	1.6	0.1	3.2	0.4	8.5	7.2	0.3	0.0	0.1	0.0	0.4	0.2	1.9	1.5	0.3	0.1	76.2	100.0	3,736
Primary	32.7	28.7	2.5	0.1	4.7	1.2	9.4	9.2	0.6	0.1	0.0	0.0	0.7	0.3	4.0	2.3	1.2	0.5	67.3	100.0	2,458
Middle/JSS/JHS	34.3	27.2	2.1	0.0	4.9	0.7	8.9	8.1	1.0	0.0	0.0	0.0	1.1	0.4	7.1	5.0	1.7	0.4	65.7	100.0	5,479
Secondary/SSS/SHS	30.6	21.2	0.5	0.1	4.8	0.8	5.7	4.9	2.1	0.0	0.1	0.0	2.0	0.4	9.4	7.6	1.6	0.3	69.4	100.0	1,724
More than secondary	33.8	22.4	2.3	0.0	3.1	2.5	4.8	4.1	4.3	0.0	0.0	0.0	0.5	0.7	11.4	9.2	2.2	0.0	66.2	100.0	963
Wealth quintile																					
Lowest	25.6	23.4	1.0	0.1	3.2	0.4	10.5	7.7	0.1	0.0	0.0	0.0	0.2	0.2	2.3	1.3	0.8	0.1	74.4	100.0	2,766
Second	32.6	28.9	1.8	0.1	4.6	0.5	10.5	10.2	0.4	0.1	0.0	0.0	0.6	0.2	3.7	2.3	1.1	0.3	67.4	100.0	2,765
Middle	34.9	28.7	2.6	0.0	5.5	0.8	8.9	8.4	0.9	0.1	0.0	0.1	1.1	0.4	6.1	4.5	1.2	0.4	65.1	100.0	2,796
Fourth	31.0	24.1	1.7	0.0	5.1	0.8	6.8	7.0	1.1	0.0	0.0	0.0	1.2	0.4	6.8	5.2	1.4	0.2	69.0	100.0	2,899
Highest	30.0	20.6	2.2	0.0	3.1	1.5	4.9	4.0	2.6	0.0	0.2	0.0	1.5	0.5	9.5	7.4	1.6	0.5	70.0	100.0	3,135
Total	30.8	25.0	1.9	0.0	4.3	0.8	8.2	7.4	1.1	0.0	0.0	0.0	0.9	0.3	5.8	4.2	1.3	0.3	69.2	100.0	14,361

Continued

Table 4.13.1—*Continued*

Background characteristic	Any method	Any modern method	Modern method												Traditional method						
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	Diaphragm	Foam/ jelly	Emergency contraception	LAM	Any traditional method	Rhythm	Withdrawal	Other	Not currently using	Total	Number of women
	SEXUALLY ACTIVE UNMARRIED WOMEN[2]																				
Residence																					
Urban	35.8	28.1	0.1	0.3	4.0	0.1	6.1	3.7	7.1	0.0	0.0	0.0	6.8	0.0	7.7	4.9	2.4	0.5	64.2	100.0	951
Rural	42.1	34.1	0.5	0.3	6.0	0.9	9.6	8.9	4.2	0.0	0.0	0.0	3.4	0.0	8.0	5.4	2.3	0.3	57.9	100.0	665
Total	38.4	30.6	0.3	0.3	5	0.4	7.5	5.9	5.9	0.0	0.0	0.0	5.4	0.0	7.8	5.1	2.3	0.4	61.6	100.0	1,616

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhoea method
[1] If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown. Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing.
[2] Women who have had sexual intercourse within 30 days preceding the survey

Table 4.13.2 Trends in current use of contraception

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to several surveys, Ghana MHS 2017

Method	1998 GDHS	2003 GDHS	2008 GDHS	2014 GDHS	2017 GMHS
Any method	22.0	25.2	23.5	26.7	30.8
Any modern method	13.3	18.7	16.6	22.2	25.0
Female sterilisation	1.3	1.9	1.6	1.9	1.9
IUD	0.7	0.9	0.2	0.8	0.8
Pill	3.9	5.5	4.7	4.7	4.3
Male condom	2.7	3.1	2.4	1.2	1.1
Injectables	3.1	5.4	6.2	8.0	8.2
Implants	0.1	1.0	0.9	5.2	7.4
Other modern method	1.5	0.9	0.4	0.4	1.2
Any traditional method	8.7	6.5	6.9	4.5	5.8
Rhythm	6.6	5.1	4.7	3.2	4.2
Withdrawal	1.5	0.8	1.4	1.1	1.3
Other	0.6	0.6	0.8	0.2	0.3
Not currently using	78.0	74.8	76.5	73.3	69.2
Total	100.0	100.0	100.0	100.0	100.0
Number of women	3,131	3,549	2,876	5,321	14,361

Table 4.14 Knowledge of a source of family planning among nonusers

Percentage of women age 15-49 who are not using contraception and know of a place where they could obtain a method of family planning, and percentage who know of specific sources, according to background characteristics, Ghana MHS 2017

Background characteristic	Know any source	Know a public sector source[1]	Know a private sector source[2]	Know any other source[3]	Number of women not currently using contraception
Age					
15-19	59.4	56.1	16.3	0.8	4,317
20-24	81.3	77.5	22.7	1.1	3,004
25-29	87.9	83.4	26.6	1.4	2,873
30-34	90.4	87.4	25.0	0.7	2,526
35-39	87.0	82.7	22.9	1.0	2,361
40-44	86.1	83.3	19.4	0.7	1,872
45-49	81.1	78.1	15.0	2.0	1,914
Residence					
Urban	79.2	74.4	27.9	1.2	10,525
Rural	80.3	78.2	12.4	0.9	8,343
Zone					
Coastal	79.8	75.7	25.1	1.6	9,322
Middle	80.0	76.4	19.3	0.5	6,956
Northern	78.4	76.7	11.2	0.8	2,590
Region					
Western	79.4	76.9	13.5	1.4	2,384
Central	79.7	77.8	17.1	0.1	1,738
Greater Accra	78.2	71.6	39.6	2.9	3,666
Volta	84.4	81.4	17.5	0.2	1,534
Eastern	85.0	82.8	8.4	0.4	1,800
Ashanti	78.7	74.2	24.9	0.5	3,447
Brong Ahafo	77.3	74.2	19.4	0.5	1,710
Northern	77.8	75.9	11.6	0.5	1,483
Upper East	79.2	77.7	13.6	1.0	638
Upper West	79.3	77.6	7.0	1.3	469
Education					
No education	78.5	75.9	11.5	0.7	3,570
Primary	75.9	73.0	15.8	0.8	2,917
Middle/JSS/JHS	78.4	75.0	19.4	1.0	7,515
Secondary/SSS/SHS	81.8	77.0	28.6	1.3	3,473
More than secondary	92.4	87.0	46.4	2.3	1,393
Wealth quintile					
Lowest	76.8	74.6	8.3	0.6	3,165
Second	78.8	76.3	13.2	0.9	3,499
Middle	80.5	77.3	19.1	1.0	3,699
Fourth	80.5	76.5	24.4	0.8	4,095
Highest	81.1	75.6	34.9	1.9	4,410
Total	79.7	76.1	21.1	1.1	18,868

[1] Public sources include government hospital, government health centre/clinic, government health post/CHPS, mobile clinic/outreach, family planning clinic, fieldworker, and other public sector.
[2] Private sources include private hospital/clinic, private doctor, mobile clinic/outreach, pharmacy/chemist/drugstore, fieldworker, FP/PPAG clinic, maternity home, and other private sector.
[3] Other sources include shop, church, friend/relative, and other.

Table 4.15 Knowledge of fertile period

Percent distribution of rhythm users and all women age 15-49 by knowledge of the fertile period during the ovulatory cycle, Ghana MHS 2017

Perceived fertile period	Users of rhythm method	All women
Just before her menstrual period begins	6.2	8.9
During her menstrual period	1.6	2.4
Right after her menstrual period has ended	22.8	28.9
Halfway between two menstrual periods	65.2	38.4
Other	0.0	0.2
No specific time	1.7	7.5
Don't know	2.4	13.6
Total	100.0	100.0
Number of women	957	25,062

Table 4.16 Knowledge of fertile period by age

Percentage of women age 15-49 with correct knowledge of the fertile period during the ovulatory cycle, according to age, Ghana MHS 2017

Age	Percentage with correct knowledge of the fertile period	Number of women
15-19	23.9	4,785
20-24	39.2	4,208
25-29	43.0	4,229
30-34	44.1	3,709
35-39	42.0	3,313
40-44	41.1	2,481
45-49	41.0	2,337
Total	38.4	25,062

Note: Correct knowledge of the fertile period is defined as halfway between two menstrual periods.

MATERNAL HEALTH CARE 5

Key Findings

- ***Antenatal care:*** Almost all women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey received antenatal care (ANC) from a skilled provider during their most recent pregnancy (98%). Sixty-four percent of women had their first ANC visit during the first trimester of pregnancy, and 89% attended the recommended four or more ANC visits during pregnancy.
- ***Components of ANC:*** Almost all women who attended ANC had their blood pressure measured (99%), had a urine sample taken (98%), had a blood sample taken (98%), and were weighed (99%) during pregnancy as part of any ANC visit.
- ***Delivery:*** Institutional deliveries increased from 54% in 2007 to 79% in 2017.
- ***Postnatal care:*** Eighty-four percent of women received a postnatal check for their most recent live birth or stillbirth, and 81% of newborns received a postnatal check within 2 days of birth.
- ***Problems in accessing health care:*** Fifty-seven percent of women age 15-49 reported having at least one problem in accessing health care. Getting money for treatment is the most prominent problem (48%).

Health care services during pregnancy and childbirth and after delivery are important for the survival and well-being of both the mother and the infant. Skilled care during pregnancy and childbirth, as well as access to emergency obstetric care, would accelerate Ghana's progress towards reducing maternal and neonatal morbidity and mortality.

Several high-level initiatives have been launched in Ghana to enhance progress towards Millennium Development Goal (MDG) 5. Notable examples include the Making Pregnancy Safer Initiative, the Campaign for Accelerated Reduction of Maternal Mortality in Africa (CARMMA), and the MDG 5 Acceleration Framework (MAF).

This chapter presents information from the 2017 GMHS on several aspects of maternal and newborn health, including antenatal care (ANC), number and timing of ANC visits, components of maternal health care during ANC, places of delivery, assistance during delivery, types of delivery, and postnatal care (PNC) for mothers and newborns.

5.1 ANTENATAL CARE COVERAGE AND CONTENT

5.1.1 Skilled Providers

Antenatal care (ANC) from a skilled provider

Pregnancy care received from skilled providers, such as doctors and nurses/midwives.

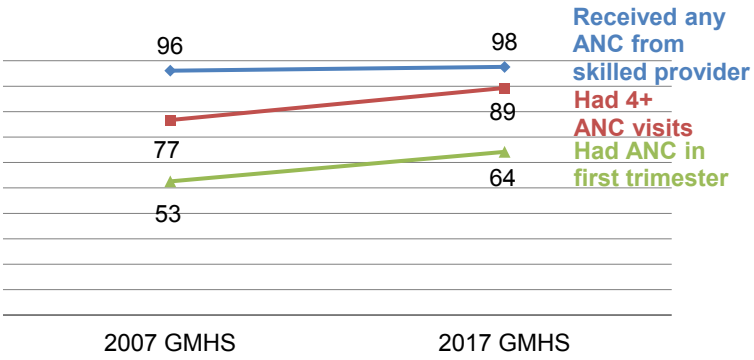
Sample: Women age 15-49 who had a live birth or stillbirth in the 5 years before the survey

Almost all (98%) women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey received ANC from a skilled provider for their most recent birth or stillbirth. Care was most often provided by nurses/midwives (70%), followed by doctors (24%) (**Table 5.1**).

Trends: The percentage of women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey and received ANC from a skilled provider for their most recent live birth or stillbirth remained high, increasing very slightly from 96% in 2007 to 98% in 2017 (**Figure 5.1**).

Figure 5.1 **Trends in antenatal care coverage**

Percentage of women age 15-49 who had a live birth or stillbirth in the 5 years before the survey (for the most recent live birth or stillbirth)



Patterns by background characteristics

There is little variation in receipt of antenatal care from a skilled provider by selected background characteristics; there is, however, variation in the kind of provider seen.

- The percentage of women who saw a doctor increases with the mother's age at birth, from 17% among women younger than age 20 to 24% among women age 20-34 and 29% among those age 35-49.
- Thirty-one percent of urban women saw a doctor, as compared with 18% of rural women; larger percentages of rural women saw a nurse/midwife (74%) or community health officer/nurse (6%) than their urban counterparts (66% and 0.8%, respectively).
- The percentage of women who saw a doctor ranges from 11% in Northern and Upper East regions to 41% in Greater Accra region.
- The percentage of women who saw a doctor increases with increasing education (from 15% among women with no education to 51% among women with more than a secondary education) and wealth (from 12% among women in the lowest wealth quintile to 46% among women in the highest quintile).

Reasons for Seeking or Not Seeking ANC

Women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey and did not receive ANC for their most recent birth or stillbirth were asked why they did not seek ANC. The most commonly cited reason was lack of money (42%), and a larger percentage of rural women (47%) reported this reason than urban women (31%) . The second most common reason, the perception that ANC is not necessary

(26%), was cited more often by urban (33%) than rural (23%) women. Transportation problems were cited by 20% of rural women but not by any urban women (**Table 5.2**).

Women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey and did receive ANC for their most recent birth or stillbirth were asked if they first went to ANC for that pregnancy because of a problem or just for a checkup; 86% went for the first time just for a checkup, and 14% went because of a problem (**Table 5.3**). Women who went because of a problem were asked to name the problem(s); the most commonly reported problem was excessive vomiting (33%), followed by lower abdominal pain (26%), headache (24%), and blurry vision and anaemia/body pains/fever (18% each).

Payments for ANC

The 2017 GMHS collected data on whether women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey and received ANC for their most recent birth or stillbirth at a public facility were asked to make any payments for ANC. More than 4 in 10 women who received ANC at a public facility were asked to make payments for ANC (45%); 37% paid for laboratory tests, 32% paid for drugs, 22% paid for other supplies, and 8% paid to see a provider (doctor or nurse) (**Table 5.4**).

5.1.2 Timing and Number of ANC Visits

Overall, 89% of women age 15-49 with a live birth or stillbirth in the 5 years before the survey attended the recommended number (four or more) of ANC visits during the pregnancy for their most recent live birth or stillbirth (**Table 5.5**). The percentage of urban women who made 4 or more ANC visits is higher (93%) than rural women (86%). Sixty-four percent of women had their first ANC visit during the first trimester of pregnancy, as recommended.

Trends: The percentage of women who had the recommended four or more ANC visits increased by 12 percentage points between 2007 and 2017, from 77% to 89%. The percentage of women who received ANC in the first trimester also increased over this period, from 53% to 64% (**Figure 5.1**).

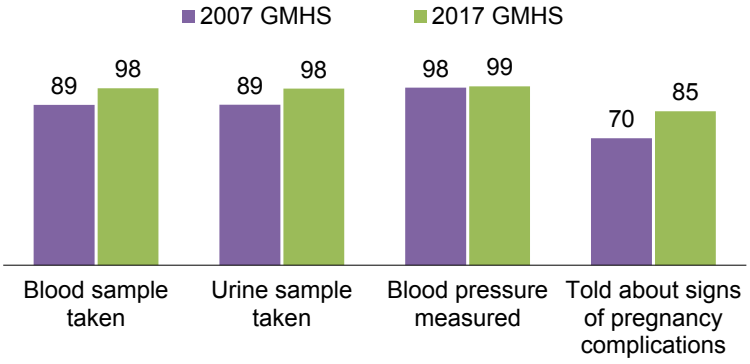
5.2 Components of ANC Visits

Among women age 15-49 with a live birth or stillbirth in the 5 years before the survey who received ANC during the pregnancy for their most recent live birth or stillbirth, almost all received critical components of care at least once: 99% of women had their blood pressure measured, 98% had a urine sample taken, 98% had a blood sample taken, and 99% were weighed. Most were told about signs of pregnancy complications (85%); among those who were told about signs of complications, almost all (98%) were told about where to go in case they had any complications (**Table 5.6**).

Trends: There was an increase in receipt of most of the components of ANC between 2007 and 2017. The percentage of women who had a urine sample taken and the percentage who had a blood sample taken rose from 89% to 98%. Over the same period, the percentage of women who were told about signs of pregnancy complications increased from 70% to 85% (**Figure 5.2**).

***Figure 5.2* Components of antenatal care**

Among women who received ANC for their most recent live birth or stillbirth, the percentage with selected services



Iron Tablets/Syrup and Intestinal Parasite Drugs

Women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey, whether or not they attended ANC, were asked if they took iron tablets or syrup and intestinal parasite drugs during their most recent pregnancy.

Most women (93%) reported taking iron tablets/syrup during pregnancy. Surprisingly, only 40% took intestinal parasite drugs. At the regional level, the percentage of women who took iron tablets/syrup is lowest (82%) in Volta region and highest (98%) in Upper East region (**Table 5.6**).

5.3 PROTECTION AGAINST NEONATAL TETANUS

Protection against neonatal tetanus

The number of tetanus toxoid injections needed to protect a baby from neonatal tetanus depends on the mother's vaccinations. A birth is protected against neonatal tetanus if the mother has received any of the following:

- Two tetanus toxoid injections during the pregnancy
- Two or more injections, the last one within 3 years of the birth
- Three or more injections, the last one within 5 years of the birth
- Four or more injections, the last one within 10 years of the birth
- Five or more injections at any time prior to the birth

Sample: Last live birth or stillbirth in the 5 years before the survey to women age 15-49

Just over three quarters of the most recent live births or stillbirths in the 5 years before the survey to women age 15-49 were protected against neonatal tetanus (77%) (**Table 5.7**).

Trends: The percentage of most recent live births or stillbirths in the 5 years before the survey to women age 15-49 that were protected against neonatal tetanus decreased slightly between 2007 (79%) and 2017 (77%).

Patterns by background characteristics

- The percentage of most recent live births or stillbirths in the 5 years before the survey to women age 15-49 that were protected against neonatal tetanus is higher in urban areas (80%) than in rural areas (73%).
- There is regional variation in the percentage of most recent live births or stillbirths protected against neonatal tetanus, from 62% in Upper East region to 82% in Central and Greater Accra regions.
- The percentage of most recent live births or stillbirths protected against neonatal tetanus increases with increasing mother's education, from 70% among women with no education to 89% among those with more than a secondary education.
- The percentage of most recent live births or stillbirths protected against neonatal tetanus also increases with increasing wealth, from 66% among women in the lowest quintile to 86% among those in the highest quintile.

5.4 DELIVERY SERVICES

5.4.1 Institutional Deliveries

Institutional deliveries

Deliveries that occur in a health facility.

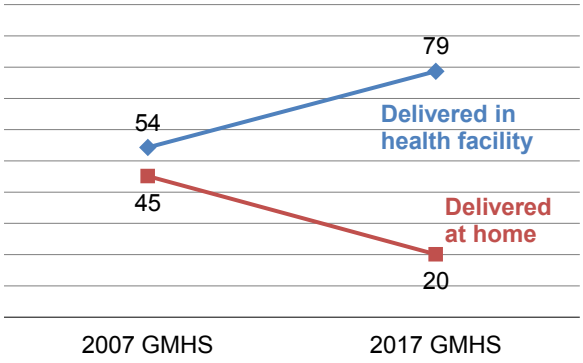
Sample: Last live birth or stillbirth in the 5 years before the survey to women age 15-49

Nearly 8 in 10 of the most recent live births or stillbirths in the 5 years before the survey to women age 15-49 were delivered in a health facility (79%) (**Table 5.8**).

Trends: Institutional deliveries increased from 54% in 2007 to 79% in 2017. Within the same time frame, home deliveries declined from 45% to 20% (**Figure 5.3**).

***Figure 5.3* Trends in place of birth**

Percentage of most recent live births or stillbirths in the 5 years before the survey

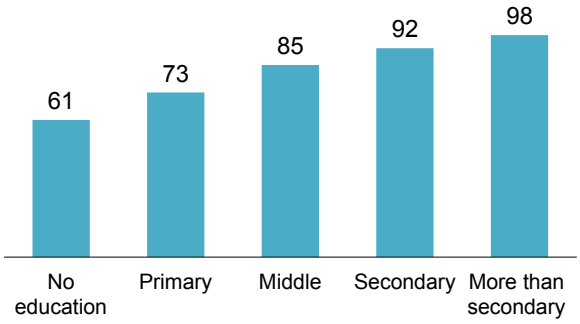


Patterns by background characteristics

- The percentage of most recent live births and stillbirths in the 5 years preceding the survey that were delivered in a health facility decreases with birth order, from 85% among first births to 69% among sixth- or higher-order births.
- The percentage of most recent live births or stillbirths delivered at home is three times higher in rural areas (30%) than in urban areas (9%).
- Ninety-two percent of births to women in Greater Accra region were delivered in a health facility, as compared with 59% of births to women in Northern region.
- The percentage of most recent live births and stillbirths delivered in a facility increases from 61% among women with no education to 98% among women with more than a secondary education (**Figure 5.4**).

***Figure 5.4* Health facility births by education**

Percentage of most recent live births or stillbirths in the 5 years before the survey that were delivered in a health facility



Reasons for Not Delivering in a Health Facility

Women with a live birth or stillbirth in the 5 years preceding the survey who did not deliver the most recent birth or stillbirth in a health facility were asked about their reason(s) for not delivering in a facility. The most common reason was that the baby came earlier than expected (25%), and this reason was more often reported by urban (33%) than rural (23%) women; 24% cited transportation problems (11% of urban women and 28% of rural women). Eleven percent said that going to a health facility was not necessary, a decline from 32% in 2007 (**Table 5.9**).

Payments for Delivery Care

Among women with a live birth or stillbirth in the past 5 years who delivered their most recent birth or stillbirth in a public health facility, 52% were asked to make any type of payment for delivery care; 39%

paid for drugs, 32% paid for other supplies, 22% paid for laboratory tests, and 9% paid to see the doctor/nurse. A larger percentage of women in urban areas (57%) than rural areas (47%) were asked to pay for some aspect of delivery care, and there is wide variation by region, from 15% among women in Upper West region to 78% among women in Western region (**Table 5.10**).

5.4.2 Skilled Assistance during Delivery

Skilled assistance during delivery

Births delivered with the assistance of doctors, nurses/midwives, and/or community health officers/nurses.

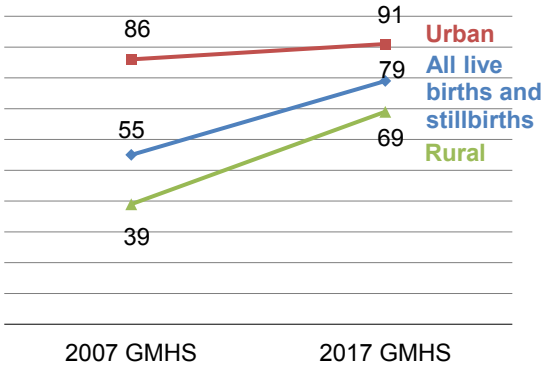
Sample: Last live birth or stillbirth in the 5 years before the survey

Seventy-nine percent of last live births or stillbirths in the 5 years before the 2017 GMHS to women age 15-49 were delivered by a skilled provider (**Table 5.11**).

Trends: The percentage of last live births and stillbirths in the 5 years preceding the survey that were delivered by a skilled provider increased from 55% in 2007 to 79% in 2017. While the increase was not large among urban women (from 86% to 91%), there was a tremendous increase among rural women (from 39% to 69%) (**Figure 5.5**).

Figure 5.5 **Trends in skilled assistance at delivery**

Percentage of most recent live births or stillbirths in the 5 years preceding the survey assisted by a skilled provider



Patterns by background characteristics

- The percentage of last live births and stillbirths in the 5 years preceding the survey that were delivered by a skilled provider is higher among urban women (91%) than among women in rural areas (69%).
- There is variation by region in the percentage of last live births and stillbirths delivered by a skilled provider, from 59% in Northern region to 92% in Greater Accra and Upper East regions.
- The percentage of last live births and stillbirths delivered by a skilled provider increases with increasing mother's education and wealth.

5.4.3 Delivery by Caesarean and Other Interventions

Among last live births and stillbirths in the 5 years before the survey to women age 15-49 that were delivered in a heath facility, 16% were delivered by Caesarean section (C-section); slightly more C-sections were decided on before (9%) than after (7%) the onset of labour pains (**Table 5.12**). Instruments were used for 4% of live births and stillbirths, a blood transfusion was received during 5%, and intravenous fluid was received during 58%.

Trends: The percentage of births delivered by C-section increased slightly from 12% in 2007 to 16% in 2017; in the same period, the percentage of births during which intravenous fluid was received increased from 36% to 58%.

Patterns by background characteristics

- The percentage of last live births and stillbirths delivered by C-section that were decided before the onset of labour pains increases with mother's age, from 3% of births to mothers under age 20 to 14% of births to mothers age 35-49.

- Intravenous fluid was received for a higher percentage of first-order births (65%) and births in urban areas (62%) than for higher-order births (55%-58%) and births in rural areas (54%). While there are minimal variations by education or wealth in the percentage of births during which instruments were used and blood transfusions were received, the percentage during which intravenous fluid was received and the percentage delivered by C-section both increase with increasing education and wealth.

Duration of Stay in Health Facility

Among women who had their most recent live birth or stillbirth in the 5 years preceding the survey in a health facility, 92% of those who delivered by C-section spent 3 or more days at the facility after delivery, as compared with 12% of those who had a vaginal birth (**Table 5.13**).

5.4.4 Problems during Delivery

Eighty-one percent of women with a live birth or stillbirth in the 5 years preceding the survey had no problems during delivery of their most recent live birth or stillbirth; 19% reported experiencing a problem or problems during delivery. Among women who experienced one or more problems, the most commonly cited problem was vaginal bleeding (30%), followed by other problems (22%), oedema/pre-eclampsia (13%), blurry vision (12%), and headache and prolonged labour (11% each). Nine in 10 women who experienced one or more problems saw somebody to get help for the problem or problems (91%) (**Table 5.14**).

5.5 Postnatal Care

5.5.1 Postnatal Health Check for Mothers

For both the mother and the infant, prompt postnatal care is important for treating complications that arise from delivery and providing the mother with important information on caring for herself and her baby. Among women age 15-49 who had a live birth or stillbirth in the 2 years before the survey, 84% had a postnatal check during the first 2 days after the most recent birth or stillbirth. Twelve percent of women did not receive a postnatal check (**Table 5.15**).

Patterns by background characteristics

- Ninety percent of urban women received a postnatal check within 2 days, as compared with 79% of rural women.

- A larger percentage of women who delivered in a health facility received a postnatal check within 2 days of delivery than those who delivered elsewhere (95% versus 45%).

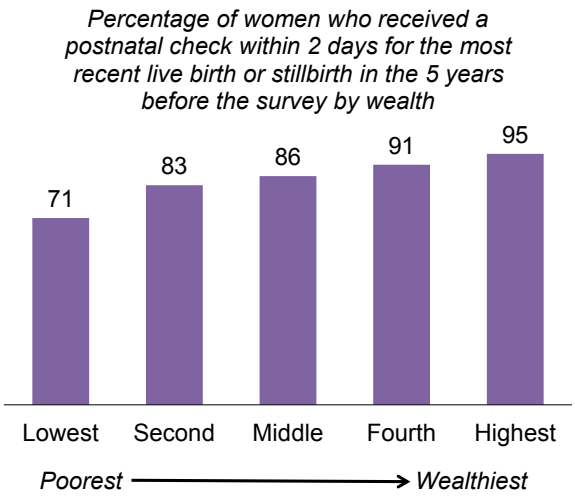
- The percentage of women who received a postnatal check in the 2 days after delivery varies by region, from a low of 71% in Northern region to a high of 91% in Upper West and Greater Accra regions.

- The percentage of women who received a postnatal check increases with increasing wealth (**Figure 5.6**).

Type of Provider

Seventy-six percent of women age 15-49 who had a live birth or stillbirth in the 2 years before the survey received a postnatal check within 2 days from a doctor, nurse, or midwife. Only 2% of women received a postnatal check from a community health officer, and another 6% received a check from a traditional birth attendant (**Table 5.16**).

***Figure 5.6* Postnatal checks on women**



5.5.2 Postnatal Health Check for Newborns

Many neonatal deaths occur within the first 48 hours of life. This period is a critical time in the lives of newborn babies, and complications can be prevented through prompt postnatal care (PNC). Just over 8 in 10 most recent live births delivered in the 2 years before the survey (81%) received a postnatal check within 2 days after birth; just over 5 in 10 received the check within 1 hour of birth (52%) (**Table 5.17**).

Patterns by background characteristics

- The percentage of newborns who received a postnatal check within 2 days decreases with birth order, from 86% among first-order births to 69% among sixth- or higher-order births.
- A much higher percentage of newborns delivered in a health facility received a postnatal check within 2 days (94%) than those delivered elsewhere (35%).
- A higher percentage of newborns in urban areas than rural areas received a postnatal check within 2 days (88% versus 76%).
- The percentage of newborns who received a postnatal check within 2 days increases with increasing mother's education and wealth.

Type of Provider

Seventy-five percent of most recent live births received a postnatal check within 2 days of delivery from a doctor, nurse, or midwife; 4% received a check from a traditional birth attendant; and 2% received a check from a community health officer or nurse (**Table 5.18**). Patterns by background characteristics are generally similar to the patterns observed for postnatal checks.

Content of Postnatal Checks

For 85% of most recent live births within the 2 years preceding the survey, at least two signal functions were checked within the first 2 days after birth (**Table 5.19**). The signal function most frequently performed was cord examination (80%), followed by counselling on breastfeeding (79%), measurement of temperature (77%), observation of breastfeeding (76%), counselling on danger signs (73%), and measurement of weight (66%).

Payments for Postnatal Checks

Among women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey who received a postnatal check at a public facility within 2 days after the most recent birth or stillbirth, 15% were asked to make payment for the check on their health. Payment was requested for 12% of postnatal checks among

most recent live births in the 5 years preceding the survey that received a postnatal check at a public facility within 2 days (**Table 5.20**).

5.6 Combinations of Maternal Care

Nationally, 74% of women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey received all three specified services: ANC, assistance at delivery from a skilled provider, and a postnatal check within 2 days after delivery (**Table 5.21**). Ten percent received only ANC, 9% received both ANC and PNC, and 5% received both ANC and assistance at delivery by a skilled provider.

Eighty-four percent of urban women received all three services, as compared with 64% of their counterparts in rural localities. The percentage of women who received all three services ranges from 54% in Northern region to 84% in Greater Accra and Upper East regions. The percentage of women who received all three services is highest among those with more than a secondary education and those in the highest wealth quintile (92% each).

5.7 Problems in Accessing Health Care

Problems in accessing health care

Women were asked whether each of the following factors is a big problem in seeking medical advice or treatment for themselves when they are sick:

- Getting permission to go to the doctor
- Getting money for advice or treatment
- Distance to a health facility
- Not wanting to go alone

Sample: Women age 15-49

The survey also collected information regarding problems women face in accessing health care. Information on such problems is vital in understanding and addressing barriers women face during pregnancy and delivery with regards to seeking care.

Fifty-seven percent of women age 15-49 reported having at least one problem in accessing health care (**Table 5.22**). Getting money for treatment is the most common problem (48%), followed by distance to a health facility (24%) and not wanting to go alone (14%); the least cited problem is getting permission to go for treatment (7%).

Larger percentages of women with five or more living children (62%), divorced/separated/widowed women (61%), and women with no education (63%) have a problem getting money for treatment than other women. Distance to a health facility is a problem for larger percentages of women in rural localities (35%) and women in Northern region (47%) than other women.

List of Tables

For more information on maternal health care, see the following tables:

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- **Table 5.2 Reasons for not seeking antenatal care**
- **Table 5.3 Reasons for seeking antenatal care**
- **Table 5.4 Payments for antenatal care**
- **Table 5.5 Number of antenatal care visits and timing of first visit**
- **Table 5.6 Components of antenatal care**
- **Table 5.7 Tetanus toxoid injections**
- **Table 5.8 Place of delivery**
- **Table 5.9 Reasons for not delivering in a health facility**

Table 5.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth or stillbirth and percentage receiving antenatal care from a skilled provider for the most recent birth or stillbirth, according to background characteristics, Ghana MHS 2017

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	Other				
Age at birth									
<20	17.1	76.5	3.8	0.2	0.0	2.4	100.0	97.3	1,250
20-34	24.2	70.4	3.0	0.1	0.0	2.2	100.0	97.7	7,614
35-49	28.6	64.5	4.2	0.2	0.0	2.6	100.0	97.3	2,077
Birth order									
1	22.5	73.3	2.9	0.0	0.0	1.3	100.0	98.7	2,032
2-3	25.0	69.7	3.1	0.1	0.0	2.1	100.0	97.8	3,849
4-5	24.1	70.1	3.4	0.1	0.0	2.3	100.0	97.6	2,772
6+	24.6	67.5	4.1	0.2	0.0	3.7	100.0	96.2	2,288
Disability status[2]									
A lot of difficulty or unable to function in at least one domain	24.2	67.1	4.8	0.0	0.0	3.9	100.0	96.1	1,021
Some or no difficulty in all domains	24.2	70.3	3.2	0.1	0.0	2.1	100.0	97.7	9,919
Residence									
Urban	31.4	66.1	0.8	0.2	0.0	1.5	100.0	98.3	5,286
Rural	17.6	73.6	5.7	0.0	0.0	3.1	100.0	96.9	5,655
Zone									
Coastal	30.3	63.8	2.8	0.2	0.0	3.0	100.0	96.9	4,916
Middle	22.7	73.7	1.6	0.1	0.0	1.9	100.0	98.0	4,243
Northern	11.2	78.2	8.9	0.0	0.0	1.7	100.0	98.3	1,782
Region									
Western	26.2	65.7	4.7	0.1	0.0	3.3	100.0	96.6	1,415
Central	25.1	72.3	0.1	0.2	0.0	2.3	100.0	97.5	986
Greater Accra	41.3	55.7	0.5	0.4	0.0	2.2	100.0	97.5	1,613
Volta	22.5	66.1	7.0	0.0	0.0	4.4	100.0	95.6	902
Eastern	19.2	77.0	0.8	0.3	0.0	2.7	100.0	97.0	1,086
Ashanti	29.4	68.2	0.4	0.0	0.0	2.1	100.0	97.9	2,017
Brong Ahafo	14.4	80.1	4.7	0.0	0.1	0.7	100.0	99.2	1,140
Northern	11.0	77.9	8.9	0.0	0.0	2.3	100.0	97.7	1,056
Upper East	11.0	80.7	7.9	0.0	0.0	0.4	100.0	99.6	424
Upper West	12.4	76.1	10.3	0.0	0.0	1.2	100.0	98.8	301
Education									
No education	14.7	73.5	7.5	0.0	0.0	4.2	100.0	95.7	2,625
Primary	19.5	73.7	3.3	0.3	0.0	3.1	100.0	96.6	1,942
Middle/JSS/JHS	26.2	70.4	1.7	0.1	0.0	1.6	100.0	98.3	4,332
Secondary/SSS/SHS	30.0	67.6	1.5	0.0	0.0	0.9	100.0	99.1	1,368
More than secondary	51.0	47.9	1.1	0.0	0.0	0.0	100.0	100.0	673
Wealth quintile									
Lowest	11.9	74.2	9.5	0.1	0.0	4.3	100.0	95.6	2,344
Second	18.7	75.0	3.3	0.1	0.0	3.0	100.0	97.0	2,363
Middle	20.9	74.7	1.8	0.3	0.0	2.3	100.0	97.3	2,202
Fourth	28.0	69.6	1.1	0.1	0.0	1.1	100.0	98.7	2,151
Highest	46.2	53.3	0.2	0.0	0.0	0.3	100.0	99.7	1,881
Total	24.2	70.0	3.3	0.1	0.0	2.3	100.0	97.6	10,940

Note: If more than one source of ANC was 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.
[2] Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing. If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown.

Table 5.2 Reasons for not seeking antenatal care

Among women with a live birth or stillbirth in the 5 years preceding the survey who did not receive antenatal care (ANC) during the pregnancy for the most recent birth or stillbirth, percent distribution of reasons for not seeking ANC, according to residence, Ghana MHS 2017

	Residence		
Reason	Urban	Rural	Total
Not necessary	33.1	23.4	26.4
Not customary	0.0	1.2	0.8
Lack of money	31.4	47.0	42.2
Too far	0.0	7.4	5.1
Transportation problems	0.0	19.5	13.4
No one to accompany	7.4	0.0	2.3
Good service not available	4.7	5.0	4.9
Not permitted by family	0.0	2.1	1.5
Better service at home	7.8	9.5	9.0
Did not know where to go	4.7	1.0	2.1
Inconvenient service hour	1.3	0.0	0.4
Afraid to go	13.7	4.0	7.0
Long waiting time	0.0	0.8	0.5
Religious reason	1.1	2.1	1.8
Other	19.5	9.7	12.8
Number of women	79	175	253

Note: Respondents may have mentioned more than one reason.

Table 5.3 Reasons for seeking antenatal care

Among women with a live birth or stillbirth in the 5 years preceding the survey who received ANC during the pregnancy for the most recent birth or stillbirth, percent distribution of reasons for making the first ANC visit, according to residence, Ghana MHS 2017

	Residence		
Reason	Urban	Rural	Total
Reason for first attending ANC			
Just for a checkup	86.4	85.5	85.9
Because of a problem	13.6	14.5	14.1
Total	100.0	100.0	100.0
Number of women	5,207	5,480	10,687
Problems			
Headache	20.4	26.3	23.5
Blurry vision	13.1	22.0	17.8
Oedema/pre-eclampsia	2.0	1.9	1.9
Vaginal bleeding	9.2	8.0	8.6
Convulsions/eclampsia	0.5	0.2	0.4
Tetanus	0.0	0.1	0.0
Foul-smelling discharge	1.5	1.5	1.5
Lower abdominal pain	20.7	30.0	25.7
Fell down	1.2	1.4	1.3
Baby movement was low	0.6	1.3	1.0
Varicose vein	0.2	0.0	0.1
Excessive vomiting	38.5	28.2	33.1
Anaemia/body pains/fever	18.6	17.7	18.1
Other	12.2	9.6	10.8
Number of women	709	796	1,505

Note: Respondents may have mentioned more than one reason.

Table 5.4 Payments for antenatal care

Among women with a live birth or stillbirth in the 5 years preceding the survey who received ANC during the pregnancy for the most recent birth or stillbirth from a public sector facility, percentage asked to make payments for ANC and percentage asked to pay for specific components of care, according to background characteristics, Ghana MHS 2017

Background characteristic	Asked to make payments for ANC	Percentage who paid:					Number of women who received ANC from public sector
		To see the doctor or nurse	For drugs	For laboratory tests	For other supplies	Other payments	
Mother's age at birth							
<20	47.4	9.2	30.8	38.8	20.3	0.3	1,114
20-34	44.6	8.3	31.7	37.0	22.1	0.2	6,450
35-49	43.5	7.6	33.1	35.0	19.9	0.4	1,765
Birth order							
1	46.3	7.9	31.1	38.7	22.0	0.2	1,792
2-3	44.7	8.5	31.6	37.1	22.4	0.3	3,219
4-5	44.2	7.9	33.1	36.3	20.8	0.1	2,378
6+	44.0	8.8	31.4	35.2	20.1	0.4	1,941
Antenatal care visits[2]							
1-3	49.3	16.2	34.2	39.6	20.8	0.7	832
4+	44.3	7.5	31.7	36.6	21.5	0.2	8,482
Don't know/missing	*	*	*	*	*	*	17
Residence							
Urban	49.1	8.3	36.4	40.5	24.9	0.1	4,222
Rural	41.1	8.3	28.1	33.8	18.6	0.4	5,108
Zone							
Coastal	54.0	11.4	42.9	44.1	30.4	0.3	4,062
Middle	45.4	7.0	29.7	38.1	16.4	0.3	3,568
Northern	21.3	3.6	9.9	16.6	10.7	0.0	1,701
Region							
Western	61.4	14.4	48.6	48.8	34.2	0.7	1,200
Central	44.3	5.8	31.9	34.8	21.6	0.3	874
Greater Accra	48.3	9.9	40.8	41.7	31.6	0.3	1,210
Volta	62.3	15.2	49.9	51.0	32.3	0.0	777
Eastern	32.3	5.0	22.5	24.6	11.6	0.1	976
Ashanti	61.4	9.5	42.0	54.0	23.4	0.2	1,562
Brong Ahafo	33.5	5.2	17.9	26.9	10.4	0.4	1,030
Northern	19.3	3.8	10.6	14.9	10.3	0.0	1,005
Upper East	27.4	2.9	9.8	22.4	12.9	0.0	401
Upper West	19.9	3.6	7.7	14.4	9.3	0.2	294
Mother's education							
No education	34.6	8.1	22.6	28.7	17.6	0.0	2,355
Primary	44.8	9.9	33.6	36.0	20.6	0.2	1,708
Middle/JSS/JHS	49.9	8.3	35.9	40.8	22.7	0.4	3,704
Secondary/SSS/SHS	48.6	6.0	34.2	41.3	25.4	0.3	1,090
More than secondary	45.7	8.4	34.6	37.7	24.5	0.4	473
Wealth quintile							
Lowest	36.8	10.5	25.4	30.4	19.0	0.2	2,139
Second	44.0	7.3	29.2	35.4	19.3	0.3	2,128
Middle	47.2	7.9	34.2	38.9	20.4	0.2	1,943
Fourth	48.9	7.0	34.6	40.8	24.8	0.3	1,782
Highest	49.4	8.5	39.3	41.1	26.0	0.3	1,337
Total	44.7	8.3	31.9	36.8	21.5	0.3	9,330

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

Table 5.5 Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 who had a live birth or stillbirth in the 5 years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth or stillbirth and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Ghana MHS 2017

	Residence		
Number of ANC visits and timing of first visit	Urban	Rural	Total
Number of ANC visits			
None	1.5	3.1	2.3
1	0.8	1.8	1.3
2-3	4.5	9.1	6.9
4+	93.2	85.7	89.3
Don't know/missing	0.1	0.3	0.2
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	1.5	3.1	2.3
<4	66.5	61.9	64.2
4-5	26.3	28.0	27.2
6-7	4.9	6.2	5.6
8+	0.6	0.6	0.6
Don't know/missing	0.1	0.2	0.2
Total	100.0	100.0	100.0
Number of women	5,286	5,655	10,940
Median months pregnant at first visit (for those with ANC)	3.5	3.6	3.5
Number of women with ANC	5,207	5,480	10,687

Table 5.6 Components of antenatal care

Among women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey, percentages who took iron tablets or syrup and drugs for intestinal parasites during the pregnancy of the most recent live birth or stillbirth, and among women receiving antenatal care (ANC) for the most recent live birth or stillbirth in the 5 years preceding the survey, percentage receiving specific antenatal services, according to background characteristics, Ghana MHS 2017

	Among women with a live birth or stillbirth in the past 5 years, percentage who during the pregnancy of their most recent live birth or stillbirth:			Among women who received antenatal care for their most recent birth or stillbirth in the past 5 years, percentage with selected services							
Background characteristic	Took iron tablets or syrup	Took intestinal parasite drugs	Number of women with a live birth or stillbirth in the past 5 years	Blood pressure measured	Urine sample taken	Blood sample taken	Weighed	Told about signs of pregnancy compli-cations	Number of women with ANC for their most recent birth or stillbirth	Told about where to go for pregnancy compli-cations	Number of women who were told about signs of pregnancy compli-cations
Age at birth											
<20	91.3	39.7	1,250	98.8	96.8	97.6	98.9	79.9	1,219	95.5	974
20-34	92.9	39.8	7,614	99.5	98.0	98.4	99.4	85.7	7,444	97.6	6,380
35-49	92.4	39.9	2,077	99.6	97.4	98.7	99.5	86.5	2,024	98.1	1,750
Birth order											
1	93.3	39.3	2,032	99.0	97.7	97.9	98.9	84.7	2,007	97.2	1,700
2-3	93.6	39.6	3,849	99.5	98.0	98.7	99.5	85.2	3,768	97.4	3,210
4-5	92.2	38.3	2,772	99.6	97.9	98.4	99.4	86.2	2,708	97.8	2,334
6+	90.7	42.5	2,288	99.5	97.1	98.3	99.5	84.4	2,204	97.4	1,859
Residence											
Urban	93.7	38.1	5,286	99.3	99.1	99.0	99.3	86.1	5,207	97.6	4,485
Rural	91.6	41.5	5,655	99.5	96.5	97.8	99.4	84.3	5,480	97.3	4,618
Zone											
Coastal	90.3	39.8	4,916	99.3	99.2	98.8	99.3	86.0	4,771	98.1	4,104
Middle	93.9	37.9	4,243	99.6	99.1	98.8	99.3	85.1	4,164	96.6	3,543
Northern	95.8	44.4	1,782	99.4	90.5	96.4	99.6	83.1	1,752	97.7	1,456
Region											
Western	88.8	47.2	1,415	99.1	99.2	99.2	99.7	88.2	1,368	97.7	1,207
Central	93.0	45.9	986	99.0	99.1	98.7	99.2	80.6	963	98.1	776
Greater Accra	94.7	31.1	1,613	99.2	99.5	99.0	99.1	86.4	1,578	99.0	1,363
Volta	81.7	37.0	902	99.8	98.8	98.0	99.2	88.0	862	97.2	759
Eastern	94.6	40.9	1,086	99.4	98.7	98.6	98.9	91.2	1,056	99.3	963
Ashanti	93.6	38.8	2,017	99.7	99.3	99.0	99.4	85.6	1,975	97.0	1,692
Brong Ahafo	93.9	33.6	1,140	99.5	99.3	98.5	99.5	78.5	1,132	92.9	888
Northern	95.1	37.1	1,056	99.4	87.0	95.1	99.6	82.2	1,032	98.1	849
Upper East	97.6	59.7	424	99.4	94.5	98.3	99.7	85.7	422	98.7	362
Upper West	95.9	48.3	301	99.5	97.4	98.0	99.6	82.5	298	95.2	246
Education											
No education	90.2	39.4	2,625	99.6	94.2	97.4	99.1	82.7	2,514	96.8	2,080
Primary	90.0	40.4	1,942	98.9	97.5	97.5	99.0	81.6	1,881	96.9	1,535
Middle/JSS/JHS	94.2	41.4	4,332	99.6	99.3	98.9	99.6	86.9	4,262	97.5	3,702
Secondary/SSS/SHS	94.3	38.0	1,368	99.3	99.2	99.1	99.6	89.1	1,356	98.0	1,209
More than secondary	95.7	33.4	673	99.6	99.5	99.8	99.5	85.9	673	99.5	579
Wealth quintile											
Lowest	89.3	37.9	2,344	99.0	92.8	96.1	99.1	80.3	2,243	96.8	1,802
Second	91.5	43.8	2,363	99.4	98.1	98.6	99.2	84.5	2,293	97.0	1,938
Middle	92.0	40.6	2,202	99.5	98.9	98.5	99.2	86.3	2,151	97.6	1,856
Fourth	95.0	40.6	2,151	99.4	99.5	99.2	99.7	87.6	2,126	98.2	1,862
Highest	96.1	35.4	1,881	99.7	99.8	99.8	99.7	87.8	1,875	97.8	1,646
Total	92.6	39.8	10,940	99.4	97.8	98.4	99.4	85.2	10,687	97.5	9,104

Table 5.7 Tetanus toxoid injections

Among mothers age 15-49 with a live birth or stillbirth in the 5 years preceding the survey, percentage receiving two or more tetanus toxoid injections during the pregnancy for the most recent live birth or stillbirth and percentage whose most recent live birth or stillbirth was protected against neonatal tetanus, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage receiving two or more injections during the pregnancy for the most recent live birth or stillbirth	Percentage whose most recent live birth or stillbirth was protected against neonatal tetanus[1]	Number of mothers
Age at birth			
<20	56.0	64.1	1,250
20-34	59.2	78.2	7,614
35-49	54.7	78.7	2,077
Birth order			
1	62.6	69.3	2,032
2-3	60.4	77.9	3,849
4-5	57.0	80.3	2,772
6+	51.1	76.9	2,288
Residence			
Urban	61.2	80.2	5,286
Rural	55.1	73.4	5,655
Zone			
Coastal	59.7	79.5	4,916
Middle	59.3	78.0	4,243
Northern	50.4	66.1	1,782
Region			
Western	57.2	76.2	1,415
Central	68.4	82.3	986
Greater Accra	63.3	81.6	1,613
Volta	47.6	77.7	902
Eastern	61.0	79.8	1,086
Ashanti	62.5	81.2	2,017
Brong Ahafo	52.2	70.7	1,140
Northern	49.2	65.8	1,056
Upper East	50.8	61.9	424
Upper West	53.9	73.0	301
Education			
No education	50.2	69.6	2,625
Primary	53.5	74.3	1,942
Middle/JSS/JHS	61.1	79.0	4,332
Secondary/SSS/SHS	64.4	80.4	1,368
More than secondary	68.6	88.9	673
Wealth quintile			
Lowest	47.2	65.5	2,344
Second	56.2	74.9	2,363
Middle	57.4	77.9	2,202
Fourth	64.2	81.7	2,151
Highest	67.3	86.0	1,881
Total	58.0	76.7	10,940

[1] Includes mothers with two injections during the pregnancy for their most recent live birth or stillbirth, or two or more injections (the last within 3 years of the most recent live birth or stillbirth), or three or more injections (the last within 5 years of the most recent live birth or stillbirth), or four or more injections (the last within 10 years of the most recent live birth or stillbirth), or five or more injections at any time prior to the most recent live birth or stillbirth

Table 5.8 Place of delivery

Percent distribution of live births or stillbirths in the 5 years preceding the survey by place of delivery and percentage delivered in a health facility, according to background characteristics, Ghana MHS 2017

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	70.1	9.5	19.3	1.0	100.0	79.7	1,250
20-34	67.3	11.9	19.8	1.0	100.0	79.2	7,614
35-49	66.6	9.9	22.1	1.4	100.0	76.5	2,077
Birth order							
1	74.0	11.1	14.2	0.6	100.0	85.2	2,032
2-3	69.5	12.8	16.7	1.1	100.0	82.3	3,849
4-5	66.3	11.0	21.6	1.1	100.0	77.4	2,772
6+	59.8	9.0	29.6	1.7	100.0	68.8	2,288
Antenatal care visits[1]							
None	19.4	5.5	73.9	1.2	100.0	24.9	253
1-3	45.5	6.3	46.3	1.8	100.0	51.8	897
4+	70.8	11.8	16.3	1.1	100.0	82.6	9,769
Don't know/missing	*	*	*	*	*	*	21
Disability status[2]							
A lot of difficulty or unable to function in at least one domain	61.9	11.1	26.0	1.0	100.0	73.0	1,021
Some or no difficulty in all domains	68.1	11.3	19.5	1.1	100.0	79.3	9,919
Residence							
Urban	73.4	16.7	9.3	0.7	100.0	90.0	5,286
Rural	62.0	6.2	30.3	1.5	100.0	68.2	5,655
Zone							
Coastal	66.2	13.2	19.8	0.9	100.0	79.3	4,916
Middle	68.9	12.6	17.1	1.3	100.0	81.6	4,243
Northern	67.8	2.6	28.4	1.3	100.0	70.4	1,782
Region							
Western	66.0	11.6	21.0	1.4	100.0	77.6	1,415
Central	68.0	8.4	23.0	0.6	100.0	76.4	986
Greater Accra	71.4	20.5	7.7	0.4	100.0	91.9	1,613
Volta	55.1	7.7	36.0	1.2	100.0	62.8	902
Eastern	71.1	6.3	21.9	0.7	100.0	77.4	1,086
Ashanti	66.6	18.4	13.7	1.3	100.0	85.0	2,017
Brong Ahafo	70.9	8.6	18.7	1.8	100.0	79.5	1,140
Northern	57.0	2.2	39.8	1.1	100.0	59.2	1,056
Upper East	85.8	5.2	7.6	1.3	100.0	91.0	424
Upper West	80.2	0.3	17.6	1.9	100.0	80.5	301
Mother's education							
No education	55.2	5.4	37.8	1.6	100.0	60.7	2,625
Primary	64.9	7.9	25.8	1.5	100.0	72.8	1,942
Middle/JSS/JHS	73.2	11.8	14.0	1.0	100.0	85.0	4,332
Secondary/SSS/SHS	74.1	18.2	7.1	0.6	100.0	92.4	1,368
More than secondary	72.4	25.9	1.5	0.3	100.0	98.2	673
Wealth quintile							
Lowest	52.4	3.6	41.7	2.3	100.0	56.0	2,344
Second	64.2	7.0	27.3	1.4	100.0	71.3	2,363
Middle	74.8	8.6	15.6	1.1	100.0	83.4	2,202
Fourth	75.9	14.8	8.9	0.4	100.0	90.7	2,151
Highest	72.2	25.1	2.5	0.2	100.0	97.3	1,881
Total	67.5	11.2	20.1	1.1	100.0	78.7	10,940

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Includes only the most recent live birth or stillbirth in the 5 years preceding the survey
[2] Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing. If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown.

Table 5.9 Reasons for not delivering in a health facility

Among women with a live birth or stillbirth in the 5 years preceding the survey who did not deliver the most recent birth or stillbirth in a health facility, percent distribution of reasons for not delivering in a facility, according to residence, Ghana MHS 2017

	Residence		
Reason	Urban	Rural	Total
Not necessary	11.9	10.7	11.0
Not customary	1.9	1.0	1.2
Lack of money	9.0	13.6	12.6
Too far	5.7	16.3	13.9
Transportation problems	11.1	27.7	23.9
No one to accompany	5.5	6.3	6.1
Good service not available	5.1	2.8	3.4
Not permitted by family	1.3	1.4	1.4
Better service at home	8.7	5.7	6.4
Did not know where to go	0.8	0.2	0.4
No female doctor available	0.0	0.4	0.3
Inconvenient service hour	5.7	7.6	7.2
Afraid to go	5.1	2.0	2.7
Long waiting time	4.9	4.5	4.6
Religious reason	1.1	0.7	0.8
Baby came earlier than expected	32.6	23.2	25.3
Other	4.4	2.1	2.6
Number of women	527	1,799	2,326

Note: Respondents may have mentioned more than one reason.

Table 5.10 Payments for delivery care

Among women with a live birth or stillbirth in the 5 years preceding the survey who delivered the most recent birth or stillbirth in a public sector health facility, percentage asked to make payments for delivery care and percentage asked to pay for specific components of care, according to background characteristics, Ghana MHS 2017

Background characteristic	Asked to make payments for delivery care	Percentage who paid:					Number of women who delivered in public sector
		To see the doctor or nurse	For drugs	For laboratory tests	For other supplies	Other payments	
Mother's age at birth							
<20	51.1	9.7	37.0	20.1	30.2	1.8	877
20-34	52.2	9.0	38.2	22.1	32.6	1.1	5,124
35-49	52.4	10.2	40.6	22.8	32.9	1.5	1,383
Birth order							
1	50.7	9.0	37.5	21.2	30.6	0.8	1,505
2-3	52.0	9.3	37.7	22.0	32.3	1.6	2,674
4-5	52.5	8.5	38.9	23.0	33.8	1.3	1,839
6+	53.5	10.9	40.6	21.7	32.6	1.0	1,367
Antenatal care visits[2]							
None	(65.8)	(35.7)	(63.6)	(45.7)	(58.8)	(0.0)	49
1-3	55.3	10.7	41.8	20.5	31.6	3.1	409
4+	51.8	9.1	38.2	21.9	32.2	1.1	6,913
Don't know/missing	*	*	*	*	*	*	13
Residence							
Urban	56.5	10.2	43.8	26.6	34.2	0.9	3,878
Rural	47.2	8.4	32.6	16.9	30.3	1.6	3,506
Zone							
Coastal	64.6	13.1	50.8	32.0	42.7	0.9	3,253
Middle	50.9	7.6	35.7	17.9	28.5	1.8	2,924
Northern	21.2	3.4	12.1	5.2	13.9	0.8	1,207
Region							
Western	77.9	21.8	59.3	30.6	52.0	1.7	934
Central	50.3	6.0	32.6	21.4	30.6	0.9	670
Greater Accra	62.1	13.3	54.2	42.2	39.4	0.7	1,152
Volta	64.8	6.2	51.6	25.2	49.3	0.0	497
Eastern	36.6	6.5	24.3	11.4	18.2	1.1	772
Ashanti	63.4	9.4	45.9	22.7	36.8	2.4	1,344
Brong Ahafo	44.0	5.5	29.4	16.1	24.7	1.6	808
Northern	24.9	3.5	14.4	5.7	17.6	1.5	602
Upper East	19.2	3.6	10.9	5.4	10.7	0.0	364
Upper West	14.9	2.8	8.3	3.4	9.2	0.1	242
Mother's education							
No education	40.1	8.6	28.2	14.8	27.1	0.7	1,450
Primary	50.8	10.3	39.7	21.6	31.3	0.9	1,260
Middle/JSS/JHS	56.7	9.2	40.2	23.9	34.3	1.7	3,173
Secondary/SSS/SHS	57.3	9.8	44.4	26.3	36.3	0.6	1,014
More than secondary	50.4	9.4	42.7	23.3	29.9	1.9	487
Wealth quintile							
Lowest	38.6	8.6	26.4	13.2	27.1	0.7	1,229
Second	50.7	8.5	35.2	19.4	31.5	1.5	1,518
Middle	56.2	10.7	40.8	21.8	35.8	1.7	1,647
Fourth	54.4	8.5	40.3	22.8	32.1	0.8	1,632
Highest	58.2	10.4	48.1	32.3	34.3	1.4	1,359
Total	52.1	9.4	38.5	22.0	32.4	1.2	7,384

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.

Table 5.11 Assistance during delivery

Percent distribution of most recent live births or stillbirths in the 5 years preceding the survey by person providing assistance during delivery and percentage of deliveries assisted by a skilled provider, according to background characteristics, Ghana MHS 2017

	Person providing assistance during delivery									
Background characteristic	Doctor	Nurse/ midwife	Community health officer/ nurse	Traditional birth attendant	Relative/ friend	Other[1]	No one	Total	Percentage delivered by a skilled provider[2]	Number of births
Mother's age at birth										
<20	9.2	69.5	1.5	8.9	6.3	2.5	2.0	100.0	80.2	1,250
20-34	15.5	63.1	1.3	9.4	5.8	2.0	2.9	100.0	79.9	7,614
35-49	20.7	55.1	1.1	9.1	7.4	2.4	4.2	100.0	76.9	2,077
Birth order										
1	15.1	69.6	1.3	6.9	4.2	1.9	1.0	100.0	86.0	2,032
2-3	15.9	66.0	1.3	8.0	5.1	1.4	2.3	100.0	83.2	3,849
4-5	15.8	60.7	1.1	9.8	6.5	2.3	3.8	100.0	77.6	2,772
6+	16.3	51.7	1.2	12.9	9.3	3.3	5.3	100.0	69.2	2,288
Antenatal care visits[3]										
None	3.7	19.9	0.5	32.9	25.2	7.7	10.1	100.0	24.1	253
1-3	6.7	44.8	1.6	19.9	14.9	4.6	7.5	100.0	53.1	897
4+	17.0	65.0	1.2	7.7	4.9	1.8	2.5	100.0	83.2	9,769
Don't know/missing	*	*	*	*	*	*	*	*	*	21
Place of delivery										
Health facility	20.0	78.0	1.5	0.1	0.0	0.1	0.3	100.0	99.5	8,614
Public facility	19.4	78.5	1.6	0.0	0.0	0.0	0.3	100.0	99.6	7,384
Private facility	23.6	74.8	0.8	0.4	0.1	0.4	0.0	100.0	99.1	1,230
Elsewhere	0.2	4.3	0.3	43.3	28.9	9.7	13.4	100.0	4.7	2,326
Residence										
Urban	20.6	69.6	0.4	3.6	2.6	1.1	2.1	100.0	90.6	5,286
Rural	11.3	55.5	2.1	14.6	9.5	3.1	3.9	100.0	68.9	5,655
Zone										
Coastal	18.2	60.5	1.1	8.8	5.9	2.6	2.8	100.0	79.9	4,916
Middle	16.4	65.1	0.9	7.6	4.8	1.5	3.7	100.0	82.4	4,243
Northern	7.7	60.7	2.4	14.5	10.3	2.4	2.1	100.0	70.8	1,782
Region										
Western	13.4	62.0	2.9	10.4	4.1	2.0	5.1	100.0	78.3	1,415
Central	15.3	62.7	0.2	11.7	4.2	4.2	1.7	100.0	78.2	986
Greater Accra	25.6	65.7	0.8	3.0	2.0	1.2	1.6	100.0	92.1	1,613
Volta	15.7	46.5	0.1	13.6	17.3	4.2	2.5	100.0	62.4	902
Eastern	14.0	63.9	0.4	11.2	3.8	3.0	3.6	100.0	78.3	1,086
Ashanti	19.1	66.4	0.4	4.9	5.0	0.9	3.3	100.0	85.9	2,017
Brong Ahafo	13.8	63.8	2.4	8.9	5.5	1.0	4.6	100.0	80.0	1,140
Northern	6.6	51.6	1.2	22.5	12.3	3.3	2.5	100.0	59.3	1,056
Upper East	8.2	79.5	4.1	1.5	5.3	0.7	0.7	100.0	91.8	424
Upper West	11.0	66.2	4.0	4.5	10.0	1.5	2.8	100.0	81.3	301
Mother's education										
No education	8.7	50.7	1.8	17.4	13.0	3.6	4.9	100.0	61.2	2,625
Primary	13.1	58.6	1.4	11.9	7.7	2.6	4.8	100.0	73.1	1,942
Middle/JSS/JHS	17.0	67.7	1.1	6.6	3.6	1.8	2.2	100.0	85.8	4,332
Secondary/SSS/SHS	20.5	72.5	0.3	2.9	1.9	0.8	1.2	100.0	93.3	1,368
More than secondary	34.2	63.1	1.4	0.4	0.5	0.0	0.4	100.0	98.7	673
Wealth quintile										
Lowest	6.8	47.5	2.6	19.7	14.6	3.7	5.2	100.0	56.9	2,344
Second	11.6	58.7	1.4	13.8	7.3	3.1	3.9	100.0	71.8	2,363
Middle	14.7	67.9	0.8	6.6	4.8	1.9	3.4	100.0	83.4	2,202
Fourth	18.4	73.3	0.6	3.2	2.1	1.1	1.3	100.0	92.3	2,151
Highest	30.5	66.3	0.7	0.7	0.5	0.4	1.0	100.0	97.5	1,881
Total	15.8	62.3	1.3	9.3	6.2	2.1	3.1	100.0	79.4	10,940

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Other includes village health volunteer, traditional health practitioner, and other.
[2] Skilled provider includes doctor, nurse/midwife, and community health officer/nurse.
[3] Includes only the most recent birth or stillbirth in the 5 years preceding the survey

Table 5.12 Delivery interventions including Caesarean section

Among most recent live births and stillbirths in the 5 years preceding the survey delivered in a health facility, percentage for which instruments were used, percentage where a blood transfusion was received, percentage where intravenous fluid was used, percentage delivered by Caesarean section (C-section), percentage delivered by C-section that was planned before the onset of labour pains, and percentage delivered by C-section that was decided after the onset of labour pains, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage where instruments (forceps or vacuum) were used during delivery	Percentage where blood transfusion was received	Percentage where intravenous fluid was used	Percentage delivered by C-section	Timing of decision to conduct C-section		Number of births in health facilities
					Decided before onset of labour pains	Decided after onset of labour pains	
Mother's age at birth							
<20	5.1	6.1	59.8	8.1	2.9	5.2	995
20-34	3.7	4.9	58.1	15.9	8.4	7.4	6,030
35-49	3.0	5.4	57.5	21.7	14.4	7.3	1,589
Birth order							
1	4.3	6.5	64.6	14.1	5.1	9.0	1,731
2-3	4.1	4.6	57.7	16.4	9.3	7.1	3,166
4-5	3.1	4.9	55.9	14.2	9.0	5.2	2,144
6+	3.1	4.9	55.3	19.8	12.0	7.8	1,573
Antenatal care visits[1]							
None	(2.1)	(22.0)	(52.4)	(14.8)	(3.3)	(11.5)	63
1-3	3.5	5.8	56.4	7.6	2.9	4.7	465
4+	3.8	5.0	58.3	16.6	9.3	7.3	8,070
Don't know/missing	*	*	*	*	*	*	16
Place of delivery							
Health facility	3.7	5.1	58.2	16.0	8.9	7.2	8,614
Public facility	3.8	5.4	57.7	15.8	8.5	7.3	7,384
Private facility	3.0	3.2	60.9	17.2	11.0	6.2	1,230
Residence							
Urban	3.9	5.0	61.9	19.2	11.4	7.7	4,758
Rural	3.5	5.3	53.6	12.2	5.8	6.4	3,855
Zone							
Coastal	3.8	5.9	66.5	18.7	10.4	8.3	3,900
Middle	3.5	4.4	54.9	16.1	9.0	7.1	3,460
Northern	4.1	4.7	41.5	7.7	4.0	3.8	1,254
Region							
Western	2.7	3.8	60.1	13.7	6.4	7.3	1,098
Central	3.6	7.0	67.0	17.5	9.8	7.6	753
Greater Accra	4.6	6.1	73.7	23.6	15.0	8.6	1,483
Volta	4.2	7.8	59.6	17.0	6.5	10.5	567
Eastern	3.6	5.0	57.0	15.4	8.8	6.6	840
Ashanti	3.3	4.1	56.4	17.4	10.0	7.5	1,714
Brong Ahafo	3.7	4.3	49.9	14.1	7.4	6.7	906
Northern	2.4	4.9	45.3	8.3	4.5	3.9	625
Upper East	5.8	4.3	40.8	6.7	3.3	3.4	386
Upper West	5.9	4.9	32.4	7.8	3.7	4.1	243
Mother's education							
No education	2.3	5.0	47.0	10.7	5.6	5.1	1,592
Primary	3.0	5.2	55.0	13.0	5.9	7.1	1,413
Middle/JSS/JHS	4.3	5.2	60.6	16.3	8.5	7.8	3,684
Secondary/SSS/SHS	4.1	5.5	64.4	18.7	11.3	7.4	1,264
More than secondary	4.8	4.1	66.8	29.1	20.9	8.2	662
Wealth quintile							
Lowest	3.2	5.4	46.7	8.5	4.1	4.4	1,313
Second	2.9	5.4	54.3	11.7	5.3	6.4	1,684
Middle	4.1	4.7	55.5	13.6	5.0	8.7	1,836
Fourth	4.2	5.0	62.7	17.5	9.4	8.1	1,951
Highest	4.0	5.2	67.9	26.3	19.0	7.2	1,830
Total	3.7	5.1	58.2	16.0	8.9	7.2	8,614

Note: Questions on instruments, blood transfusions, intravenous fluids, and C-section were asked only of women who delivered in a health facility. In this table, it is assumed that women who did not give birth in a health facility did not receive any interventions. 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] Includes only the most recent birth or stillbirth in the 5 years preceding the survey

Table 5.13 Duration of stay in health facility after birth

Among women with a birth or stillbirth in the 5 years preceding the survey who delivered their most recent live birth or stillbirth in a health facility, percent distribution by duration of stay in the health facility following their most recent live birth or stillbirth, according to type of delivery, Ghana MHS 2017

Type of delivery	<6 hours	6-11 hours	12-23 hours	1-2 days	3+ days	Missing	Total	Number of women
Vaginal birth	15.5	20.5	15.9	36.4	11.6	0.1	100.0	7,231
Caesarean section	1.6	0.1	0.2	6.0	92.1	0.0	100.0	1,381
Missing	0.0	0.0	0.0	0.0	0.0	100.0	100.0	2

Table 5.14 Problems encountered during delivery

Among women with a live birth or stillbirth in the 5 years preceding the survey, percentage who had problems during the delivery of the most recent live birth or stillbirth, and percentage who had no problems; among women who had problems during delivery, percent distribution of specific problems; and among women who had problems during delivery, percentage who saw somebody about the problem(s) and percentage who did not see somebody, according to residence, Ghana MHS 2017

	Residence		
Problems	Urban	Rural	Total
Problems during delivery			
Any problem	19.9	17.6	18.7
No problems	80.1	82.4	81.3
Total	100.0	100.0	100.0
Number of women	5,286	5,655	10,940
Specific problem			
Headache	9.2	13.1	11.1
Blurry vision	10.2	14.1	12.1
Oedema/pre-eclampsia	15.3	11.1	13.3
Vaginal bleeding	30.4	29.3	29.9
Convulsions/eclampsia	1.3	0.6	1.0
Tetanus	0.0	0.2	0.1
Foul-smelling discharge	0.9	2.3	1.6
Baby movement was low	2.8	1.9	2.4
Baby's hands/feet came out first	2.0	0.7	1.4
Prolonged labour	11.2	11.3	11.2
Obstructed labour	1.6	1.7	1.6
Torn uterus	3.5	1.2	2.4
Placenta previa/retained	4.4	6.6	5.5
High fever	1.7	2.5	2.1
Fistula	1.0	0.8	0.9
Other	22.1	21.2	21.6
Number of women	1,052	992	2,045
Saw somebody about problems			
Yes	93.8	87.2	90.6
No	6.2	12.8	9.4
Total	100.0	100.0	100.0
Number of women	1,052	992	2,045

Note: Respondents may have mentioned more than one problem.

Table 5.15 Timing of first postnatal check for the mother

Among women age 15-49 giving birth in the 2 years preceding the survey, percent distribution of the mother's first postnatal check for the most recent live birth or stillbirth by time after delivery, and percentage of women with a live birth or stillbirth in the 2 years preceding the survey who received a postnatal check during the first 2 days after giving birth, according to background characteristics, Ghana MHS 2017

Background characteristic	Time after delivery of mother's first postnatal check[1]									
	Less than 4 hours	4-23 hours	1-2 days	3-6 days	7-41 days	Don't know/ missing	No postnatal check[2]	Total	Percentage of women with a postnatal check during the first 2 days after birth[1]	Number of women
Age at birth										
<20	73.1	6.6	5.0	0.7	1.6	0.6	12.3	100.0	84.7	713
20-34	71.8	8.8	3.8	1.4	1.9	0.6	11.7	100.0	84.4	4,212
35-49	73.7	6.2	3.7	1.0	1.8	0.8	12.8	100.0	83.6	994
Birth order										
1	72.9	8.3	5.2	0.9	1.9	0.6	10.1	100.0	86.5	1,187
2-3	74.6	8.5	3.5	1.3	1.4	0.9	9.7	100.0	86.6	2,208
4-5	72.0	7.9	3.6	1.6	1.9	0.6	12.5	100.0	83.5	1,410
6+	67.4	7.4	3.7	1.1	2.6	0.2	17.6	100.0	78.5	1,114
Place of delivery										
Health facility	81.9	9.3	3.3	0.6	1.1	0.8	3.0	100.0	94.5	4,691
Elsewhere	35.5	3.6	6.2	3.8	4.7	0.2	46.1	100.0	45.3	1,228
Residence										
Urban	77.6	9.2	3.2	0.9	1.1	0.7	7.3	100.0	90.0	2,842
Rural	67.4	7.1	4.6	1.6	2.6	0.6	16.2	100.0	79.1	3,076
Zone										
Coastal	70.4	9.1	4.9	1.2	2.2	0.5	11.7	100.0	84.4	2,700
Middle	79.2	6.1	1.6	1.0	1.4	0.8	9.9	100.0	86.9	2,223
Northern	61.9	10.2	6.3	2.1	2.0	0.5	17.1	100.0	78.3	995
Region										
Western	76.4	6.2	2.1	1.5	2.5	0.5	10.8	100.0	84.6	813
Central	68.2	9.4	3.8	1.4	1.9	0.5	14.7	100.0	81.5	548
Greater Accra	76.5	12.2	1.8	1.0	0.6	0.6	7.2	100.0	90.6	846
Volta	52.4	7.9	16.2	0.7	4.8	0.3	17.6	100.0	76.6	494
Eastern	79.6	5.7	1.3	1.0	0.5	0.8	11.1	100.0	86.6	570
Ashanti	81.9	5.1	1.4	0.9	1.6	0.6	8.5	100.0	88.4	1,076
Brong Ahafo	74.0	8.0	2.5	1.1	1.7	1.2	11.5	100.0	84.5	577
Northern	57.5	8.4	4.6	2.6	2.3	0.1	24.5	100.0	70.5	603
Upper East	64.9	16.0	9.1	1.5	1.4	1.7	5.5	100.0	90.0	232
Upper West	73.8	8.4	8.5	0.8	1.9	0.4	6.1	100.0	90.8	161
Education										
No education	61.4	6.1	4.5	1.8	2.5	0.5	23.2	100.0	72.0	1,322
Primary	67.9	7.6	3.9	1.1	2.9	0.4	16.1	100.0	79.4	1,025
Middle/JSS/JHS	76.8	8.1	4.1	1.1	1.4	0.7	7.7	100.0	89.0	2,339
Secondary/SSS/SHS	78.4	11.1	2.8	1.1	1.3	0.4	4.9	100.0	92.3	827
More than secondary	80.4	9.8	3.3	1.0	0.7	1.6	3.2	100.0	93.5	404
Wealth quintile										
Lowest	58.5	6.5	5.6	2.2	3.1	0.6	23.5	100.0	70.5	1,325
Second	71.7	7.2	4.1	1.2	2.1	0.4	13.4	100.0	82.9	1,243
Middle	75.6	7.1	3.5	1.1	1.8	0.7	10.1	100.0	86.3	1,200
Fourth	77.4	10.1	3.1	0.7	1.5	0.9	6.3	100.0	90.6	1,140
Highest	81.4	10.4	3.0	1.1	0.3	0.5	3.4	100.0	94.7	1,010
Total	72.3	8.1	3.9	1.3	1.9	0.6	11.9	100.0	84.3	5,919

[1] Includes women who received a check from a doctor, nurse/midwife, community health officer/nurse, traditional birth attendant, or village health volunteer
[2] Includes women who received a check after 41 days

Table 5.16 Type of provider of first postnatal check for the mother

Among women age 15-49 giving birth in the 2 years preceding the survey, percent distribution by type of provider for the mother's first postnatal health check during the 2 days after the last live birth or stillbirth, according to background characteristics, Ghana MHS 2017

Background characteristic	Type of health provider of mother's first postnatal check				No postnatal check during the first 2 days after birth	Total	Number of women
	Doctor/nurse/ midwife	Community health officer/nurse	Village health volunteer	Traditional birth attendant			
Age at birth							
<20	74.8	1.9	0.7	7.3	15.3	100.0	713
20-34	76.4	1.7	0.3	6.0	15.6	100.0	4,212
35-49	76.3	1.9	0.3	5.0	16.4	100.0	994
Birth order							
1	79.2	2.2	0.4	4.7	13.5	100.0	1,187
2-3	79.6	1.7	0.2	5.1	13.4	100.0	2,208
4-5	75.4	1.5	0.4	6.2	16.5	100.0	1,410
6+	67.4	1.9	0.5	8.8	21.5	100.0	1,114
Place of delivery							
Health facility	92.4	2.0	0.0	0.1	5.5	100.0	4,691
Elsewhere	14.2	1.0	1.7	28.4	54.7	100.0	1,228
Residence							
Urban	87.0	0.4	0.1	2.5	10.0	100.0	2,842
Rural	66.2	3.0	0.6	9.2	20.9	100.0	3,076
Zone							
Coastal	76.6	1.7	0.1	6.0	15.6	100.0	2,700
Middle	79.7	1.2	0.3	5.8	13.1	100.0	2,223
Northern	67.3	3.4	1.2	6.4	21.7	100.0	995
Region							
Western	72.6	3.8	0.2	8.1	15.4	100.0	813
Central	75.4	0.7	0.0	5.5	18.5	100.0	548
Greater Accra	87.0	1.0	0.0	2.5	9.4	100.0	846
Volta	67.0	0.5	0.0	9.0	23.4	100.0	494
Eastern	74.9	1.1	0.0	10.7	13.4	100.0	570
Ashanti	84.7	0.0	0.6	3.2	11.6	100.0	1,076
Brong Ahafo	75.1	3.5	0.2	5.7	15.5	100.0	577
Northern	56.9	1.8	1.8	10.0	29.5	100.0	603
Upper East	85.3	4.1	0.2	0.5	10.0	100.0	232
Upper West	80.5	8.4	0.4	1.5	9.2	100.0	161
Education							
No education	57.3	2.4	0.9	11.5	28.0	100.0	1,322
Primary	69.9	2.2	0.1	7.3	20.6	100.0	1,025
Middle/JSS/JHS	82.4	1.6	0.4	4.7	11.0	100.0	2,339
Secondary/SSS/SHS	89.8	0.5	0.0	2.0	7.7	100.0	827
More than secondary	90.5	2.8	0.0	0.2	6.5	100.0	404
Wealth quintile							
Lowest	53.3	3.6	1.0	12.7	29.5	100.0	1,325
Second	71.1	2.5	0.5	8.9	17.1	100.0	1,243
Middle	81.5	0.9	0.1	3.9	13.7	100.0	1,200
Fourth	87.7	0.6	0.1	2.2	9.4	100.0	1,140
Highest	93.3	1.0	0.0	0.4	5.3	100.0	1,010
Total	76.2	1.8	0.4	6.0	15.7	100.0	5,919

Table 5.17 Timing of first postnatal check for the newborn

Percent distribution of most recent live births in the 2 years preceding the survey by time after birth of first postnatal check, and percentage of births with a postnatal check during the first 2 days after birth, according to background characteristics, Ghana MHS 2017

Background characteristic	Time after birth of newborn's first postnatal check[1]						No postnatal check[2]	Total	Percentage of births with a postnatal check during the first 2 days after birth[1]	Number of live births
	Less than 1 hour	1-3 hours	4-23 hours	1-2 days	3-6 days	Don't know/ missing				
Mother's age at birth										
<20	52.8	19.1	5.5	3.7	1.7	1.0	16.3	100.0	81.1	701
20-34	51.6	19.3	7.0	3.9	2.2	1.1	14.8	100.0	81.9	4,125
35-49	50.5	20.4	5.1	3.8	1.7	1.5	17.1	100.0	79.8	973
Birth order										
1	55.4	20.2	6.4	4.0	1.9	1.5	10.7	100.0	86.0	1,549
2-3	53.4	20.0	6.9	3.5	2.0	1.5	12.7	100.0	83.9	2,363
4-5	48.8	18.8	6.2	4.3	2.3	0.7	18.9	100.0	78.1	1,209
6+	41.6	17.0	6.1	3.8	2.3	0.3	29.0	100.0	68.5	678
Place of delivery										
Health facility	59.9	23.1	7.5	3.2	0.8	1.4	4.0	100.0	93.8	4,590
Elsewhere	20.1	5.5	2.7	6.3	6.7	0.2	58.6	100.0	34.6	1,210
Residence										
Urban	53.7	23.2	7.3	3.6	1.6	1.7	9.0	100.0	87.7	2,783
Rural	49.7	16.0	5.8	4.1	2.5	0.6	21.2	100.0	75.6	3,016
Zone										
Coastal	47.3	21.8	7.5	4.7	2.2	1.1	15.5	100.0	81.2	2,652
Middle	61.6	16.4	4.2	2.3	1.0	1.5	13.0	100.0	84.5	2,165
Northern	41.3	19.9	9.1	5.1	3.8	0.7	20.2	100.0	75.3	982
Region										
Western	63.8	13.8	3.7	1.2	0.8	0.3	16.4	100.0	82.5	793
Central	37.8	31.4	6.7	3.5	2.2	1.0	17.3	100.0	79.5	536
Greater Accra	47.3	26.3	11.7	2.3	3.2	2.3	7.0	100.0	87.5	832
Volta	30.9	16.4	7.5	15.5	3.1	0.3	26.3	100.0	70.3	491
Eastern	70.1	9.6	3.8	2.4	0.8	0.3	13.1	100.0	85.8	561
Ashanti	60.0	20.7	4.5	1.8	1.1	1.0	10.7	100.0	87.1	1,038
Brong Ahafo	56.0	15.4	3.9	3.0	1.2	3.5	17.0	100.0	78.3	566
Northern	36.2	19.9	6.6	3.4	4.9	0.5	28.5	100.0	66.1	595
Upper East	46.8	15.9	17.6	9.0	2.2	1.2	7.3	100.0	89.3	229
Upper West	52.2	25.3	5.9	6.3	1.8	0.4	8.0	100.0	89.8	159
Mother's education										
No education	40.8	17.1	5.1	4.3	3.5	0.9	28.3	100.0	67.3	1,299
Primary	50.6	17.0	6.5	4.0	2.2	0.7	19.0	100.0	78.1	1,004
Middle/JSS/JHS	55.8	20.4	6.0	4.0	1.3	1.2	11.3	100.0	86.2	2,288
Secondary/SSS/SHS	55.8	20.9	9.0	3.4	2.4	1.4	7.1	100.0	89.1	810
More than secondary	57.0	24.9	9.2	2.2	0.7	2.0	4.0	100.0	93.3	399
Wealth quintile										
Lowest	38.2	15.7	6.4	4.8	3.1	0.5	31.3	100.0	65.1	1,307
Second	52.4	18.5	5.1	3.7	1.8	1.6	17.0	100.0	79.6	1,215
Middle	56.2	18.7	5.7	4.1	1.9	1.2	12.2	100.0	84.6	1,168
Fourth	56.8	22.2	7.2	3.9	1.4	0.9	7.6	100.0	90.2	1,123
Highest	57.0	23.5	8.7	2.5	1.9	1.7	4.7	100.0	91.7	986
Total	51.6	19.5	6.5	3.9	2.1	1.2	15.4	100.0	81.4	5,799

[1] Includes newborns who received a check from a doctor, nurse/midwife, community health officer/nurse, traditional birth attendant, or village health volunteer
[2] Includes newborns who received a check after the first week of life

Table 5.18 Type of provider of first postnatal check for the newborn

Percent distribution of most recent live births in the 2 years preceding the survey by type of provider for the newborn's first postnatal health check during the 2 days after the birth, according to background characteristics, Ghana MHS 2017

Background characteristic	Type of health provider of newborn's first postnatal checkup				No postnatal check during the first 2 days after birth	Total	Number of births
	Doctor/nurse/ midwife	Community health officer/nurse	Village health volunteer	Traditional birth attendant			
Mother's age at birth							
<20	73.6	2.3	0.5	4.7	18.9	100.0	701
20-34	75.7	2.1	0.1	4.0	18.1	100.0	4,125
35-49	74.0	2.1	0.2	3.6	20.2	100.0	973
Birth order							
1	80.6	2.6	0.2	2.5	14.0	100.0	1,549
2-3	78.1	1.7	0.1	4.0	16.1	100.0	2,363
4-5	71.6	1.7	0.3	4.6	21.9	100.0	1,209
6+	58.9	2.8	0.2	6.5	31.5	100.0	678
Place of delivery							
Health facility	91.4	2.3	0.0	0.1	6.2	100.0	4,590
Elsewhere	13.4	1.4	0.9	18.8	65.4	100.0	1,210
Residence							
Urban	85.0	0.7	0.0	2.1	12.3	100.0	2,783
Rural	66.1	3.4	0.4	5.8	24.4	100.0	3,016
Zone							
Coastal	74.8	2.2	0.0	4.2	18.8	100.0	2,652
Middle	78.9	1.2	0.3	4.2	15.5	100.0	2,165
Northern	68.0	3.7	0.4	3.2	24.7	100.0	982
Region							
Western	72.6	4.2	0.1	5.5	17.5	100.0	793
Central	71.9	0.8	0.0	6.8	20.5	100.0	536
Greater Accra	84.2	1.7	0.0	1.6	12.5	100.0	832
Volta	65.4	1.4	0.0	3.5	29.7	100.0	491
Eastern	76.7	1.1	0.0	8.1	14.2	100.0	561
Ashanti	83.8	0.2	0.5	2.7	12.9	100.0	1,038
Brong Ahafo	72.0	3.2	0.2	2.9	21.7	100.0	566
Northern	57.9	2.6	0.6	5.1	33.9	100.0	595
Upper East	84.9	4.1	0.2	0.1	10.7	100.0	229
Upper West	81.5	7.4	0.1	0.7	10.2	100.0	159
Mother's education							
No education	57.6	3.0	0.4	6.2	32.7	100.0	1,299
Primary	69.7	2.0	0.1	6.2	21.9	100.0	1,004
Middle/JSS/JHS	80.6	2.1	0.2	3.3	13.8	100.0	2,288
Secondary/SSS/SHS	87.1	0.6	0.0	1.5	10.9	100.0	810
More than secondary	90.6	2.5	0.0	0.2	6.7	100.0	399
Wealth quintile							
Lowest	53.8	4.1	0.5	6.8	34.9	100.0	1,307
Second	69.5	2.8	0.4	6.8	20.4	100.0	1,215
Middle	80.1	1.2	0.0	3.3	15.4	100.0	1,168
Fourth	87.8	0.7	0.0	1.6	9.8	100.0	1,123
Highest	90.1	1.3	0.0	0.3	8.3	100.0	986
Total	75.2	2.1	0.2	4.0	18.6	100.0	5,799

Table 5.19 Content of postnatal care for newborns

Among most recent live births in the 2 years preceding the survey, percentage for whom selected functions were performed during the first 2 days after birth and percentage with at least two signal functions performed during the first 2 days after birth, according to background characteristics, Ghana MHS 2017

Background characteristic	Among most recent live births in the 2 years preceding the survey, percentage for whom the selected function was performed during the first 2 days after birth:						Percentage with at least two signal functions performed during the first 2 days after birth	Number of births
	Cord examined	Temperature measured	Counselling on danger signs	Counselling on breast-feeding	Observation of breast-feeding	Weighed[1]		
Mother's age at birth								
<20	78.3	74.7	69.9	80.3	76.4	60.9	84.3	701
20-34	80.2	77.7	73.9	79.2	75.8	67.8	84.8	4,125
35-49	81.3	77.2	73.7	78.5	74.2	64.3	85.2	973
Birth order								
1	82.6	80.1	74.8	82.9	79.9	72.4	88.4	1,549
2-3	80.2	78.7	74.7	80.5	76.2	70.6	85.6	2,363
4-5	79.0	75.5	72.5	76.2	73.4	61.9	82.7	1,209
6+	76.6	68.9	67.4	71.4	67.5	45.6	77.6	678
Place of delivery								
Health facility	84.2	83.9	79.3	84.9	80.8	81.0	90.1	4,590
Elsewhere	64.7	51.9	51.1	57.5	55.7	10.6	64.7	1,210
Residence								
Urban	83.3	81.8	77.2	82.9	78.7	79.2	88.7	2,783
Rural	77.2	73.1	69.9	75.8	72.7	54.5	81.2	3,016
Zone								
Coastal	79.6	76.6	73.6	78.9	74.4	67.5	84.1	2,652
Middle	84.8	80.6	74.8	82.4	79.9	67.4	89.3	2,165
Northern	71.4	71.7	69.9	72.8	69.4	61.0	76.9	982
Region								
Western	78.8	75.0	70.1	74.0	69.2	62.7	80.2	793
Central	84.4	77.2	72.7	81.8	78.2	65.2	89.5	536
Greater Accra	78.5	78.2	74.8	79.1	74.6	85.3	83.0	832
Volta	77.5	75.8	78.0	83.3	78.2	47.3	86.2	491
Eastern	84.0	76.5	81.2	84.3	83.9	62.9	88.8	561
Ashanti	86.9	84.3	75.4	83.7	79.4	72.2	90.5	1,038
Brong Ahafo	81.7	77.7	67.5	78.3	77.0	63.2	87.5	566
Northern	68.2	68.3	66.8	68.6	64.9	47.5	73.5	595
Upper East	68.6	69.3	67.1	73.3	70.7	86.6	76.1	229
Upper West	87.4	88.3	85.5	87.7	84.1	74.8	90.8	159
Mother's education								
No education	72.8	68.2	66.0	70.3	67.6	46.6	75.8	1,299
Primary	78.5	74.8	69.3	76.0	72.7	54.2	81.4	1,004
Middle/JSS/JHS	83.7	81.1	77.8	83.7	80.4	70.8	89.0	2,288
Secondary/SSS/SHS	82.8	82.3	77.0	83.1	78.2	85.4	90.1	810
More than secondary	82.2	80.3	75.4	82.7	76.0	97.4	87.9	399
Wealth quintile								
Lowest	69.9	65.1	63.9	68.7	66.8	41.2	73.8	1,307
Second	80.1	76.7	72.8	79.2	75.8	56.4	84.5	1,215
Middle	83.8	79.8	74.3	81.5	78.0	69.8	87.8	1,168
Fourth	86.7	86.1	79.4	84.2	80.7	80.2	91.6	1,123
Highest	82.0	80.9	78.8	84.6	78.3	92.0	88.4	986
Total	80.1	77.2	73.4	79.2	75.6	66.3	84.8	5,799

[1] Captures newborns who were weighed at birth. May exclude some newborns who were weighed during the 2 days after birth.

Table 5.20 Payments for postnatal checks

Among women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey who received a postnatal check at a public sector health facility within 2 days after the most recent birth or stillbirth, percentage asked to make payments for the check on the mother, and among women's most recent live births in the 5 years preceding the survey that received a check at a public sector health facility within 2 days after birth, percentage for which women were asked to make payments for the check on the newborn, according to background characteristics, Ghana MHS 2017

Background characteristic	Asked to make payment for check on mother	Number of women who received a postnatal check within 2 days[1]	Asked to make payment for check on newborn	Number of newborns who received a check within 2 days[2]
Mother's age at birth				
<20	13.2	843	12.9	830
20-34	15.1	5,014	11.2	4,906
35-49	16.2	1,351	13.6	1,294
Birth order				
1	14.2	1,418	11.8	1,891
2-3	15.0	2,620	11.4	2,834
4-5	16.3	1,810	12.7	1,522
6+	14.4	1,360	11.6	783
Antenatal care visits[3]				
None	(29.4)	50	(31.2)	41
1-3	18.6	408	16.3	408
4+	14.8	6,739	11.4	6,568
Don't know/missing	*	11	*	13
Place of delivery				
Public facility	14.9	6,930	11.5	6,751
Elsewhere	20.2	277	18.5	279
Residence				
Urban	16.8	3,735	13.1	3,583
Rural	13.2	3,473	10.5	3,447
Zone				
Coastal	19.1	3,161	15.9	3,071
Middle	15.3	2,866	10.9	2,751
Northern	3.8	1,181	3.5	1,208
Region				
Western	19.3	910	18.6	902
Central	15.4	638	10.4	625
Greater Accra	19.0	1,080	14.8	1,022
Volta	23.1	532	20.3	522
Eastern	12.8	765	9.3	770
Ashanti	19.9	1,324	14.7	1,258
Brong Ahafo	10.0	777	5.9	723
Northern	4.6	583	4.3	609
Upper East	2.5	347	1.8	347
Upper West	3.8	251	3.8	251
Mother's education				
No education	10.7	1,445	8.8	1,445
Primary	15.3	1,239	11.5	1,215
Middle/JSS/JHS	16.9	3,088	13.2	2,983
Secondary/SSS/SHS	16.3	978	12.0	934
More than secondary	13.3	458	13.1	453
Wealth quintile				
Lowest	10.5	1,234	9.7	1,253
Second	12.7	1,526	10.2	1,486
Middle	16.2	1,592	12.4	1,524
Fourth	18.2	1,554	13.0	1,539
Highest	17.0	1,303	13.7	1,228
Total	15.1	7,208	11.8	7,030

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] Includes checks made on women who delivered in a facility and received a check before leaving the facility and checks made on women who did not deliver in a facility; does not include checks made on women who delivered in a facility and had a check after leaving the facility. Includes women who received a check from a doctor, nurse/midwife, community health officer/nurse, traditional birth attendant, or village health volunteer.

[2] Includes checks made on newborns delivered in a facility who received a check before leaving the facility and checks made on newborns who were not delivered in a facility; does not include checks made on newborns delivered in a facility who had a check after leaving the facility. Includes newborns who received a check from a doctor, nurse/midwife, community health officer/nurse, traditional birth attendant, or village health volunteer.

[3] Includes only the most recent live birth or stillbirth in the 5 years preceding the survey

Table 5.21 Combinations of antenatal care, assistance at delivery, and postnatal checks

Percent distribution of women age 15-49 with a live birth or stillbirth in the 5 years preceding the survey by whether they received antenatal care (ANC) from a skilled provider, assistance at delivery from a skilled provider, and/or a postnatal check within 2 days after delivery for the most recent live birth or stillbirth, according to background characteristics, Ghana MHS 2017

Background characteristic	ANC only	Assistance at delivery only	Postnatal check only	ANC and assistance at delivery	ANC and postnatal check	Assistance at delivery and postnatal check	ANC, assistance at delivery, and postnatal check	None	Total	Number of women
Mother's age at birth										
<20	9.5	0.1	0.7	6.1	8.6	1.0	73.0	0.9	100.0	1,250
20-34	9.7	0.1	0.6	5.1	8.6	0.5	74.2	1.2	100.0	7,614
35-49	12.2	0.0	0.3	4.5	8.7	0.6	71.8	1.8	100.0	2,077
Birth order										
1	6.6	0.0	0.3	6.8	6.5	0.4	78.8	0.6	100.0	2,032
2-3	7.9	0.1	0.6	5.3	7.4	0.5	77.2	0.9	100.0	3,849
4-5	11.3	0.0	0.5	4.7	9.4	0.8	72.1	1.2	100.0	2,772
6+	16.0	0.0	0.8	3.8	11.6	0.5	64.8	2.5	100.0	2,288
Number of months pregnant at time of first ANC visit										
No antenatal care	0.0	2.3	21.6	0.0	0.0	21.9	0.0	54.3	100.0	253
<4	8.3	0.0	0.1	5.3	7.9	0.1	78.5	0.0	100.0	7,019
4-5	13.1	0.0	0.1	5.3	10.4	0.0	71.2	0.0	100.0	2,973
6-7	19.8	0.0	0.0	5.2	12.2	0.0	62.8	0.0	100.0	610
8+	(28.5)	(0.0)	(0.0)	(4.9)	(12.1)	(0.0)	(54.4)	(0.0)	(100.0)	67
Don't know/missing	*	*	*	*	*	*	*	*	*	18
Residence										
Urban	4.1	0.1	0.4	5.7	4.3	0.6	84.2	0.6	100.0	5,286
Rural	15.8	0.0	0.7	4.6	12.7	0.5	63.7	1.9	100.0	5,655
Zone										
Coastal	9.6	0.0	0.6	5.2	8.1	0.8	73.9	1.7	100.0	4,916
Middle	8.2	0.1	0.5	4.9	8.0	0.4	76.9	0.9	100.0	4,243
Northern	16.5	0.0	0.4	5.5	11.4	0.2	65.0	1.0	100.0	1,782
Region										
Western	9.6	0.0	0.5	4.7	9.5	0.7	72.9	2.2	100.0	1,415
Central	11.6	0.0	0.6	6.6	8.3	0.6	70.9	1.3	100.0	986
Greater Accra	3.1	0.0	0.7	7.0	3.5	1.2	83.9	0.6	100.0	1,613
Volta	19.4	0.0	0.6	1.3	14.1	0.3	60.8	3.5	100.0	902
Eastern	9.0	0.0	1.6	3.5	10.3	0.7	74.2	0.8	100.0	1,086
Ashanti	5.7	0.2	0.3	5.3	6.9	0.3	80.0	1.2	100.0	2,017
Brong Ahafo	11.8	0.0	0.0	5.6	7.8	0.4	74.1	0.4	100.0	1,140
Northern	23.8	0.1	0.7	5.1	14.9	0.3	53.9	1.3	100.0	1,056
Upper East	4.3	0.0	0.0	7.5	3.7	0.1	84.2	0.3	100.0	424
Upper West	7.9	0.0	0.2	4.3	9.8	0.1	76.8	0.9	100.0	301
Mother's education										
No education	20.8	0.0	0.8	4.6	14.3	0.6	56.0	2.9	100.0	2,625
Primary	13.6	0.1	1.1	5.1	10.6	0.6	67.3	1.6	100.0	1,942
Middle/JSS/JHS	6.0	0.1	0.3	5.2	7.2	0.6	80.0	0.7	100.0	4,332
Secondary/SSS/SHS	3.1	0.0	0.3	5.5	3.3	0.5	87.3	0.1	100.0	1,368
More than secondary	0.3	0.0	0.0	6.5	1.0	0.0	92.2	0.0	100.0	673
Wealth quintile										
Lowest	24.0	0.0	1.1	4.3	15.2	0.5	52.1	2.8	100.0	2,344
Second	12.8	0.0	0.6	4.2	12.8	0.4	67.1	2.0	100.0	2,363
Middle	8.1	0.0	0.5	5.3	7.2	1.3	76.7	0.8	100.0	2,202
Fourth	2.9	0.2	0.5	7.1	4.0	0.3	84.7	0.3	100.0	2,151
Highest	0.5	0.1	0.0	4.8	2.0	0.2	92.4	0.0	100.0	1,881
Total	10.2	0.1	0.5	5.1	8.6	0.6	73.6	1.3	100.0	10,940

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.

Table 5.22 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 MHS 2017

Background characteristic	Problems in accessing health care					
	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	9.1	44.5	24.5	25.8	59.9	4,785
20-34	5.9	45.0	22.3	12.3	54.6	12,146
35-49	6.4	52.9	25.1	10.1	60.0	8,132
Disability status[1]						
A lot of difficulty or unable to function in at least one domain	10.9	58.5	31.0	21.9	69.7	2,554
Some or no difficulty in all domains	6.2	46.2	22.8	13.3	56.0	22,508
Number of living children						
0	7.5	40.7	21.0	20.9	54.5	8,216
1-2	5.7	45.4	22.3	10.3	53.9	7,684
3-4	6.3	51.1	23.3	10.1	58.5	5,652
5+	7.2	62.0	33.4	13.6	69.7	3,510
Marital status						
Never married	7.8	43.6	22.0	19.9	56.5	8,397
Married or living together	6.1	47.5	25.0	11.4	56.4	14,361
Divorced/separated/widowed	5.8	61.4	21.5	10.5	66.4	2,305
Residence						
Urban	6.0	40.6	14.4	11.6	50.0	13,752
Rural	7.5	55.7	34.9	17.3	66.3	11,310
Zone						
Coastal	5.9	46.2	20.1	11.5	55.3	12,121
Middle	6.3	44.8	21.5	13.5	55.5	9,674
Northern	10.7	59.8	43.0	26.1	70.3	3,267
Region						
Western	4.5	48.6	24.6	9.2	58.4	3,230
Central	6.1	46.8	16.4	9.0	53.6	2,218
Greater Accra	7.0	37.6	13.4	12.0	48.1	4,673
Volta	5.4	61.9	32.7	16.8	69.3	2,000
Eastern	10.2	50.4	32.1	15.7	63.1	2,517
Ashanti	4.3	44.9	16.9	12.2	54.7	4,790
Brong Ahafo	6.1	38.9	19.6	13.9	49.2	2,367
Northern	8.1	60.5	47.3	24.6	71.4	1,786
Upper East	13.4	59.3	37.0	27.5	68.4	854
Upper West	14.3	58.5	39.2	28.5	69.6	628
Education						
No education	8.8	62.6	37.3	17.5	70.8	4,585
Primary	8.0	56.4	27.0	15.3	64.9	3,934
Middle/JSS/JHS	6.1	47.8	20.9	13.5	57.2	10,081
Secondary/SSS/SHS	5.3	35.5	17.3	13.1	47.7	4,550
More than secondary	5.1	19.4	13.5	10.2	33.3	1,912
Wealth quintile						
Lowest	10.5	71.0	53.7	25.7	81.4	4,064
Second	6.5	57.1	28.1	14.0	66.4	4,721
Middle	5.9	49.5	17.4	11.8	57.9	5,111
Fourth	5.3	42.2	15.4	10.4	50.2	5,443
Highest	6.0	26.0	12.0	11.9	39.2	5,723
Total	6.7	47.5	23.7	14.2	57.4	25,062

[1] Domains are seeing, hearing, communicating, remembering or concentrating, walking or climbing steps, and washing all over or dressing. If a woman reported having difficulty in more than one domain, only the highest level of difficulty is shown.

INDUCED ABORTION AND MISCARRIAGE 6

Key Findings

- ***Induced abortion:*** Seven percent of women age 15-49 had an induced abortion in the past 5 years.
- ***Main reason for induced abortion:*** Twenty-one percent of women age 15-49 who had an induced abortion in the 5 years preceding the survey reported that the main reason for the most recent induced abortion was that they were not ready, were too young, or wanted to delay childbearing.
- ***Methods to induce abortion:*** Thirty-eight percent of women age 15-49 who had an induced abortion in the 5 years preceding the survey used a medical pill (20% mifepristone and misoprostol, 18% misoprostol) as the last or only method to induce the most recent abortion.
- ***Contraceptive use and induced abortion:*** Among women age 15-49 who had an induced abortion in the past 5 years, 19% received contraception support after the most recent induced abortion.
- ***Legality of induced abortion:*** Among women age 15-49 who know what abortion is, 11% know that abortion is legal in Ghana.

Although abortion has been legal in Ghana under certain circumstances since 1985, integration of safe abortion into Ghana's reproductive health policy did not take place until 2003, and it was not until 2006 that comprehensive abortion care services, as permitted by law, became one of the five components of the key reducing maternal morbidity and mortality objective of the 2007-2011 Ghana Reproductive Health Strategic Plan (GHS 2011). Not surprisingly, misconceptions continue to exist regarding the legality of abortion in Ghana.

Respondents provided a chronological history of all pregnancies they had experienced, beginning with the first one. For each pregnancy, respondents provided information on the outcome (live birth, stillbirth, miscarriage, or induced abortion). Women who had a pregnancy that ended in an induced abortion or a miscarriage in the 5 years preceding the survey were asked follow-up questions about the most recent induced abortion and/or the most recent miscarriage.

6.1 PREGNANCY OUTCOMES

Seventy-six percent of pregnancies among women age 15-49 in the 5 years preceding the survey ended in a live birth, 2% resulted in a stillbirth, 12% were miscarried, and 10% ended in an induced abortion (**Table 6.1**).

Patterns by background characteristics

- The percentage of pregnancies ending in miscarriage increases with women's age, while the percentage ending in induced abortion decreases with age.
- Fourteen percent of pregnancies among women in rural areas ended in an induced abortion, as compared with 7% among women in rural areas.
- The percentage of pregnancies culminating in a live birth ranges from 70% in Greater Accra region to 90% in Northern region.
- The percentage of pregnancies culminating in a live birth decreases with increasing wealth. The percentage culminating in a live birth falls steadily with increasing education up to the secondary level, from 86% among women with no education to 66% among women with a secondary education, before increasing slightly among women with a postsecondary education (72%).

6.2 INDUCED ABORTIONS

Twenty percent of women age 15-49 have ever had an induced abortion (**Table 6.2**); 7% had an induced abortion in the 5 years preceding the survey (**Table 6.3**).

Trends: The percentage of women age 15-49 who had an induced abortion in the 5 years preceding the survey remained relatively unchanged between 2007 (5%) and 2017 (7%).

Patterns by background characteristics

- The percentage of women who have ever had an induced abortion increases from 3% among those age 15-19 to 16% among those age 20-24 and 24% among those age 25-29, with little change in older age groups (25%-27%) (**Table 6.2**). Twelve percent of women age 20-24 and age 25-29 had an induced abortion in the 5 years preceding the survey, as compared with 1%-8% of women in other age groups (**Table 6.3**).
- Three percent of women in the Northern zone have ever had an induced abortion, compared with 22% of women in both the Middle and Coastal zones (**Table 6.2**).
- The percentage of women who had an induced abortion in the past 5 years ranges from 1% in Northern region to 9% in Western and Ashanti regions (**Table 6.3**).
- The percentage of women who had an induced abortion in the past 5 years is lower among those with no education (3%) than among those with any level of education (6%-8%). Also, the percentage is lower among women in the lowest wealth quintile (2%) than among women in higher quintiles (6%-9%).

6.2.1 Main Reason for Induced Abortion

Women age 15-49 who had an induced abortion in the 5 years preceding the survey had varied reasons for the most recent induced abortion. Just over one-fifth of women cited being not ready, too young, or wanting to delay childbearing (21%); 15% cited not having money to care for a baby; 12% cited wanting to space their births; and 10% cited wanting to continue going to school or other life circumstances (including nobody to help look after a baby, wanting to continue working, or wanting no more children). Smaller percentages (4%-9%) cited other reasons (**Table 6.4**).

Partner's Attitude towards Induced Abortion

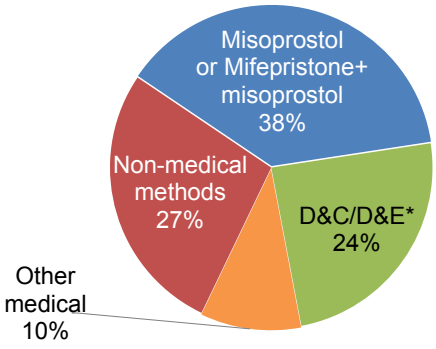
Women age 15-49 who had an induced abortion in the 5 years preceding the survey were asked about their partner's attitude towards the most recent induced abortion. Half of women reported that their partner was in favour of the most recent induced abortion (52%), 8% said that their partner was neutral, 18% said that their partner was opposed, and 20% reported that their partner was unaware of the induced abortion; 1% of respondents did not know or did not remember their partner's attitude (**Table 6.5**).

6.2.2 Methods to Induce Abortion

Women age 15-49 who had an induced abortion in the 5 years preceding the survey were asked if they made one or more than one attempt to induce the most recent abortion. If a woman made more than one attempt, she was asked about the method of the first attempt and the method of the last attempt; if she made only one attempt, she was asked about the method of that attempt. Fourteen percent of women made more than one attempt to induce the most recent abortion. Slightly over a third used pills, either misoprostol (18%) or a combination of mifepristone and misoprostol (20%), for the only or final attempt; just under a quarter used dilation and curettage (D&C) or dilation and evacuation (D&E) (24%). Slightly more than a quarter of women used a non-medical method (27%). Non-medical methods, which include drinking milk/coffee/alcohol/other liquid with sugar, drinking an herbal concoction, drinking another home remedy, using an herbal enema, inserting a substance into the vagina, heavy massage, excessive physical activity, tablets (exact kind unknown), and other, may come with a greater risk of poor health outcomes (**Table 6.6** and **Figure 6.1**).

***Figure 6.1* Induced abortion methods**

Percent distribution of most recent induced abortions among women age 15-49 in the 5 years before the survey by only/final method



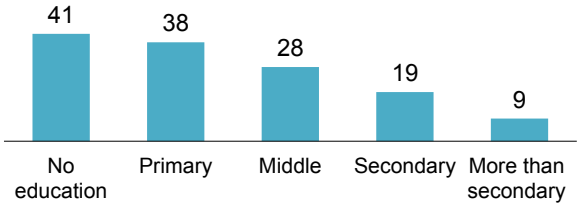
** Dilation and curettage or dilation and evacuation*

Patterns by background characteristics

- The percentage of women age who had an induced abortion in the 5 years preceding the survey who used pills (misoprostol or mifepristone and misoprostol) as the only or final method to induce the most recent abortion generally decreases with age.
- The percentage of women who had an induced abortion in the 5 years preceding the survey and used a non-medical method as the only or final method to induce the most recent abortion is higher among those in rural (32%) than urban (25%) areas.
- The percentage of women who had an induced abortion in the 5 years preceding the survey and used a non-medical method as the only or final method to induce the most recent abortion generally decreases with increasing education (**Figure 6.2**) and wealth.

***Figure 6.2* Non-medical methods by education**

Among women age 15-49 who had an induced abortion in the 5 years before the survey, percentage who used a non-medical method for the only/final attempt for the most recent induced abortion



6.2.3 Assistance for and Location of Induced Abortion

Among women age 15-49 who had an induced abortion in the 5 years preceding the survey, 41% sought help from health care personnel for the only or final induced abortion attempt, 33% sought help from a pharmacist or chemical seller, 16% sought help from someone else, and 10% did not seek help from anyone. Among 40% of women, the location of the last or only attempt of the most recent induced abortion was a public (20%) or private (20%) health facility. Among 37% of women, the location was a home; among 22%, it was a pharmacy or drugstore; and among 1%, it was elsewhere (**Table 6.7**).

Patterns by background characteristics

- The percentage of women who had an induced abortion in the 5 years preceding the survey who sought assistance from health care personnel for the only or final attempt of the most recent induced abortion increases with age, from 31% among those less than age 20 to 43% among those age 20-34 and 52% among those age 35-49.
- The percentage of women who had an induced abortion in the 5 years preceding the survey who sought assistance from health care personnel for the most recent induced abortion ranges from 37% in the Middle zone to 44% in the Coastal zone and 52% in the Northern zone.
- The percentage of women who had an induced abortion in the 5 years preceding the survey and sought assistance from health care personnel for the only or final attempt of the most recent induced abortion is similar among women with no, only primary, and only middle level education (36%-39%), and higher for women with secondary (46%) or more than secondary (56%) education.

Payment for Induced Abortion

Ninety-three percent of women age 15-49 who had an induced abortion in the 5 years preceding the survey made a payment for the only or final method of the most recent induced abortion. A smaller percentage of women in the Northern zone made a payment (83%) than in the Middle (91%) or Coastal (95%) zones; a smaller percentage of women in the lowest wealth quintile (82%) made a payment than those in higher wealth quintiles (92%-95%) (**Table 6.8**).

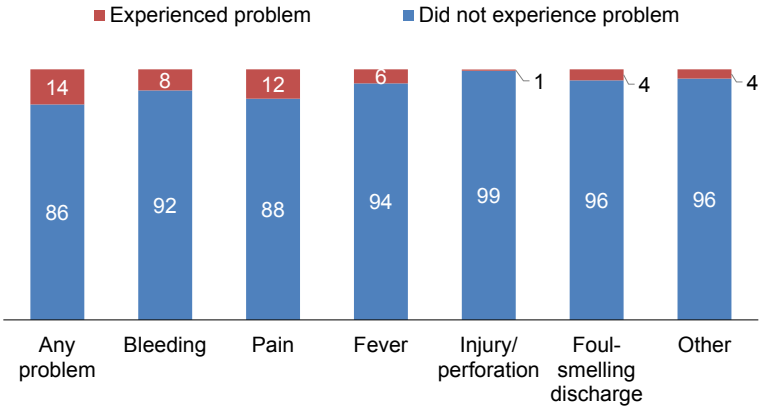
Medication and Health Problems after Induced Abortion

More than 6 in 10 women age 15-49 who had an induced abortion in the 5 years preceding the survey took antibiotics (64%) or pain relievers (63%) after the only or final attempt for their most recent induced abortion, and 14% experienced some health problems in the 1 month after the only or final attempt (**Table 6.8**).

Eighty-six percent of women who had an induced abortion in the 5 years preceding the survey had no health problems in the 1 month after the only or final attempt of the most recent induced abortion. Fourteen percent did experience a health problem: 12% experienced pain, 8% experienced bleeding, 6% had a fever, 4% experienced a foul-smelling discharge, 4% had other problems, and 0.5% experienced an injury (**Table 6.9** and **Figure 6.3**). Fifty-seven percent of women who experienced some problems received treatment (**Table 6.9**).

Figure 6.3 **Problems within 1 month of most recent induced abortion**

Among women age 15-49 who had an induced abortion in the 5 years preceding the survey, percentage who experienced various health problems 1 month after the only/final method of the most recent induced abortion



6.2.4 Contraceptive Use and Induced Abortion

Twenty percent of women age 15-49 who had an induced abortion in the 5 years preceding the survey reported using contraception when they became pregnant before their most recent induced abortion. Thirty-one percent had ever discussed contraception with a health care worker, and 19% received contraceptive support from a health care worker after the most recent induced abortion. Among women who had discussed contraception with a health care worker, one-third discussed it only before the most recent induced abortion (33%), half discussed it only after the most recent induced abortion (50%), and the remaining one-sixth (17%) discussed it both before and after the most recent induced abortion. Among women who received contraceptive support after the induced abortion, 36% were given a method by a health care worker, 59% were prescribed a method, 5% received a referral to another provider for contraception, and 0.5% could not remember what form the support took (**Table 6.10**).

6.3 Induced Abortion Knowledge and Access

Ninety-five percent of women age 15-49 know what abortion is (either they have had an induced abortion or they have not had an induced abortion but know what it is). Among women who have never had an induced abortion but know what abortion is, 25% say that they could get an abortion if they needed one, and 57% know of a place to get an induced abortion (**Table 6.11**). The place most commonly cited by women age 15-49 who have never had an abortion but know what it is and know of a place to get one is a government hospital (72%) (**Table 6.12**).

Trends: The percentage of women age 15-49 who know what abortion is increased slightly from 90% in 2007 to 95% in 2017. Over the same period, the percentage who have never had an abortion but know what it is and report that they could get an abortion if they needed to increased from 12% to 25%, and the percentage who know of a place to get an abortion increased from 39% to 57%.

Patterns by background characteristics

- Women in the Northern zone (83%), those with no education (88%), and those in the lowest wealth quintile (86%) are less likely to know what abortion is than women in the other zones (96%-97%), those with more education (93%-99%), and those in higher wealth quintiles (95%-98%).
- The percentage of women who say that they could get an abortion if necessary and the percentage who know of a place to get an abortion increase with increasing education and wealth.

6.4 LEGALITY OF INDUCED ABORTION

Only 11% of women age 15-49 who know what abortion is (including women who have had an induced abortion) know that abortion is legal in Ghana (**Table 6.11**).

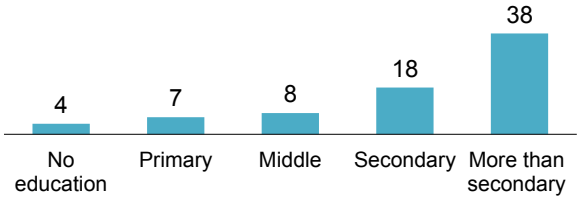
Trends: The percentage of women age 15-49 who know what abortion is and know that abortion is legal in Ghana increased from 4% in 2007 to 11% in 2017.

Patterns by background characteristics

- Fourteen percent of urban women who know what abortion is know that it is legal, as compared with 8% of rural women.
- The percentage of women who know what abortion is and know that it is legal ranges from 7% in Western and Brong Ahafo regions to 18% in Eastern region.
- The percentage of women who know what abortion is and that it is legal increases with increasing education (**Figure 6.4**) and wealth.

***Figure 6.4* Knowledge of legality of abortion by education**

Among women age 15-49 who know what induced abortion is, percentage who know that induced abortion is legal in Ghana



6.5 MISCARRIAGE

Twelve percent of pregnancies among women age 15-49 in the 5 years preceding the survey ended in a miscarriage (**Table 6.1**); 7% of women age 15-49 had a miscarriage in the 5 years preceding the survey (**Table 6.3**). It is possible that some respondents characterised pregnancies that ended in an induced abortion as ending in miscarriage.

Patterns by background characteristics

- The percentage of pregnancies in the last 5 years that ended in a miscarriage increases with age, from 7% among women under age 20 to 11% among women age 20-34 and 19% among women age 35-49.
- The percentage of pregnancies in the last 5 years that ended in a miscarriage increases with increasing education and wealth.

Miscarriage Causes

Nearly three quarters of women age 15-49 who had a miscarriage in the 5 years preceding the survey reported that the most recent miscarriage was spontaneous (74%); 10% attributed the most recent miscarriage to either an accident or other causes, and 3% or less attributed it to something they ate, somebody hurting them, or unknown causes (**Table 6.13**).

6.5.1 Help Seeking after Miscarriage

Seventy-four percent of women age 15-49 who had a miscarriage in the 5 years preceding the survey sought help after the most recent miscarriage. Among women who sought help following a miscarriage, 6 in 10 sought assistance from a doctor (63%) and nearly 5 in 10 sought assistance from a nurse (47%). Slightly more than 5 in 10 went to a government hospital (54%) for help (**Table 6.14**).

Patterns by background characteristics

- The percentage of women who had a miscarriage in the 5 years preceding the survey and sought help after the most recent miscarriage ranges from 68% in Volta region to 83% in Upper East region.

- The percentage of women who had a miscarriage in the 5 years preceding the survey and sought help after the most recent miscarriage increases with increasing education (from 67% among women with no education to 87% among women with more than a secondary education) and wealth (from 65% among women in the lowest quintile to 79% among women in the highest quintile).

Treatment after Miscarriage

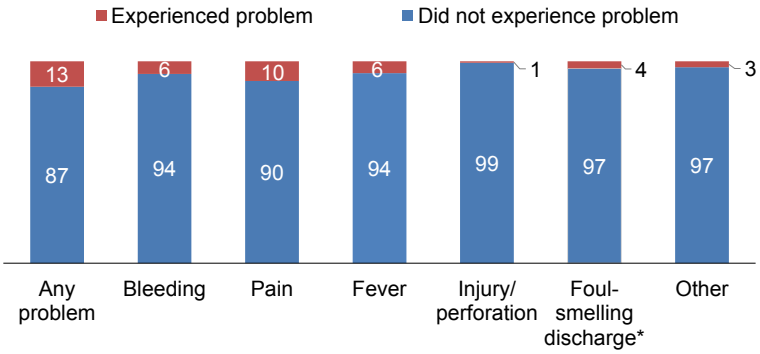
Slightly more than three quarters of women age 15-49 who had a miscarriage in the 5 years preceding the survey took antibiotics (76%) or painkillers (77%) after the most recent miscarriage. Just under half had their uterus cleaned (45%) (**Table 6.15**).

Health Problems 1 Month after Miscarriage

Among women age 15-49 who had a miscarriage in the 5 years preceding the survey, 87% did not experience any health problems in the 1 month after the most recent miscarriage (**Table 6.16**). Ten percent experienced pain in the 1 month after the most recent miscarriage, 6% experienced bleeding, 6% had a fever, 4% experienced a foul-smelling discharge, 3% had other problems, and 0.7% experienced an injury (**Figure 6.5**).

***Figure 6.5* Problems within 1 month of most recent miscarriage**

Among women age 15-49 who had a miscarriage in the 5 years preceding the survey, percentage who experienced various health problems 1 month after the most recent miscarriage



** Adds up to more than 100 due to rounding.*

6.5.2 Contraceptive Use and Miscarriage

Thirteen percent of women age 15-49 who had a miscarriage in the 5 years preceding the survey reported using contraception when they became pregnant before the most recent miscarriage; 28% had ever discussed contraception with a health care worker, and 13% received contraceptive support from a health care worker after the most recent induced abortion. Among women who had discussed contraception with a health care worker, 40% discussed it only before the most recent miscarriage, 45% discussed it only after the most recent miscarriage, and 15% discussed it both before and after the most recent miscarriage. Among women who received contraceptive support after the miscarriage, 33% were given a method by a health care worker, 58% were prescribed a method, 9% received a referral to another provider for contraception, and 0.3% could not remember what form the support took (**Table 6.17**).

List of Tables

For more information on induced abortion and miscarriage, see the following tables:

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- **Table 6.2 Lifetime experience with induced abortion**
- **Table 6.3 Induced abortion and miscarriage in the past 5 years**
- **Table 6.4 Main reason for most recent induced abortion**
- **Table 6.5 Partner's attitude towards most recent induced abortion**
- **Table 6.6 Only/final method of most recent induced abortion**
- **Table 6.7 Assistance for and location of most recent induced abortion**

- **Table 6.8 Payment for, medications used during, and experience of health problems after most recent induced abortion**
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Table 6.1 Pregnancy outcomes

Percent distribution of pregnancies among women age 15-49 ending in the 5 years preceding the survey by pregnancy outcome, according to background characteristics, Ghana MHS 2017

Background characteristic	Pregnancy outcome				Total	Number of pregnancies
	Live birth	Stillbirth	Miscarriage	Induced abortion		
Woman's age at time of pregnancy						
<20[1]	73.1	1.3	6.8	18.8	100.0	2,351
20-34	77.4	1.7	10.8	10.1	100.0	13,602
35-49	73.2	2.5	18.5	5.9	100.0	3,257
Residence						
Urban	71.7	1.7	12.6	14.0	100.0	9,675
Rural	80.6	1.9	10.6	6.8	100.0	9,536
Zone						
Coastal	74.0	1.7	12.4	12.0	100.0	8,896
Middle	74.3	2.0	12.1	11.6	100.0	7,550
Northern	88.3	1.7	7.9	2.1	100.0	2,764
Region						
Western	73.5	1.9	11.6	13.0	100.0	2,645
Central	77.0	2.2	12.0	8.8	100.0	1,731
Greater Accra	69.8	1.3	14.2	14.7	100.0	2,992
Volta	79.5	1.3	10.6	8.6	100.0	1,528
Eastern	78.0	1.7	10.6	9.7	100.0	1,857
Ashanti	70.7	2.4	13.7	13.3	100.0	3,763
Brong Ahafo	77.6	1.7	10.5	10.1	100.0	1,931
Northern	90.3	1.7	6.8	1.2	100.0	1,655
Upper East	87.3	1.3	9.4	2.0	100.0	625
Upper West	82.7	2.1	9.9	5.4	100.0	485
Education						
No education	86.2	1.8	8.2	3.9	100.0	4,294
Primary	78.0	1.9	10.4	9.7	100.0	3,320
Middle/JSS/JHS	73.8	1.8	12.2	12.1	100.0	7,701
Secondary/SSS/SHS	66.1	1.6	15.4	16.8	100.0	2,639
More than secondary	72.4	1.6	15.4	10.7	100.0	1,256
Wealth quintile						
Lowest	88.4	1.6	6.9	3.1	100.0	3,797
Second	80.5	2.0	9.0	8.5	100.0	3,954
Middle	74.0	2.2	11.6	12.3	100.0	3,851
Fourth	69.9	1.4	13.6	15.0	100.0	3,960
Highest	67.7	1.8	17.4	13.1	100.0	3,648
Total	76.1	1.8	11.6	10.4	100.0	19,210

[1] The youngest age at time of pregnancy is 11 years.

Table 6.2 Lifetime experience with induced abortion

Percentage of women age 15-49 who have ever had an induced abortion and among women who have ever had an abortion, mean number of induced abortions, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage who ever had an induced abortion	Number of women	Mean number of induced abortions	Number of women who ever had an induced abortion
Age				
15-19	3.3	4,785	1.1	156
20-24	15.9	4,208	1.3	667
25-29	24.1	4,229	1.4	1,018
30-34	25.5	3,709	1.5	945
35-39	26.5	3,313	1.6	877
40-44	27.0	2,481	1.6	671
45-49	24.9	2,337	1.8	583
Number of living children				
0	9.2	8,216	1.3	752
1	24.9	4,095	1.5	1,021
2-3	27.4	6,752	1.5	1,849
4+	21.6	5,999	1.6	1,296
Marital status				
Never married	10.1	8,397	1.3	845
Married or living together	23.5	14,361	1.5	3,378
Divorced/separated/widowed	30.1	2,305	1.6	694
Residence				
Urban	23.6	13,752	1.5	3,246
Rural	14.8	11,310	1.4	1,672
Zone				
Coastal	21.8	12,121	1.5	2,637
Middle	22.4	9,674	1.5	2,170
Northern	3.4	3,267	1.3	110
Region				
Western	20.8	3,230	1.5	673
Central	18.4	2,218	1.4	409
Greater Accra	26.4	4,673	1.5	1,236
Volta	15.9	2,000	1.5	319
Eastern	19.9	2,517	1.5	501
Ashanti	24.9	4,790	1.6	1,194
Brong Ahafo	20.1	2,367	1.4	475
Northern	2.8	1,786	1.3	50
Upper East	3.5	854	1.1	30
Upper West	4.8	628	1.4	30
Education				
No education	11.6	4,585	1.4	531
Primary	21.0	3,934	1.6	826
Middle/JSS/JHS	23.8	10,081	1.6	2,398
Secondary/SSS/SHS	18.7	4,550	1.4	849
More than secondary	16.3	1,912	1.4	313
Wealth quintile				
Lowest	6.1	4,064	1.3	248
Second	16.3	4,721	1.4	770
Middle	21.4	5,111	1.5	1,093
Fourth	26.9	5,443	1.6	1,465
Highest	23.5	5,723	1.6	1,342
Total	19.6	25,062	1.5	4,917

Table 6.3 Induced abortion and miscarriage in the past 5 years

Percentage of women age 15-49 who had an induced abortion and percentage who had a miscarriage in the 5 years preceding the survey, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage of women who in the past 5 years had: An induced abortion	A miscarriage	Number of women
Age			
15-19	3.0	1.1	4,785
20-24	11.6	6.8	4,208
25-29	11.5	10.6	4,229
30-34	7.7	10.5	3,709
35-39	5.5	9.6	3,313
40-44	2.6	8.3	2,481
45-49	1.2	4.2	2,337
Number of living children			
0	6.2	4.5	8,216
1	11.0	10.8	4,095
2-3	7.7	8.7	6,752
4+	3.4	6.6	5,999
Marital status			
Never married	6.2	2.2	8,397
Married or living together	6.8	10.2	14,361
Divorced/separated/widowed	7.8	6.1	2,305
Residence			
Urban	8.1	7.1	13,752
Rural	5.0	7.2	11,310
Zone			
Coastal	7.5	7.0	12,121
Middle	7.5	7.8	9,674
Northern	1.5	5.7	3,267
Region			
Western	8.9	7.4	3,230
Central	6.0	7.5	2,218
Greater Accra	8.0	6.7	4,673
Volta	5.4	6.5	2,000
Eastern	5.9	6.6	2,517
Ashanti	8.6	8.8	4,790
Brong Ahafo	7.0	7.1	2,367
Northern	1.0	5.4	1,786
Upper East	1.4	5.7	854
Upper West	2.7	6.6	628
Education			
No education	3.1	6.5	4,585
Primary	6.9	7.2	3,934
Middle/JSS/JHS	7.7	7.4	10,081
Secondary/SSS/SHS	8.2	7.0	4,550
More than secondary	6.2	7.5	1,912
Wealth quintile			
Lowest	2.2	5.6	4,064
Second	6.1	6.4	4,721
Middle	7.8	7.1	5,111
Fourth	9.2	8.1	5,443
Highest	7.0	8.0	5,723
Total	6.7	7.1	25,062

Table 6.4 Main reason for most recent induced abortion

Among women age 15-49 who had an induced abortion in the 5 years preceding the survey, percent distribution by main reason for the most recent induced abortion, according to background characteristics, Ghana MHS 2017

Background characteristic	No money to care for baby	Not ready/ too young/ wanted to delay child-bearing	Wanted to space child	Wanted to continue in school	Other life circumst-ances[1]	Partner did not want child	Other partner-related circumst-ances[2]	Health-related reasons[3]	Shame/ afraid of parents/ parents insisted	Other[4]	Total	Number of women
Woman's age at time of abortion												
<20	7.8	29.4	4.2	23.0	5.5	7.1	3.9	1.1	15.0	3.0	100.0	365
20-24	16.4	23.1	11.2	11.3	10.6	11.0	5.0	2.4	4.8	4.1	100.0	529
25-34	17.6	18.0	16.7	3.5	7.9	8.3	7.6	11.9	4.7	3.9	100.0	617
35-49	20.8	7.7	11.5	0.5	20.1	4.5	9.5	18.9	2.4	4.1	100.0	169
Residence												
Urban	16.5	22.2	11.1	9.1	10.2	6.9	5.7	7.4	6.4	4.4	100.0	1,111
Rural	13.2	18.7	12.9	11.4	8.1	11.8	7.1	6.9	7.4	2.6	100.0	570
Zone												
Coastal	15.6	20.6	11.9	7.2	9.3	9.5	6.1	9.2	7.2	3.5	100.0	905
Middle	15.7	21.5	11.7	12.7	9.7	7.2	6.6	4.7	6.0	4.2	100.0	728
Northern	6.9	22.0	8.5	19.1	9.0	9.6	1.4	10.5	9.7	3.3	100.0	48
Region												
Western	16.5	16.0	11.0	9.1	15.5	9.3	6.9	8.2	6.1	1.4	100.0	288
Central	17.5	16.3	9.0	10.4	6.6	14.5	9.4	6.3	6.0	4.0	100.0	133
Greater Accra	14.7	25.5	12.8	4.6	6.2	7.4	4.6	11.7	8.5	3.9	100.0	376
Volta	13.7	20.9	14.6	7.1	7.2	11.6	4.6	6.4	7.2	6.7	100.0	108
Eastern	12.1	27.6	17.8	7.7	6.8	11.5	2.6	7.1	2.0	4.7	100.0	148
Ashanti	19.1	22.8	10.3	8.3	11.6	5.2	7.4	3.8	6.6	4.7	100.0	414
Brong Ahafo	10.5	12.8	9.8	27.9	7.4	8.3	8.1	4.7	8.0	2.5	100.0	166
Northern	(7.6)	(14.7)	(7.0)	(22.8)	(8.5)	(11.9)	(2.0)	(2.5)	(16.6)	(6.2)	(100.0)	19
Upper East	(4.4)	(23.8)	(12.9)	(10.7)	(7.5)	(13.3)	(0.0)	(18.5)	(5.2)	(3.7)	(100.0)	12
Upper West	7.8	28.6	7.1	20.9	10.5	4.5	1.7	13.6	5.3	0.0	100.0	17
Education												
No education	29.1	12.0	9.7	0.8	13.5	6.2	9.8	11.5	3.2	4.2	100.0	142
Primary	20.4	15.2	18.7	0.6	10.3	10.4	7.7	5.4	5.4	5.8	100.0	271
Middle/JSS/JHS	16.9	20.6	12.8	8.2	9.7	9.0	5.5	6.9	6.3	4.1	100.0	772
Secondary/SSS/SHS	6.1	23.5	7.2	21.7	7.3	8.6	6.7	6.2	10.0	2.7	100.0	375
More than secondary	7.1	40.3	5.6	15.7	7.7	4.0	0.8	12.1	6.6	0.0	100.0	119
Wealth quintile												
Lowest	6.9	16.3	10.0	13.1	12.4	13.7	4.3	13.3	6.3	3.7	100.0	91
Second	19.3	20.4	10.0	11.2	10.7	9.6	5.2	3.4	7.0	3.1	100.0	287
Middle	20.3	16.7	10.3	11.7	10.2	9.5	5.7	4.1	6.1	5.4	100.0	401
Fourth	15.6	17.5	13.2	8.2	8.9	9.3	6.6	7.8	8.9	3.9	100.0	499
Highest	9.3	31.2	12.9	8.5	8.0	4.7	7.2	11.1	4.6	2.5	100.0	402
Total	15.4	21.0	11.7	9.9	9.5	8.5	6.2	7.3	6.7	3.8	100.0	1,680

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Including nobody to help look after the baby, wanted to continue working, wanted no more children
[2] Including did not want to stay with partner, did not love the father, father of child died
[3] Including health of mother, foetus not viable, risk of birth defect
[4] Including rape and other

Table 6.5 Partner's attitude towards most recent induced abortion

Percent distribution of partner's attitude towards most recent induced abortion in the 5 years preceding the survey among women age 15-49, according to background characteristics, Ghana MHS 2017

Background characteristic	Partner's attitude towards most recent induced abortion					Total	Number of women
	Favoured	Opposed	Neutral	Not aware	Don't know/ don't remember		
Woman's age at time of abortion							
<20	54.9	18.4	8.4	16.0	2.3	100.0	365
20-34	51.6	18.9	8.6	20.3	0.6	100.0	1,146
35-49	52.2	12.0	5.2	29.5	1.1	100.0	169
Residence							
Urban	52.3	19.4	7.8	19.6	0.9	100.0	1,111
Rural	52.5	15.6	9.1	21.7	1.1	100.0	570
Zone							
Coastal	57.6	15.7	6.7	19.4	0.6	100.0	905
Middle	46.1	21.4	9.7	21.2	1.6	100.0	728
Northern	48.4	14.0	14.6	23.0	0.0	100.0	48
Region							
Western	63.8	8.9	7.4	19.9	0.0	100.0	288
Central	52.9	16.1	7.9	23.0	0.0	100.0	133
Greater Accra	54.8	20.9	6.4	16.5	1.4	100.0	376
Volta	56.5	15.0	4.9	23.6	0.0	100.0	108
Eastern	46.1	21.6	8.5	21.5	2.3	100.0	148
Ashanti	44.5	22.6	9.8	22.0	1.1	100.0	414
Brong Ahafo	50.1	18.2	10.4	19.1	2.2	100.0	166
Northern	(53.6)	(8.4)	(17.4)	(20.6)	(0.0)	(100.0)	19
Upper East	(59.2)	(24.6)	(9.7)	(6.6)	(0.0)	(100.0)	12
Upper West	35.5	13.0	14.8	36.7	0.0	100.0	17
Education							
No education	58.7	11.5	9.5	17.8	2.5	100.0	142
Primary	49.3	15.3	8.5	26.5	0.3	100.0	271
Middle/JSS/JHS	49.0	18.5	9.7	21.4	1.4	100.0	772
Secondary/SSS/SHS	56.9	22.1	5.3	15.3	0.5	100.0	375
More than secondary	59.1	17.4	5.9	17.5	0.0	100.0	119
Wealth quintile							
Lowest	56.8	16.9	5.0	20.4	0.9	100.0	91
Second	46.0	15.1	14.7	22.6	1.7	100.0	287
Middle	55.6	17.8	6.0	20.4	0.2	100.0	401
Fourth	53.6	17.4	8.0	19.6	1.4	100.0	499
Highest	51.2	21.8	6.8	19.4	0.8	100.0	402
Total	52.4	18.1	8.2	20.3	1.0	100.0	1,680

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

Table 6.6 Only/final method of most recent induced abortion

Percentage of women age 15-49 who made more than one attempt to induce the most recent induced abortion in the 5 years preceding the survey and percent distribution of only/final method, according to background characteristics, Ghana MHS 2017

Background characteristic	Percentage who made more than one attempt to induce the most recent induced abortion	Only/final method										
		Miso-prostol/ Cytotec tablets	Mife-pristone and miso-prostol/ Medabon tablets	Oxytocin/ IV	D&C/ D&E[1]	Vacuum aspiration	Saline instillation	Catheter	Other injection	Non-medical methods[2]	Total	Number of women
Woman's age at time of abortion												
<20	15.3	25.4	18.7	0.9	18.2	4.6	0.6	0.0	1.6	29.9	100.0	365
20-34	14.1	16.1	21.8	0.3	25.3	7.3	0.7	0.1	1.9	26.5	100.0	1,146
35-49	12.0	15.1	11.8	0.7	31.7	11.4	1.7	0.0	0.4	27.3	100.0	169
Residence												
Urban	13.3	18.5	22.1	0.2	25.1	7.3	0.6	0.0	1.4	24.8	100.0	1,111
Rural	15.8	17.2	16.3	1.1	23.0	6.7	1.1	0.1	2.2	32.3	100.0	570
Zone												
Coastal	11.0	18.6	19.1	0.8	22.1	10.0	0.7	0.0	1.6	27.1	100.0	905
Middle	17.8	17.4	21.7	0.2	26.6	3.7	0.9	0.0	1.9	27.5	100.0	728
Northern	18.6	16.7	14.1	0.0	33.2	4.4	0.3	1.4	0.8	29.1	100.0	48
Region												
Western	16.3	18.5	12.8	2.0	21.3	10.9	0.2	0.0	2.0	32.3	100.0	288
Central	12.5	14.0	41.0	0.0	17.7	1.1	0.0	0.0	0.0	26.2	100.0	133
Greater Accra	6.6	19.0	20.7	0.0	23.0	12.4	1.2	0.0	1.6	22.2	100.0	376
Volta	10.5	23.1	3.7	1.1	27.0	10.1	1.2	0.0	2.3	31.6	100.0	108
Eastern	19.5	21.4	17.1	0.0	34.6	3.2	0.6	0.0	0.5	22.6	100.0	148
Ashanti	19.4	17.1	23.5	0.0	26.4	2.0	1.1	0.0	3.0	27.0	100.0	414
Brong Ahafo	12.1	14.8	21.4	0.9	20.1	8.4	0.7	0.0	0.5	33.2	100.0	166
Northern	(14.4)	(19.3)	(11.6)	(0.0)	(34.9)	(7.0)	(0.0)	(3.6)	(2.1)	(21.5)	(100.0)	19
Upper East	(16.3)	(14.4)	(10.7)	(0.0)	(35.3)	(0.0)	(0.0)	(0.0)	(0.0)	(39.5)	(100.0)	12
Upper West	24.6	15.4	19.0	0.0	29.8	4.6	0.9	0.0	0.0	30.2	100.0	17
Education												
No education	15.7	11.7	12.3	0.0	20.2	12.6	2.4	0.0	0.0	40.9	100.0	142
Primary	16.4	17.3	17.2	0.0	18.4	5.5	1.6	0.0	2.3	37.7	100.0	271
Middle/JSS/JHS	13.3	17.9	18.8	0.6	25.2	7.0	0.6	0.0	1.6	28.3	100.0	772
Secondary/SSS/ SHS	15.8	22.4	23.2	1.0	26.0	6.3	0.1	0.2	2.1	18.7	100.0	375
More than secondary	7.8	14.3	35.0	0.0	33.1	7.6	0.0	0.0	1.4	8.6	100.0	119
Wealth quintile												
Lowest	24.2	12.0	7.0	1.6	27.1	9.0	0.0	0.0	4.5	38.8	100.0	91
Second	16.9	15.4	18.5	0.8	14.5	3.2	1.3	0.0	2.7	43.6	100.0	287
Middle	12.5	18.3	21.0	0.9	21.2	7.6	1.9	0.2	1.2	27.7	100.0	401
Fourth	15.7	22.3	20.2	0.2	25.8	8.8	0.2	0.0	0.4	22.1	100.0	499
Highest	9.6	15.7	23.3	0.0	32.2	6.9	0.1	0.0	2.5	19.3	100.0	402
Total	14.2	18.0	20.1	0.5	24.4	7.1	0.8	0.0	1.7	27.3	100.0	1,680

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Dilation and curettage or dilation and evacuation
[2] Non-medical methods include drinking milk/coffee/alcohol/other liquid with sugar, drinking an herbal concoction, drinking another home remedy, using an herbal enema, inserting a substance into the vagina, heavy massage, excessive physical activity, tablets (exact kind unknown), and other.

Table 6.7 Assistance for and location of most recent induced abortion

Percent distribution of source of assistance for and location of the only/final method used for the most recent induced abortion in the 5 years preceding the survey among women age 15-49, according to background characteristics, Ghana MHS 2017

	Assistance						Location						
Background characteristic	Health care person-nel[1]	Phar-macist/ chemi-cal seller	Relative or friend	Other[2]	Nobody	Total	Health facility: public[3]	Health facility: private[4]	Phar-macy/ chemist/ drug-store	Home[5]	Other	Total	Number of women
Woman's age at time of abortion													
<20	30.5	37.5	19.4	4.5	8.1	100.0	16.3	12.6	24.8	44.8	1.5	100.0	365
20-34	43.1	32.1	10.6	2.7	11.4	100.0	20.0	21.6	22.5	35.1	0.8	100.0	1,146
35-49	52.2	26.6	8.7	4.5	7.9	100.0	27.0	23.7	15.1	32.6	1.6	100.0	169
Residence													
Urban	41.6	36.1	10.7	2.3	9.3	100.0	18.9	20.9	23.4	35.9	0.9	100.0	1,111
Rural	40.6	26.2	15.6	5.2	12.4	100.0	21.9	17.7	20.1	38.9	1.4	100.0	570
Zone													
Coastal	43.9	32.5	9.8	3.1	10.7	100.0	18.0	23.5	24.5	33.3	0.6	100.0	905
Middle	37.2	33.7	15.6	3.5	10.0	100.0	20.8	16.0	19.9	41.7	1.5	100.0	728
Northern	52.1	23.6	11.1	4.3	9.0	100.0	41.8	8.1	15.4	33.2	1.5	100.0	48
Region													
Western	40.9	26.7	14.5	5.5	12.4	100.0	20.0	19.5	23.0	36.8	0.8	100.0	288
Central	34.7	48.9	7.7	2.3	6.4	100.0	12.3	20.1	33.0	34.6	0.0	100.0	133
Greater Accra	48.1	34.7	7.0	1.6	8.5	100.0	16.0	28.7	23.9	30.9	0.5	100.0	376
Volta	49.0	19.8	9.5	2.6	19.0	100.0	26.9	20.3	20.5	30.7	1.6	100.0	108
Eastern	49.1	18.0	18.8	0.8	13.3	100.0	33.2	15.2	21.4	30.2	0.0	100.0	148
Ashanti	34.0	39.4	13.9	3.4	9.3	100.0	16.4	17.0	18.0	47.2	1.4	100.0	414
Brong Ahafo	34.5	33.7	16.8	6.0	8.9	100.0	20.9	14.3	23.2	38.4	3.3	100.0	166
Northern	(58.2)	(25.0)	(6.4)	(2.1)	(8.2)	(100.0)	(43.1)	(13.4)	(14.1)	(29.4)	(0.0)	(100.0)	19
Upper East	(54.7)	(20.3)	(6.9)	(7.5)	(10.7)	(100.0)	(41.5)	(7.1)	(13.7)	(31.6)	(6.1)	(100.0)	12
Upper West	43.6	24.2	18.9	4.6	8.7	100.0	40.5	3.1	18.1	38.3	0.0	100.0	17
Education													
No education	36.8	33.7	7.2	5.3	17.1	100.0	15.6	19.9	24.1	39.4	1.1	100.0	142
Primary	35.6	28.4	17.8	5.2	13.1	100.0	20.4	13.5	23.3	41.6	1.2	100.0	271
Middle/JSS/JHS	39.3	35.0	12.8	3.6	9.4	100.0	19.3	18.7	19.1	41.6	1.3	100.0	772
Secondary/SSS/SHS	46.3	32.5	10.9	1.5	8.8	100.0	22.2	21.8	25.8	30.0	0.3	100.0	375
More than secondary	56.4	28.0	7.8	0.0	7.8	100.0	21.0	35.5	26.8	15.4	1.2	100.0	119
Wealth quintile													
Lowest	48.1	17.6	12.5	3.3	18.4	100.0	37.8	8.5	12.8	37.9	3.0	100.0	91
Second	31.7	32.5	15.8	6.9	13.1	100.0	17.8	13.2	26.5	40.6	1.9	100.0	287
Middle	36.1	36.6	16.1	3.3	7.9	100.0	16.9	17.6	21.8	43.0	0.7	100.0	401
Fourth	43.0	35.9	9.1	2.5	9.5	100.0	21.4	19.7	21.6	36.4	0.9	100.0	499
Highest	49.5	28.6	10.1	1.6	10.1	100.0	18.6	29.6	22.7	28.7	0.4	100.0	402
Total	41.3	32.8	12.3	3.3	10.4	100.0	19.9	19.8	22.3	36.9	1.0	100.0	1,680

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Doctor, nurse/midwife, or community health officer/nurse
[2] Traditional birth attendant, community health volunteer, traditional practitioner, or other
[3] Government hospital, government health centre/clinic, government health post/CHPS, mobile clinic/outreach, other public sector
[4] Private hospital/clinic, family planning/Planned Parenthood Association of Ghana clinic, mobile clinic/outreach, maternity home, other private medical sector
[5] Respondent's home, traditional birth attendant's home, other home

Table 6.8 Payment for, medications used during, and experience of health problems after most recent induced abortion

Percentage of women age 15-49 who had an induced abortion in the 5 years preceding the survey who made a payment for the only/final method of the most recent induced abortion, percentage who took antibiotics after the only/final method, percentage who took pain relievers during/after the only/final method, and percentage who had any health problems in the month after the only/final method, according to background characteristics, Ghana MHS 2017

Background characteristic	Payment made for only/final method	Took antibiotics	Took pain relievers	Any health problems in month after only/final method	Number of women
Woman's age at time of abortion					
<20	96.0	62.0	58.0	17.1	365
20-34	91.6	63.4	63.4	14.0	1,146
35-49	94.9	74.8	73.6	7.3	169
Residence					
Urban	94.7	65.8	64.9	13.4	1,111
Rural	89.5	61.2	60.0	15.1	570
Zone					
Coastal	94.8	64.6	67.3	13.5	905
Middle	91.3	64.0	58.1	14.1	728
Northern	82.7	63.1	63.3	20.6	48
Region					
Western	94.2	62.2	62.2	14.1	288
Central	93.5	58.4	63.0	12.4	133
Greater Accra	95.8	68.1	71.8	13.3	376
Volta	94.0	66.4	70.6	14.4	108
Eastern	88.4	67.9	61.8	17.4	148
Ashanti	92.7	61.2	58.3	13.7	414
Brong Ahafo	90.3	67.2	54.5	12.1	166
Northern	(89.1)	(72.0)	(74.0)	(23.5)	19
Upper East	(88.7)	(65.7)	(65.7)	(12.5)	12
Upper West	71.8	51.7	50.1	23.0	17
Education					
No education	89.3	65.1	60.4	12.9	142
Primary	90.7	55.1	56.9	9.7	271
Middle/JSS/JHS	92.6	65.3	63.7	13.3	772
Secondary/SSS/SHS	95.9	62.9	63.1	18.8	375
More than secondary	94.9	81.4	78.6	14.2	119
Wealth quintile					
Lowest	82.3	50.0	52.9	15.7	91
Second	91.9	59.8	59.2	14.6	287
Middle	92.7	61.9	57.2	14.1	401
Fourth	94.8	67.1	66.4	14.1	499
Highest	93.9	69.5	70.5	12.9	402
Total	92.9	64.3	63.2	14.0	1,680

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

Table 6.9 Health problems and treatment after induced abortion

Among women age 15-49 who had an induced abortion in the 5 years preceding the survey, percentage who did not experience problems in the 1 month after the only/final method of the most recent induced abortion, and percentage who experienced problems; among women who experienced problems, percentage who got treatment; and among women who got treatment, percentage who received various types of treatment, according to problems, Ghana MHS 2017

Problem	Problems in the 1 month after the only/final method of induced abortion		Number of women	Got treatment	Number of women who experienced problems	Type of treatment				Number of women who experienced problems and got treatment
	Did not experience problem	Experienced problem				Operation	Blood transfusion	Antibiotics	Other	
Bleeding	91.6	8.4	1,680	58.5	142	10.8	0.9	61.7	33.1	83
Pain	88.3	11.7	1,680	57.6	196	7.9	1.0	62.3	36.3	113
Fever	94.4	5.6	1,680	68.4	93	(11.3)	(0.6)	(68.1)	(34.5)	64
Injury/perforation	99.5	0.5	1,680	*	8	*	*	*	*	5
Foul-smelling discharge	95.6	4.4	1,680	56.0	75	(4.9)	(0.0)	(69.2)	(39.8)	42
Other	96.3	3.7	1,680	(58.8)	62	(3.8)	(3.1)	(57.1)	(45.2)	36
Total	86.0	14.0	1,680	57.3	235	6.6	1.1	63.9	36.1	135

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.

Table 6.10 Contraception use before and discussions of contraception before and after induced abortion

Percentage of women age 15-49 who had an induced abortion in the past 5 years and were using any method of contraception at the time they got pregnant before the most recent induced abortion, percentage with whom a health professional discussed contraception before or after the most recent induced abortion, and percentage who received contraceptive support from a health worker after the most recent induced abortion; among women with whom a health worker discussed contraception, percent distribution by timing of discussion vis-à-vis most recent induced abortion; and among women to whom a health worker provided contraceptive support after the most recent induced abortion, percent distribution by kind of support, according to background characteristics, Ghana MHS 2017

Background characteristic	Using contra-ception when became pregnant	Discus-sed contra-ception with a health worker	Re-ceived contra-ception support after abortion	Number of women	Timing of contraception discussion: Before most recent induced abortion only	Timing of contraception discussion: After most recent induced abortion only	Timing of contraception discussion: Both before and after most recent induced abortion	Total	Number of women with whom a health profes-sional discus-sed contra-ception	How contraceptive support after most recent induced abortion was provided: Gave method	How contraceptive support after most recent induced abortion was provided: Pre-scribed method	How contraceptive support after most recent induced abortion was provided: Gave referral	How contraceptive support after most recent induced abortion was provided: Don't know	Total	Number of women to whom a health worker provided contra-ceptive support after abortion
Woman's age at time of abortion															
<20	12.2	22.6	18.6	365	25.7	62.5	11.8	100.0	82	40.9	55.2	3.9	0.0	100.0	68
20-34	21.8	33.9	19.5	1,146	33.0	48.8	18.1	100.0	389	32.5	61.0	5.8	0.7	100.0	223
35-49	21.2	31.2	20.2	169	43.8	41.9	14.4	100.0	53	(46.3)	(51.3)	(2.4)	(0.0)	(100.0)	34
Residence															
Urban	18.8	29.5	17.3	1,111	34.2	46.4	19.4	100.0	328	29.0	64.5	6.5	0.0	100.0	192
Rural	21.4	34.5	23.5	570	30.9	56.7	12.4	100.0	196	45.3	50.6	3.0	1.1	100.0	134
Zone															
Coastal	15.6	30.1	20.5	905	30.1	50.4	19.5	100.0	272	27.2	68.6	3.4	0.8	100.0	185
Middle	24.9	31.3	17.3	728	38.4	48.3	13.3	100.0	228	46.8	46.7	6.5	0.0	100.0	126
Northern	18.1	50.2	29.3	48	13.3	68.4	18.2	100.0	24	49.2	36.9	13.9	0.0	100.0	14
Region															
Western	21.0	26.2	18.9	288	29.7	49.5	20.8	100.0	76	(31.7)	(66.4)	(1.9)	(0.0)	(100.0)	55
Central	10.0	31.0	12.8	133	(61.1)	(28.4)	(10.5)	(100.0)	41	*	*	*	*	*	17
Greater Accra	14.4	33.5	25.4	376	22.8	52.1	25.1	100.0	126	(23.0)	(73.1)	(3.9)	(0.0)	(100.0)	96
Volta	12.1	27.5	16.9	108	(19.2)	(75.7)	(5.1)	(100.0)	30	*	*	*	*	*	18
Eastern	27.7	42.4	32.3	148	24.7	62.9	12.4	100.0	63	(47.3)	(50.0)	(2.8)	(0.0)	(100.0)	48
Ashanti	22.8	26.1	11.8	414	44.4	44.5	11.1	100.0	108	(34.6)	(51.2)	(14.2)	(0.0)	(100.0)	49
Brong Ahafo	27.6	34.3	17.8	166	42.3	39.1	18.6	100.0	57	(66.1)	(33.9)	(0.0)	(0.0)	(100.0)	29
Northern	(10.0)	(51.9)	(32.0)	19	(12.0)	(77.6)	(10.4)	(100.0)	10	*	*	*	*	*	6
Upper East	(29.4)	(50.1)	(32.1)	12	*	*	*	*	6	*	*	*	*	*	4
Upper West	19.2	48.3	24.5	17	(7.1)	(61.2)	(31.6)	(100.0)	8	*	*	*	*	*	4
Education															
No education	24.0	25.8	18.1	142	(22.4)	(61.9)	(15.7)	(100.0)	37	(32.0)	(62.8)	(5.2)	(0.0)	(100.0)	26
Primary	13.3	27.7	16.4	271	32.2	55.5	12.3	100.0	75	(70.1)	(29.9)	(0.0)	(0.0)	(100.0)	44
Middle/JSS/JHS	18.3	31.2	19.3	772	36.5	43.3	20.1	100.0	241	33.4	58.6	8.0	0.0	100.0	149
Secondary/SSS/SHS	19.9	36.4	23.1	375	29.2	58.3	12.5	100.0	136	26.2	70.9	1.1	1.7	100.0	87
More than secondary	37.1	28.8	16.3	119	(36.1)	(43.3)	(20.6)	(100.0)	34	*	*	*	*	*	19
Wealth quintile															
Lowest	17.5	35.5	23.9	91	16.7	54.7	28.6	100.0	32	(42.2)	(55.5)	(2.3)	(0.0)	(100.0)	22
Second	15.4	26.3	22.1	287	37.4	51.5	11.0	100.0	76	40.2	55.4	4.5	0.0	100.0	63
Middle	18.7	29.3	15.7	401	37.1	44.2	18.7	100.0	117	52.4	45.2	2.4	0.0	100.0	63
Fourth	17.6	33.7	17.8	499	30.4	56.8	12.8	100.0	168	33.5	57.5	9.0	0.0	100.0	89
Highest	26.7	32.4	22.0	402	34.0	45.5	20.5	100.0	130	21.3	73.0	4.1	1.7	100.0	89
Total	19.7	31.2	19.4	1,680	33.0	50.3	16.8	100.0	524	35.7	58.8	5.1	0.5	100.0	326

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.

Table 6.11 Abortion knowledge and access

Among women age 15-49, percentage who ever had an abortion, percentage who have not had an abortion but know what abortion is, and percentage who know what abortion is; among women who have not had an abortion but know what it is, percentage who are able to get an abortion and percentage who know a place to get an abortion; and among women who have had an abortion or who know what abortion is, percentage who know that abortion is legal, according to background characteristics, Ghana MHS 2017

Background characteristic	Ever had an abortion	Never had an abortion but know what abortion is	Know what abortion is (ever had an abortion or never had an abortion but know what abortion is)	Number of women	Women who have not had an abortion but know what it is and		Number of women	Know that abortion is legal	Number of women who have had an abortion or know what it is
					Are able to get an abortion	Know a place to get an abortion			
Age									
<20	3.3	90.4	93.7	4,785	20.6	53.5	4,326	10.1	4,482
20-34	21.7	74.0	95.7	12,146	27.6	60.3	8,992	13.1	11,622
35-49	26.2	68.4	94.6	8,132	24.7	53.7	5,565	9.6	7,696
Residence									
Urban	23.6	73.1	96.7	13,752	28.2	59.7	10,052	14.2	13,298
Rural	14.8	78.1	92.9	11,310	21.7	53.5	8,831	7.8	10,503
Zone									
Coastal	21.8	74.7	96.4	12,121	24.5	54.0	9,052	11.3	11,689
Middle	22.4	74.7	97.2	9,674	28.6	60.8	7,231	11.2	9,401
Northern	3.4	79.6	82.9	3,267	17.9	55.3	2,600	12.1	2,710
Region									
Western	20.8	74.9	95.7	3,230	20.5	46.6	2,419	6.8	3,092
Central	18.4	78.4	96.8	2,218	34.2	55.7	1,739	9.4	2,148
Greater Accra	26.4	69.9	96.3	4,673	28.0	57.9	3,265	16.6	4,501
Volta	15.9	81.5	97.4	2,000	13.1	55.7	1,629	8.5	1,948
Eastern	19.9	76.5	96.4	2,517	12.3	72.3	1,925	17.8	2,426
Ashanti	24.9	73.1	98.0	4,790	37.3	61.6	3,499	9.9	4,693
Brong Ahafo	20.1	76.3	96.4	2,367	28.9	46.9	1,806	6.9	2,281
Northern	2.8	76.9	79.7	1,786	15.3	55.6	1,373	11.7	1,423
Upper East	3.5	82.5	86.0	854	14.2	54.0	705	13.3	734
Upper West	4.8	83.2	88.0	628	29.8	56.3	523	11.5	553
Education									
No education	11.6	75.9	87.5	4,585	18.1	42.6	3,482	4.0	4,013
Primary	21.0	72.1	93.1	3,934	21.0	50.3	2,838	6.5	3,664
Middle/JSS/JHS	23.8	73.2	97.0	10,081	25.9	56.9	7,377	8.1	9,775
Secondary/SSS/SHS	18.7	79.3	97.9	4,550	29.0	65.6	3,607	17.8	4,456
More than secondary	16.3	82.6	99.0	1,912	35.9	79.3	1,580	38.4	1,892
Wealth quintile									
Lowest	6.1	79.7	85.8	4,064	15.9	44.7	3,241	6.2	3,488
Second	16.3	79.1	95.4	4,721	23.1	52.4	3,734	6.4	4,504
Middle	21.4	75.0	96.4	5,111	26.4	56.2	3,834	7.1	4,927
Fourth	26.9	70.1	97.0	5,443	27.5	61.4	3,814	12.5	5,279
Highest	23.5	74.4	97.9	5,723	30.8	66.2	4,260	21.3	5,602
Total	19.6	75.3	95.0	25,062	25.2	56.8	18,883	11.4	23,801

Table 6.12 Knowledge of places to get an abortion

Among women age 15-49 who have not had an abortion but know what one is and know of a place to get an abortion, percentage who report specific places to get an abortion, according to background characteristics, Ghana MHS 2017

Background characteristic	Public sources			Private sources				Number of women who have not had an abortion but know what it is and know of a place to get one
	Government hospital	Government health centre/clinic	Other public[1]	Private hospital/clinic	Pharmacy/ chemist/ drugstore	Other private[2]	Other sources[3]	
Age								
15-19	72.7	24.5	4.2	26.8	22.9	5.8	10.3	2,316
20-24	70.4	25.0	5.6	32.4	22.6	8.8	10.9	2,117
25-29	71.9	24.5	5.1	33.7	22.3	9.0	11.0	1,778
30-34	72.0	24.6	4.9	33.1	17.6	10.3	10.6	1,523
35-39	74.1	22.1	4.1	27.8	15.8	7.2	9.4	1,218
40-44	69.5	22.5	2.7	28.9	15.7	9.7	7.8	932
45-49	76.9	25.2	4.0	24.9	12.6	7.3	9.3	841
Residence								
Urban	72.6	21.2	3.8	39.8	21.9	10.5	10.2	6,002
Rural	71.8	28.1	5.5	17.7	17.1	5.2	10.2	4,723
Zone								
Coastal	73.1	27.3	5.3	35.2	18.0	11.6	11.1	4,892
Middle	69.9	17.1	2.6	29.9	23.0	5.6	10.3	4,394
Northern	76.2	35.3	7.9	13.1	15.6	4.3	6.4	1,439
Region								
Western	68.0	32.9	3.5	19.4	13.4	10.6	10.6	1,127
Central	76.6	28.3	5.6	26.2	17.4	7.8	13.4	968
Greater Accra	70.5	23.0	4.0	57.1	22.5	14.7	13.1	1,889
Volta	81.1	28.0	10.0	19.1	14.9	10.6	5.2	907
Eastern	76.5	13.4	2.2	16.3	14.0	5.2	7.2	1,391
Ashanti	68.8	17.0	2.8	40.6	29.4	4.9	12.2	2,156
Brong Ahafo	61.9	23.5	3.1	25.2	21.8	8.0	10.6	847
Northern	80.2	28.7	8.9	12.5	20.8	6.0	8.9	764
Upper East	75.1	45.0	6.4	18.0	7.2	2.5	2.4	381
Upper West	67.4	40.0	7.4	8.1	13.2	2.0	5.3	294
Education								
No education	70.6	28.4	6.8	15.6	14.5	5.8	9.7	1,483
Primary	72.8	24.9	4.4	18.3	17.0	7.7	9.6	1,427
Middle/JSS/JHS	71.5	24.0	4.4	27.9	20.1	6.9	11.3	4,198
Secondary/SSS/SHS	72.0	22.2	2.8	38.5	23.6	8.9	9.4	2,365
More than secondary	76.3	22.7	6.1	52.1	20.5	14.3	9.2	1,252
Wealth quintile								
Lowest	69.2	31.6	7.3	10.3	15.2	3.8	8.9	1,450
Second	74.2	26.7	5.5	17.1	16.2	6.3	9.8	1,956
Middle	72.6	24.4	2.8	24.3	21.3	6.8	11.0	2,156
Fourth	71.6	21.7	4.2	35.1	21.8	9.7	10.5	2,342
Highest	72.6	20.6	4.2	49.6	21.7	11.5	10.2	2,821
Total	72.2	24.2	4.6	30.1	19.8	8.2	10.2	10,725

[1] Government health post/CHPS, mobile clinic/outreach, family planning clinic, fieldworker, other public sector
[2] Private doctor, mobile clinic/outreach, fieldworker, family planning/Planned Parenthood Association of Ghana clinic, maternity home, other private medical sector
[3] Shop, church, friend/relative, other

Table 6.13 Miscarriage causes

Percent distribution of cause of most recent miscarriage in the 5 years preceding the survey among women age 15-49, according to background characteristics, Ghana MHS 2017

Background characteristic	Cause of miscarriage						Total	Number of miscarriages
	Accident	Something she ate	Someone hurt her	Spontaneous	Other	Don't know		
Woman's age at time of miscarriage								
<20	12.0	4.1	5.5	68.6	9.1	0.6	100.0	142
20-34	10.8	2.4	3.1	73.1	9.7	0.8	100.0	1,177
35-49	8.9	1.7	1.1	78.6	9.3	0.5	100.0	472
Residence								
Urban	9.8	2.7	2.9	72.5	11.4	0.7	100.0	973
Rural	11.0	2.0	2.7	76.2	7.4	0.7	100.0	819
Zone								
Coastal	10.5	1.6	3.8	74.2	9.3	0.7	100.0	849
Middle	11.3	3.3	1.9	72.0	11.0	0.5	100.0	756
Northern	6.2	2.0	2.0	83.2	5.1	1.5	100.0	186
Region								
Western	7.8	3.0	6.6	71.6	10.2	0.9	100.0	240
Central	14.4	1.2	2.0	72.2	9.6	0.5	100.0	167
Greater Accra	12.4	1.1	1.7	72.8	11.4	0.5	100.0	313
Volta	5.7	0.7	5.9	84.6	2.0	1.1	100.0	129
Eastern	14.0	2.5	2.8	76.0	4.7	0.0	100.0	166
Ashanti	10.8	4.0	1.6	68.7	14.5	0.4	100.0	421
Brong Ahafo	9.7	2.4	1.6	76.4	8.6	1.4	100.0	169
Northern	4.9	1.3	2.4	86.3	2.9	2.1	100.0	96
Upper East	4.8	3.8	0.5	81.5	7.7	1.7	100.0	49
Upper West	10.7	1.5	3.0	77.8	6.9	0.0	100.0	41
Education								
No education	6.3	1.2	3.6	83.3	4.6	1.0	100.0	300
Primary	11.6	2.5	3.7	71.4	9.9	0.9	100.0	282
Middle/JSS/JHS	9.4	3.1	2.7	74.3	10.3	0.3	100.0	748
Secondary/SSS/SHS	16.4	2.7	1.5	68.1	10.1	1.1	100.0	318
More than secondary	7.5	0.2	2.9	73.7	14.4	1.3	100.0	144
Wealth quintile								
Lowest	9.1	2.4	2.9	82.0	2.9	0.8	100.0	227
Second	8.4	1.2	2.9	77.1	8.4	1.9	100.0	300
Middle	11.5	2.7	5.7	67.8	11.9	0.4	100.0	365
Fourth	11.3	3.2	2.1	73.4	9.5	0.4	100.0	441
Highest	10.4	2.0	1.0	74.3	11.9	0.4	100.0	458
Total	10.4	2.4	2.8	74.2	9.6	0.7	100.0	1,791

Table 6.14 Seeking help after miscarriage

Percentage of women age 15-49 who had a miscarriage in the 5 years preceding the survey who sought help after the most recent miscarriage, and among women who sought help, from whom and where they sought help, according to background characteristics, Ghana MHS 2017

Background characteristic	Sought help	Number of women	Assistance			Location: public sources			Location: private sources				Number of women who sought help
			Doctor	Nurse/ midwife	Other	Govern-ment hospital	Govern-ment health centre/ clinic	Other public[1]	Private hospital/ clinic	Phar-macy/ chemist/ drug-store	Other private[2]	Other sources[3]	
Woman's age at time of miscarriage													
<20	70.2	142	51.0	61.7	10.8	56.3	26.8	5.2	4.4	4.5	0.0	3.2	100
20-34	75.7	1,177	62.7	45.5	10.8	53.2	20.2	2.1	16.3	3.3	2.8	5.2	891
35-49	71.4	472	68.3	48.1	10.1	56.5	20.1	1.6	16.6	3.6	3.9	4.9	337
Residence													
Urban	75.4	973	71.0	42.2	9.0	54.8	16.0	1.2	19.4	2.8	4.2	5.3	734
Rural	72.6	819	53.8	53.8	12.6	53.7	26.5	3.4	10.7	4.2	1.2	4.5	594
Zone													
Coastal	71.4	849	64.9	45.3	10.3	52.0	19.3	1.4	16.6	4.3	2.6	5.8	606
Middle	76.0	756	62.7	48.6	10.8	57.0	19.2	1.5	17.0	2.5	3.7	4.7	575
Northern	78.9	186	58.9	51.1	10.9	53.5	32.0	8.0	5.0	3.5	0.7	2.6	147
Region													
Western	70.8	240	60.4	47.3	8.7	47.5	23.9	1.2	22.1	2.9	2.3	3.3	170
Central	76.8	167	59.5	66.5	8.4	68.4	14.9	4.3	5.5	2.8	0.8	5.5	128
Greater Accra	70.5	313	72.3	30.1	12.1	47.3	17.7	0.5	18.5	6.3	4.7	6.5	220
Volta	67.8	129	63.0	48.5	11.9	48.3	20.9	0.0	17.2	3.9	0.6	9.1	88
Eastern	68.5	166	55.2	49.7	11.2	68.0	11.1	2.8	12.4	4.7	0.0	4.6	114
Ashanti	81.3	421	67.5	48.9	7.7	53.0	19.7	0.4	22.3	1.7	4.5	3.8	342
Brong Ahafo	70.2	169	56.3	46.9	19.5	57.8	25.5	3.4	6.2	2.9	4.7	7.4	119
Northern	78.2	96	57.1	47.6	11.4	53.0	28.0	10.9	4.2	5.9	0.8	2.0	75
Upper East	82.9	49	64.9	54.8	13.1	53.5	32.2	5.2	9.7	1.2	0.7	4.4	41
Upper West	75.6	41	55.2	54.7	6.7	54.8	41.7	4.5	0.6	0.7	0.3	1.7	31
Education													
No education	66.8	300	56.6	48.6	15.2	48.2	33.5	5.1	6.7	2.2	2.5	7.4	201
Primary	73.7	282	55.8	51.9	10.1	56.9	23.9	4.8	11.2	4.9	4.2	2.0	208
Middle/JSS/JHS	71.6	748	59.9	51.9	10.7	53.1	23.2	1.1	14.6	3.8	2.7	5.0	535
Secondary/SSS/SHS	81.7	318	72.7	42.6	10.0	59.3	9.5	0.5	19.5	3.9	2.9	5.1	260
More than secondary	86.6	144	81.7	28.7	5.0	54.2	7.1	1.1	32.6	0.3	2.0	5.4	124
Wealth quintile													
Lowest	65.1	227	47.6	56.8	16.2	46.6	37.8	5.6	4.5	3.5	0.2	9.1	148
Second	68.3	300	47.5	58.9	14.3	49.5	27.7	6.3	11.2	6.9	2.3	1.4	205
Middle	75.2	365	65.2	57.4	7.4	64.3	21.5	0.7	10.0	2.6	0.8	2.6	275
Fourth	76.9	441	63.8	43.3	9.6	55.9	19.5	1.6	15.5	1.9	3.4	6.4	339
Highest	78.9	458	76.7	33.2	9.5	51.0	10.1	0.2	26.6	3.5	5.4	5.7	361
Total	74.1	1,791	63.3	47.4	10.6	54.3	20.7	2.2	15.5	3.4	2.9	4.9	1,328

[1] Government health post/CHPS, mobile clinic/outreach, other public sector
[2] Mobile clinic/outreach, family planning/Planned Parenthood Association of Ghana clinic, maternity home, other private medical sector
[3] Respondent's home, other home, traditional birth attendant's home, other

Table 6.15 Treatment after miscarriage

Percentage of women age 15-49 who had a miscarriage in the 5 years preceding the survey who had their uterus cleaned, percentage who took antibiotics, percentage who took pain relievers, and percentage who experienced any health problems in the 1 month after the most recent miscarriage, according to background characteristics, Ghana MHS 2017

Background characteristic	Uterus cleaned	Antibiotics	Pain relievers	Experienced health problems	Number of women
Woman's age at time of miscarriage					
<20	44.5	71.5	70.2	13.4	142
20-34	46.0	76.7	76.9	12.1	1,177
35-49	43.4	74.2	78.1	13.5	472
Residence					
Urban	46.3	74.5	77.6	10.4	973
Rural	43.9	76.9	75.6	15.2	819
Zone					
Coastal	42.7	72.2	75.6	10.8	849
Middle	46.4	78.2	77.8	13.8	756
Northern	51.8	80.8	77.6	15.6	186
Region					
Western	48.8	75.7	72.0	8.9	240
Central	45.0	75.9	79.1	10.9	167
Greater Accra	40.7	72.0	77.5	10.9	313
Volta	33.3	61.3	73.0	14.1	129
Eastern	51.5	79.4	79.9	14.8	166
Ashanti	47.9	80.5	79.7	14.2	421
Brong Ahafo	37.6	71.1	70.8	12.0	169
Northern	51.3	82.7	82.8	16.3	96
Upper East	56.5	82.0	71.6	13.2	49
Upper West	47.5	75.1	72.4	16.7	41
Education					
No education	42.8	70.0	73.1	10.5	300
Primary	43.5	77.2	78.5	17.0	282
Middle/JSS/JHS	40.6	73.2	73.9	10.9	748
Secondary/SSS/SHS	54.5	79.8	81.6	13.1	318
More than secondary	57.1	87.6	84.5	15.7	144
Wealth quintile					
Lowest	36.8	69.5	66.0	11.9	227
Second	35.0	72.3	73.9	16.2	300
Middle	52.0	77.4	76.3	12.9	365
Fourth	47.4	77.6	79.8	11.3	441
Highest	48.5	77.5	81.2	11.4	458
Total	45.2	75.6	76.7	12.6	1,791

Table 6.16 Health problems and treatment after miscarriage

Among women age 15-49 who had a miscarriage in the 5 years preceding the survey, percentage who did not experience problems in the 1 month after the most recent miscarriage, and percentage who experienced problems; among women who experienced problems, percentage who got treatment; and among women who got treatment, percentage who received various types of treatment, according to problems, Ghana MHS 2017

Problem	Problems in the 1 month after the miscarriage		Number of women	Got treatment	Number of women who experienced problems	Type of treatment				Number of women who experienced problems and got treatment
	Did not experience problem	Experienced problem				Operation	Blood transfusion	Antibiotics	Other	
Bleeding	93.8	6.2	1,791	72.4	112	4.8	1.7	67.3	37.1	81
Pain	90.3	9.7	1,791	71.6	174	4.8	0.7	74.0	31.3	125
Fever	94.2	5.8	1,791	73.7	105	4.1	2.9	70.8	36.5	77
Injury/perforation	99.3	0.7	1,791	*	12	*	*	*	*	5
Foul-smelling discharge	96.5	3.5	1,791	70.8	63	10.9	0.2	63.4	40.1	44
Other	97.1	2.9	1,791	88.9	52	(4.9)	(0.2)	(52.8)	(59.4)	46
Total	87.4	12.6	1,791	72.4	225	4.3	1.4	73.1	32.6	163

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.

Table 6.17 Contraception use before and discussions of contraception before and after miscarriage

Percentage of women age 15-49 who had a miscarriage in the past 5 years and were using any method of contraception at the time they got pregnant before the most recent miscarriage, percentage with whom a health professional discussed contraception before or after the most recent miscarriage, and percentage who received contraceptive support from a health worker after the most recent miscarriage; among women with whom a health worker discussed contraception, percent distribution by timing of discussion vis-à-vis most recent miscarriage; and among women to whom a health worker provided contraceptive support after the most recent miscarriage, percent distribution by kind of support, according to background characteristics, Ghana MHS 2017

Background characteristic	Using contra-ception when became pregnant	Discussed contra-ception with a health worker	Received contra-ception support after miscarriage	Number of women	Timing of contraception discussion				Number of women with whom a health professional discussed contra-ception	How contraceptive support after most recent miscarriage was provided					Number of women to whom a health worker provided contraceptive support after miscarriage
					Before most recent miscarriage only	After most recent miscarriage only	Both before and after most recent miscarriage	Total		Gave method	Prescribed method	Gave referral	Don't know	Total	
Woman's age at time of miscarriage															
<20	9.2	29.6	19.6	142	(24.2)	(57.0)	(18.8)	(100.0)	42	*	*	*	*	*	28
20-34	15.8	29.7	13.2	1,177	39.1	45.9	15.0	100.0	349	35.3	55.9	8.3	0.5	100.0	156
35-49	8.5	24.8	11.7	472	49.7	36.1	14.2	100.0	117	36.3	57.8	5.9	0.0	100.0	55
Residence															
Urban	11.6	28.3	11.5	973	38.5	43.7	17.8	100.0	276	31.2	54.9	13.2	0.7	100.0	112
Rural	15.5	28.5	15.5	819	42.5	45.6	11.9	100.0	233	34.3	60.5	5.2	0.0	100.0	127
Zone															
Coastal	10.9	30.0	13.2	849	44.6	41.1	14.3	100.0	255	24.3	65.9	9.7	0.0	100.0	112
Middle	16.3	24.6	11.7	756	32.1	52.3	15.6	100.0	186	35.8	55.8	7.5	0.9	100.0	88
Northern	12.7	36.3	20.4	186	46.7	36.5	16.8	100.0	68	51.0	38.8	10.2	0.0	100.0	38
Region															
Western	14.5	32.5	17.5	240	42.3	46.3	11.3	100.0	78	(18.2)	(80.3)	(1.5)	(0.0)	(100.0)	42
Central	13.8	31.4	7.5	167	(45.8)	(40.8)	(13.5)	(100.0)	52	*	*	*	*	*	12
Greater Accra	8.5	32.1	13.6	313	50.3	33.1	16.6	100.0	100	*	*	*	*	*	43
Volta	6.0	18.5	11.7	129	*	*	*	*	24	*	*	*	*	*	15
Eastern	25.8	28.7	14.0	166	(32.3)	(50.8)	(16.9)	(100.0)	48	*	*	*	*	*	23
Ashanti	11.8	20.7	9.4	421	23.5	60.3	16.2	100.0	87	(27.7)	(60.3)	(12.0)	(0.0)	(100.0)	40
Brong Ahafo	18.1	30.3	15.0	169	(46.6)	(40.1)	(13.3)	(100.0)	51	*	*	*	*	*	25
Northern	11.5	36.7	11.7	96	59.2	23.5	17.2	100.0	35	(38.6)	(49.0)	(12.4)	(0.0)	(100.0)	11
Upper East	14.9	38.4	33.4	49	31.5	55.5	13.0	100.0	19	(62.0)	(38.0)	(0.0)	(0.0)	(100.0)	16
Upper West	13.0	32.7	25.0	41	35.1	43.7	21.2	100.0	13	(47.1)	(29.0)	(23.9)	(0.0)	(100.0)	10
Education															
No education	14.3	26.7	12.8	300	48.5	39.4	12.1	100.0	80	32.9	63.6	3.5	0.0	100.0	39
Primary	11.7	31.3	13.1	282	42.0	39.8	18.1	100.0	88	(38.9)	(54.7)	(6.4)	(0.0)	(100.0)	37
Middle/JSS/JHS	13.5	27.9	14.2	748	35.9	51.8	12.3	100.0	208	35.9	55.5	8.5	0.0	100.0	107
Secondary/SSS/SHS	12.3	26.7	11.6	318	43.5	41.6	14.9	100.0	85	(12.8)	(67.9)	(19.3)	(0.0)	(100.0)	37
More than secondary	16.1	32.6	13.7	144	37.0	35.7	27.3	100.0	47	(41.9)	(46.6)	(7.4)	(4.2)	(100.0)	20
Wealth quintile															
Lowest	14.1	31.4	16.6	227	43.0	41.2	15.8	100.0	71	46.2	51.1	2.7	0.0	100.0	38
Second	16.1	30.2	17.4	300	48.4	42.6	9.0	100.0	91	27.2	69.0	3.9	0.0	100.0	52
Middle	12.5	23.9	10.2	365	28.6	56.7	14.7	100.0	87	(42.1)	(40.5)	(17.4)	(0.0)	(100.0)	37
Fourth	12.8	33.8	13.9	441	43.7	38.5	17.9	100.0	149	24.7	63.1	10.9	1.3	100.0	61
Highest	12.3	24.0	11.0	458	36.6	47.1	16.3	100.0	110	(31.6)	(58.0)	(10.4)	(0.0)	(100.0)	50
Total	13.3	28.4	13.3	1,791	40.3	44.6	15.1	100.0	509	32.8	57.9	9.0	0.3	100.0	239

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.

INFANT AND CHILD MORTALITY 7

Key Findings

- ***Current status:*** Infant and under-5 mortality rates in the 5-year period preceding the survey are 37 and 52 deaths per 1,000 live births, respectively. This means that 1 in 27 children die before celebrating their first birthday, while 1 in 19 children die before reaching age 5.
- ***Trends:*** Under-5 mortality has steadily decreased over time, from 155 deaths per 1,000 live births in 1988 to 52 deaths per 1,000 live births in 2017. During the same period, infant mortality declined from 77 to 37 deaths per 1,000 live births.
- ***Perinatal mortality:*** The perinatal mortality rate is 43 deaths per 1,000 pregnancies.
- ***High-risk fertility behaviour:*** Forty-nine percent of births in the 5 years preceding the survey were in a high-risk category (31% were in a single high-risk category, and 17% were in multiple high-risk categories).

Information on infant and child mortality is relevant to a demographic assessment of a country's population and is an important indicator of the country's socioeconomic development and quality of life. It can also help identify children who may be at higher risk of death and lead to strategies to reduce this risk, such as promoting birth spacing.

This chapter presents information on levels, trends, and differentials in perinatal, neonatal, infant, and under-5 mortality rates. It also examines biodemographic factors and fertility behaviours that increase mortality risks for infants and children. The information was collected as part of a retrospective birth history in which female respondents listed all of the children to whom they have given birth, along with each child's date of birth, survivorship status, and current age or age at death.

The quality of mortality estimates calculated from birth histories depends on the mother's ability to recall all of the children she has given birth to, as well as their birth dates and ages at death. Potential data quality problems include:

- The selective omission from birth histories of those births that did not survive, which can result in underestimation of childhood mortality.
- The displacement of birth dates, which may distort mortality trends. This can occur if an interviewer knowingly records a birth as occurring in a different year than the one in which it occurred. This may happen if an interviewer is trying to cut down on his or her overall work load, because live births occurring during the 5 years before the interview are the subject of a lengthy set of additional questions.

- The quality of reporting of age at death. Misreporting the child's age at death may distort the age pattern of mortality, especially if the net effect of the age misreporting is to transfer deaths from one age bracket to another.
- Any method of measuring childhood mortality that relies on mothers' reports (e.g., birth histories) assumes that female adult mortality is not high or, if it is high, that there is little or no correlation between the mortality risks of mothers and those of their children.

Selected indicators of the quality of the mortality data on which the estimates of mortality in this chapter are based are presented in Appendix C, Tables C.3-C.6.

7.1 Infant and Child Mortality

Neonatal mortality: The probability of dying within the first month of life.

Postneonatal mortality: The probability of dying between the first month of life and the first birthday (computed as the difference between infant and neonatal mortality).

Infant mortality: The probability of dying between birth and the first birthday.

Child mortality: The probability of dying between the first and the fifth birthday.

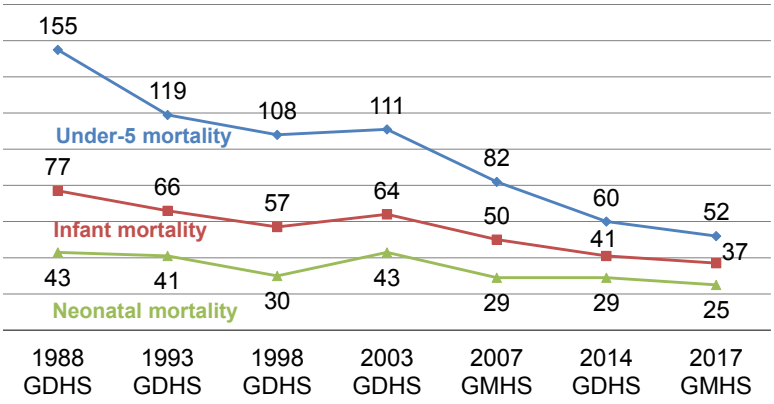
Under-5 mortality: The probability of dying between birth and the fifth birthday.

In the 5-year period preceding the 2017 GMHS, infant mortality was 37 deaths per 1,000 live births and under-5 mortality was 52 deaths per 1,000 live births. This means that 1 in 27 children die before their first birthday, while 1 in 19 children die before reaching age 5. Neonatal mortality over the same period was 25 deaths per 1,000 live births, while postneonatal mortality was 12 deaths per 1,000 live births. Sixty-eight percent of infant deaths occur within the first month of life (**Table 7.1**).

Trends: All three indicators of childhood mortality declined from 1988 to 1998, rose slightly in 2003, and have since declined. Under-5 mortality decreased from 155 deaths per 1,000 live births in 1988 to 52 deaths per 1,000 live births in 2017. Over the same period, infant mortality decreased from 77 to 37 deaths per 1,000 live births, while neonatal mortality fell from 43 to 25 deaths per 1,000 live births (**Figure 7.1**).

Figure 7.1 **Trends in early childhood mortality rates**

Deaths per 1,000 live births in the 5-year period before the survey



7.2 Biodemographic and Sociodemographic Risk Factors

Researchers have identified multiple risk factors for early childhood mortality, including biodemographic and sociodemographic factors, based on the characteristics of the mother and child and the circumstances at birth.

Mortality estimates by sex of the child and mother's place of residence (**Table 7.2**) were calculated for the 5-year period before the survey; mortality estimates by additional background characteristics of the mother

were calculated for the 10-year period before the survey to ensure that there were sufficient cases to produce statistically reliable estimates (**Table 7.3**).

Patterns by background characteristics

- Neonatal, infant, and under-5 mortality are all higher among male (28, 40, and 57 deaths per 1,000 live births, respectively) than female (21, 34, and 47 deaths per 1,000 live births, respectively) children (**Table 7.2**).
- While there is little difference between urban and rural areas with respect to neonatal (25 versus 24 deaths per 1,000 live births) or infant (36 versus 38 deaths per 1,000 live births) mortality, under-5 mortality is higher in rural (56 deaths per 1,000 live births) than urban (48 deaths per 1,000 live births) areas (**Table 7.2**).
- Neonatal (36 versus 21-24 deaths per 1,000 live births), infant (63 versus 32-34 deaths per 1,000 live births), and under-5 (90 versus 46-52 deaths per 1,000 live births) mortality are much higher when the interval from the previous birth is less than 2 years (**Table 7.3** and **Figure 7.2**).
- Under-5 mortality ranges from 42 deaths per 1,000 live births in Greater Accra region to 78 deaths per 1,000 live births in Upper West region (**Table 7.3** and **Figure 7.3**).
- Neonatal mortality is lowest in Greater Accra region (19 deaths per 1,000 live births) and Upper East region (20 deaths per 1,000 live births) and highest in Volta region (33 deaths per 1,000 live births), Central region (31 deaths per 1,000 live births), and Western region (30 deaths per 1,000 live births) (**Table 7.3**).

Figure 7.2 **Childhood mortality by previous birth interval**

Deaths per 1,000 live births for the 10-year period before the survey

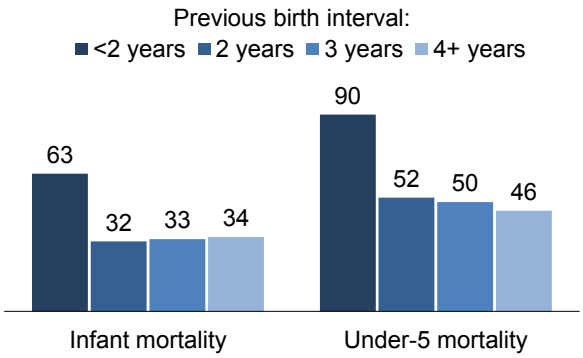
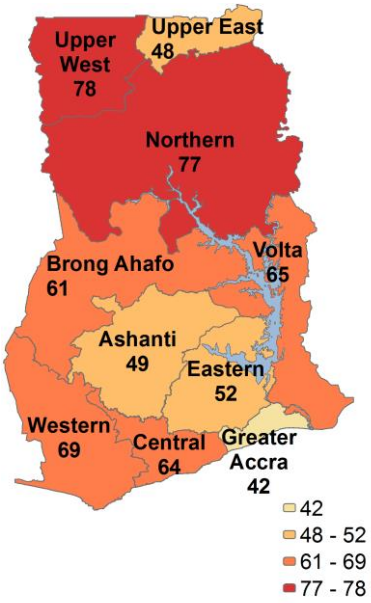


Figure 7.3 **Under-5 mortality by region**

Deaths per 1,000 live births for the 10-year period before the survey



7.3 PERINATAL MORTALITY

Perinatal mortality rate

Perinatal deaths comprise stillbirths (pregnancy loss that occurs after 7 months of gestation) and early neonatal deaths (deaths of live births within the first 7 days of life). The perinatal mortality rate is calculated as the number of perinatal deaths per 1,000 pregnancies of 7 or more months' duration.

Sample: Number of pregnancies of 7 or more months' duration to women age 15-49 in the 5 years before the survey

It can be difficult to distinguish between stillbirths and early neonatal deaths; perinatal mortality looks at the proportion of pregnancies of 7 or more months' duration that ended in a stillbirth or early neonatal death. During the 5-year period preceding the 2017 GMHS, there were 347 stillbirths and 297 early

neonatal deaths out of a total of 14,987 pregnancies of 7 or more months' duration, yielding a perinatal mortality rate of 43 deaths per 1,000 pregnancies of 7 or more months' duration (**Table 7.4**).

Patterns by background characteristics

- Perinatal mortality increases steadily with mother's age at birth.
- Perinatal mortality is highest when the previous pregnancy interval is less than 15 months (55 deaths per 1,000 pregnancies) and when the pregnancy is a first pregnancy (47 deaths per 1,000 pregnancies); perinatal mortality is lowest when the previous interval is 15 months or more (39-42 deaths per 1,000 pregnancies).
- At the regional level, perinatal mortality ranges from 29 deaths per 1,000 pregnancies in Upper East region to 54 deaths per 1,000 pregnancies in Western region.

7.4 High-Risk Fertility Behaviour

The survival of infants and children depends in part on the demographic and biological characteristics of their mothers; child mortality is likely to be higher among mothers with one or more risk factors. Infants and children have an elevated risk of dying if their mothers are under age 18 or over age 35, if they are born after too short a birth interval (less than 24 months), and if they are of a high birth order (fourth or higher). First births also have a higher mortality risk, but this risk is unavoidable.

Thirty percent of births in the 5 years preceding the survey were not in any high-risk category. Twenty-one percent were in the unavoidable risk category (first births to women between age 18 and 34). Just under half of births (49%) were in at least one avoidable high-risk category: 31% were in a single high-risk category, and 17% were in multiple high-risk categories (**Table 7.5**).

Risk ratios represent the relationship between risk factors and mortality. The risk ratio is highest for births in multiple high-risk categories (1.75), followed by births in the unavoidable risk category (1.48) and births in a single high-risk category (1.23). Overall, the risk ratio is highest for births in which the mother was older than age 34, the birth interval was less than 24 months, and the birth order was four or higher (2.43); however, only 1% of births fell in this category.

Twenty percent of currently married women age 15-49 would not have been in any high-risk category had they conceived at the time of the survey, 6% would have been in the unavoidable risk category, and nearly three quarters (74%) would have been in an avoidable high-risk category (30% in a single high-risk category and 45% in multiple high-risk categories).

List of Tables

For more information on infant and child mortality, see the following tables:

- **Table 7.1 Early childhood mortality rates**
- **Table 7.2 Five-year early childhood mortality rates according to background characteristics**
- **Table 7.3 Ten-year early childhood mortality rates according to additional characteristics**
- **Table 7.4 Perinatal mortality**
- **Table 7.5 High-risk fertility behaviour**

Table 7.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-5 mortality rates for 5-year periods preceding the survey, Ghana MHS 2017

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	25	12	37	16	52
5-9	28	16	44	23	66
10-14	32	19	51	30	80

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

Table 7.2 Five-year early childhood mortality rates according to background characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 5-year period preceding the survey, according to background characteristics, Ghana MHS 2017

Background 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	28	12	40	17	57
Female	21	12	34	14	47
Residence					
Urban	25	10	36	12	48
Rural	24	14	38	18	56
Total	25	12	37	16	52

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

Table 7.3 Ten-year early childhood mortality rates according to additional characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 10-year period preceding the survey, according to additional characteristics, Ghana MHS 2017

Characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Mother's age at birth					
<20	26	16	42	24	65
20-29	26	12	38	20	58
30-39	26	15	41	16	56
40-49	40	15	55	(12)	(67)
Birth order					
1	31	14	46	20	65
2-3	24	11	36	17	52
4-6	23	15	38	22	59
7+	35	20	55	20	74
Previous birth interval[2]					
<2 years	36	26	63	30	90
2 years	21	11	32	20	52
3 years	22	11	33	18	50
4+ years	24	10	34	13	46
Birth size[3]					
Small/very small	23	11	33	na	na
Average or larger	17	8	26	na	na
Zone					
Coastal	28	15	43	17	59
Middle	26	12	37	16	53
Northern	25	15	40	32	71
Region					
Western	30	17	47	23	69
Central	31	18	49	15	64
Greater Accra	19	13	32	10	42
Volta	33	12	45	21	65
Eastern	28	10	37	15	52
Ashanti	26	10	36	13	49
Brong Ahafo	22	17	39	22	61
Northern	26	16	42	37	77
Upper East	20	9	28	20	48
Upper West	28	19	47	33	78
Mother's education					
No education	26	17	43	29	71
Primary	28	16	44	21	64
Middle/JSS/JHS	24	11	36	14	49
Secondary/SSS/SHS	34	13	46	8	54
More than secondary	21	6	27	4	31
Wealth quintile					
Lowest	28	14	42	27	68
Second	28	17	45	22	66
Middle	23	14	37	22	59
Fourth	32	12	44	14	58
Highest	21	9	30	6	35

Note: Figures in parentheses are based on 250-499 unweighted exposed children.
na = Not available
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births
[3] Rates for the 5-year period before the survey

Table 7.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the 5-year period preceding the survey, according to background characteristics, Ghana MHS 2017

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	30	29	34	1,755
20-29	157	146	40	7,485
30-39	137	106	48	5,058
40-49	23	17	57	689
Previous pregnancy interval in months[4]				
First pregnancy	70	68	47	2,939
<15	28	23	55	929
15-26	67	41	39	2,778
27-38	78	55	41	3,255
39+	104	110	42	5,086
Residence				
Urban	167	138	43	7,112
Rural	180	159	43	7,876
Zone				
Coastal	148	150	44	6,739
Middle	153	109	45	5,762
Northern	46	38	34	2,487
Region				
Western	51	56	54	1,999
Central	38	29	49	1,372
Greater Accra	39	42	38	2,130
Volta	20	23	35	1,237
Eastern	31	30	41	1,479
Ashanti	89	57	53	2,750
Brong Ahafo	33	22	36	1,532
Northern	28	23	33	1,522
Upper East	8	8	29	554
Upper West	10	7	41	411
Mother's education				
No education	78	66	38	3,781
Primary	64	46	41	2,660
Middle/JSS/JHS	142	113	44	5,829
Secondary/SSS/SHS	43	52	53	1,788
More than secondary	20	19	42	929
Wealth quintile				
Lowest	59	68	37	3,421
Second	79	59	42	3,262
Middle	85	46	45	2,938
Fourth	57	78	48	2,828
Highest	67	45	44	2,538
Total	347	297	43	14,987

[1] Stillbirths are foetal deaths in pregnancies lasting 7 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 7 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.

Table 7.5 High-risk fertility behaviour

Percent distribution of children born in the 5 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 MHS 2017

Risk category	Births in the 5 years preceding the survey		Percentage of currently married women[1]
	Percentage of births	Risk ratio	
Not in any high-risk category	30.3	1.00	20.0[a]
Unavoidable risk category			
First-order births between age 18 and age 34	21.0	1.48	5.8
In any avoidable high-risk category	48.7	1.42	74.2
Single high-risk category			
Mother's age <18 only	5.0	1.30	0.3
Mother's age >34 only	3.1	1.30	8.1
Birth interval <24 months only	5.9	1.26	9.5
Birth order >3 only	17.3	1.19	11.5
Subtotal	31.3	1.23	29.5
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.2	*	0.2
Age >34 and birth interval <24 months	0.2	*	0.6
Age >34 and birth order >3	11.8	1.55	31.2
Age >34 and birth interval <24 months and birth order >3	1.3	2.43	4.9
Birth interval <24 months and birth order >3	4.0	1.99	7.9
Subtotal	17.4	1.75	44.7
Total	100.0	na	100.0
Subtotals by individual avoidable high-risk category			
Mother's age <18	5.2	1.35	0.5
Mother's age >34	16.3	1.60	44.8
Birth interval <24 months	11.5	1.70	23.1
Birth order >3	34.3	1.45	55.5
Number of births/women	14,628	na	14,361

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

ADULT AND MATERNAL MORTALITY 8

Key Findings

- ***Adult mortality:*** If age- and gender-specific mortality rates for the 7 years preceding the survey remain constant, 134 of every 1,000 women and 181 of every 1,000 men age 15 would be expected to die before age 50.
- ***Maternal mortality ratio:*** The maternal mortality ratio for the 7 years preceding the survey is estimated at 310 maternal deaths per 100,000 live births.
- ***Lifetime risk of maternal death:*** At current fertility and mortality rates, 1% of women in Ghana will die from maternal causes.
- ***Percentage of maternal deaths:*** Twelve percent of deaths among women in the 7 years preceding the survey were due to maternal causes.

Adult and maternal mortality indicators can be used to assess the health status of a population. Mortality indicators are also used to determine the life expectancy of the population and subsequently to assess a country's level of development. The issue of reproductive health care has been of major concern to governments in most developing countries, and Ghana is no exception. It is for this reason that the Government of Ghana is committed to making health care delivery accessible to all people to reduce the level of mortality, and most especially maternal mortality, in the country. In view of this, free maternal and child health care has been introduced as part of the reproductive health policy to improve maternal health care delivery and reduce maternal deaths in Ghana.

Estimation of mortality rates requires complete and accurate data on adult and maternal deaths. In the 2017 GMHS, data were collected from all female respondents on the survival of their sisters and brothers to obtain an estimate of adult mortality. Questions were included to determine if any of the sisters' deaths were maternity-related, which permits the estimation of maternal mortality—a key indicator of maternal health and well-being.

This chapter presents information on levels of and trends in adult mortality and maternal mortality in Ghana. The chapter includes a summary measure ($_{35}q_{15}$) that represents the probability of dying between exact ages 15 and 50, that is, between the 15th and 50th birthdays.

8.1 DATA

To obtain a sibling history, the respondent was asked to provide a list of all brothers and sisters born to her mother. The respondent was then probed for any brothers or sisters from the same mother who may not have been mentioned because they do not live with the respondent, they may have died, or they may have a different father. Once the total number of siblings was determined, the list of siblings was placed in birth

order, beginning with the first born, and the respondent was asked to identify whether each sibling was alive at the time of the survey. The current age was recorded for living siblings. For deceased siblings, the age at death and number of years since death were recorded. Interviewers were instructed that when a respondent could not provide precise information on age at death or years since death, approximate but quantitative answers were acceptable.

For sisters who died at age 12 or older, several questions were used to determine if the death was maternity-related: "Was (NAME OF SISTER) pregnant when she died?" and, if not, "Did she die during childbirth?" and, if not, "Did she die within 2 months after the end of a pregnancy or childbirth?" and, if yes, "How many days after the end of the pregnancy did she die?" Since accidental and incidental deaths are not counted as maternal deaths, respondents were asked if each of the sisters who died had died from an act of violence or an accident (these deaths are included in the estimate of pregnancy-related deaths; see section 8.5).

Table C.7 shows the number of siblings (both those still living and those dead) reported by respondents and the completeness of data on siblings: current age for living siblings and both age at death and years since death for siblings who had died (see Appendix C). A total of 123,207 siblings were recorded in the adult and maternal mortality section of the 2017 GMHS Woman's Questionnaire. Survival status was not reported for 13 siblings (0.01%). Current age was reported for all 108,041 surviving siblings. Age at death and years since death were reported for all 15,153 dead siblings.

8.2 Direct Estimates of Adult Mortality

Adult mortality rate

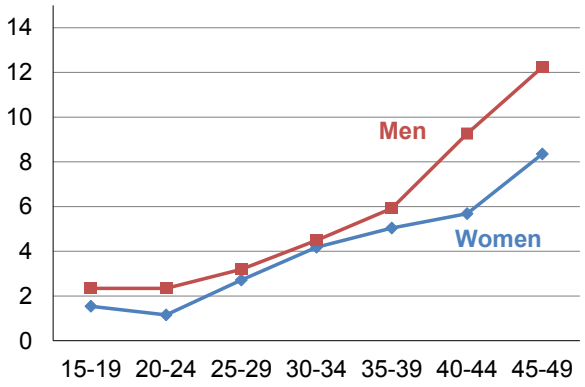
The number of adult deaths per 1,000 population age 15-49. Adult mortality rates by 5-year age groups are calculated as follows: the number of deaths to respondent's siblings in each age group are divided by the number of person-years of exposure to the risk of dying in that age group during the 7 years preceding the survey. The number of deaths is the number of siblings (brothers or sisters) reported as having died within the 7 years preceding the survey. The person-years of exposure in each age group are calculated for both surviving and dead siblings based on their current age (living siblings) or age at death and years since death (dead siblings).

Sample: Siblings (both living and dead) who were age 15-49 in the 7 years preceding the survey, by sex and 5-year age groups

Evaluating the plausibility and stability of overall adult mortality is one way to assess the quality of the data used to estimate maternal mortality. If the estimated rates of overall adult mortality are implausible, rates based on a subset of deaths (maternal deaths in particular) may have serious problems.

Figure 8.1 **Adult mortality rates by age**

Deaths per 1,000 population



The reported ages at death and years since death of the respondents' brothers and sisters are used to make direct estimates of adult mortality. Because of differentials in exposure to the risk of dying, this report presents age- and sex-specific death rates. **Table 8.1.1** and **Figure 8.1** show age-specific mortality rates among women and men age 15-49 for the 7 years before the 2017 GMHS. To ensure a sufficiently large number of adult deaths to generate a robust estimate, the rates are calculated for the 7-year period before the survey (roughly between mid- to late 2010 and mid- to late 2017). Nevertheless, age-specific mortality rates obtained in this manner are

subject to considerable sampling variation. Use of this 7-year period is a compromise between the desire for the most recent data and the need to minimise the level of sampling error.

- Adult mortality is higher among men (4.88 deaths per 1,000 population) than among women (3.57 deaths per 1,000 population).
- Mortality generally increases with age among both men and women, and mortality is higher among men than women in all age groups.
- Mortality is lower among women in the Northern zone (2.88 per 1,000 population) than among women in the Coastal (3.62 per 1,000) and Middle (3.74 per 1,000) zones (**Table 8.1.2**). The result for the Northern zone is unexpected and may indicate under-reporting of siblings and/or other data quality issues in that zone.
- Mortality among men varies from 4.66 per 1,000 population in the Coastal zone and 4.88 per 1,000 in the Northern zone to 5.12 per 1,000 in the Middle zone.

8.3 Trends in Adult Mortality

Table 8.2 shows the probability of dying between exact ages 15 and 50 ($_{35}q_{15}$) in the 7 years before the 2007 and 2017 GMHS surveys. $_{35}q_{15}$ is the probability that a woman or man who reaches age 15 will die before reaching age 50 (if the age- and gender-specific mortality rates in the 7 years before the survey hold constant).

Women in Ghana have a lower probability of dying between ages 15 and 50 than men: 134 of every 1,000 women age 15 would be expected to die by age 50, as compared with 181 of every 1,000 men.

The probability of dying between ages 15 and 50 decreased from 148 per 1,000 in 2007 to 134 per 1,000 in 2017 among women but increased from 172 to 181 per 1,000 among men.

8.4 Direct Estimates of Maternal Mortality

Maternal mortality rate

The number of maternal deaths per 1,000 women age 15-49. Maternal mortality rates by 5-year age groups are calculated by dividing the number of maternal deaths to female siblings of respondents in each age group by the total person-years of exposure of the sisters to the risk of dying in that age group during the 7 years preceding the survey. The number of deaths is the number of sisters reported as having died in the 7 years preceding the survey either during pregnancy or delivery, or in the 42 days following the delivery, by their age group at the time of death; deaths due to accident or violence are excluded. The person-years of exposure in each age group are calculated for both surviving and dead sisters based on their reported current age (living sisters) or age at death and years since death (dead sisters).

Sample: Sisters (both living and dead) age 15-49 in the 7 years preceding the survey, by 5 year age groups

Maternal mortality ratio

The number of maternal deaths per 100,000 live births. The maternal mortality ratio is calculated by dividing the age-standardised maternal mortality rate for women age 15-49 in the 7 years preceding the survey by the general fertility rate (GFR) for the same period.

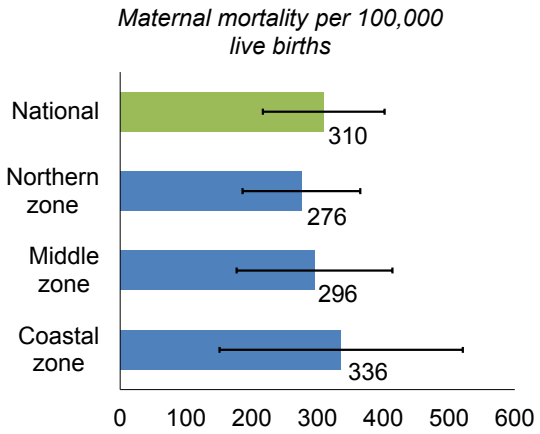
Maternal deaths are a subset of all female deaths. They are defined as any deaths that occur during pregnancy or childbirth or within 42 days after the birth of a child or termination of a pregnancy; maternal

deaths do not include deaths due to accidents or violence. This is the first DHS Program survey in Ghana to collect data on whether siblings' deaths were due to accidents or violence, and the data presented in this section cannot be used to discuss trends (see section 8.5 for more information).

Two methods are generally used to estimate maternal mortality in developing countries: the indirect sisterhood method (Graham et al. 1989) and a direct variant of the sisterhood method (Rutenberg and Sullivan 1991; Stanton et al. 1997). **Table 8.3.1** presents age-specific direct estimates of maternal mortality from the reported survivorship of sisters for the 7-year period prior to the 2017 GMHS. These rates were calculated by dividing the number of maternal deaths by woman-years of exposure. To remove the effect of truncation bias (the lower boundary for eligibility among women interviewed in the survey is 15 years, and the upper boundary is 49 years), the overall rate for women age 15-49 was standardised by the age distribution of survey respondents.

- The maternal mortality rate is 0.39 deaths per 1,000 woman-years of exposure.
- Age-specific patterns should be interpreted with extreme caution because of the small number of events: only 118 maternal deaths reported among women of all ages in the 7-year period preceding the survey. The maternal mortality rate initially increases with age, peaks at age 30-34 (0.90), and then decreases with increasing age.
- Maternal deaths constitute 12% of all deaths that occurred among women age 15-49 in the 7 years preceding the survey.
- As with age-specific rates, zonal rates should be interpreted with caution. The maternal mortality rate in the Coastal (0.38) and Middle (0.37) zones is lower than the rate in the Northern zone (0.45), which (as for adult mortality overall) is unexpected and may indicate under-reporting of siblings and/or other data quality issues in that zone (**Table 8.3.2**). In addition, these estimates assume that sisters' deaths took place in the zone where the respondent was interviewed, which may not always be the case.
- The estimate of the maternal mortality ratio in Ghana during the 7 years preceding the survey is 310 deaths per 100,000 live births with a confidence interval of 217 to 402 deaths per 100,000 live births. There are slight differences in the point estimates for each zone, but the confidence intervals for these estimates overlap, making it unlikely that the differences are statistically significant (**Table 8.4** and **Figure 8.2**).
- The current fertility and mortality rates indicate that 1% of women in the country will die from maternal causes while in their reproductive years (age 15-49).

Figure 8.2 **Zonal differences in Maternal Mortality Ratio (MMR) with confidence intervals**



Note: MMR includes deaths during pregnancy, delivery, and within 42 days of the end of a pregnancy; it excludes deaths due to accident and violence. This is a new indicator that requires different data than were collected in previous surveys, and is different than the PRMR estimate in Figure 8.3.

8.5 TRENDS IN PREGNANCY-RELATED MORTALITY

Pregnancy-related mortality rate

The number of pregnancy-related deaths per 1,000 women age 15-49. Pregnancy-related mortality rates by 5-year age groups are calculated by dividing the number of pregnancy-related deaths to female siblings of respondents in each age group by the total person-years of exposure of the sisters to the risk of dying in that age group during the 7 years preceding the survey. The number of deaths is the number of sisters reported as having died in the 7 years preceding the survey either during pregnancy or delivery, or in the 2 months following the delivery, by their age group at the time of death. The person-years of exposure in each age group are calculated for both surviving and dead sisters based on their reported current age (living sisters) or age at death and years since death (dead sisters).

Sample: Sisters (both living and dead) age 15-49 in the 7 years preceding the survey, by 5-year age groups

Pregnancy-related mortality ratio

The number of pregnancy-related deaths per 100,000 live births. The pregnancy-related mortality ratio is calculated by dividing the age-standardised pregnancy-related mortality rate for women age 15-49 in the 7 years preceding the survey by the general fertility rate (GFR) for the same time period.

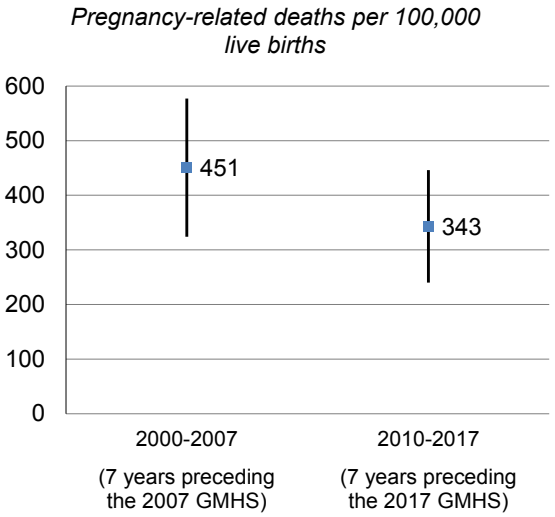
The 2007 GMHS defined a pregnancy-related death as the death of a woman while pregnant or within 2 months of termination of pregnancy, irrespective of the cause of death. Estimates of pregnancy-related mortality are therefore based solely on the timing of the death in relationship to the pregnancy. Note that this definition varies from the WHO definition of a pregnancy-related death, which limits the window to 42 days. To produce an indicator suitable for comparison with the 2007 GMHS, an estimate of pregnancy-related mortality was also obtained from the 2017 GMHS data set.

Comparing MMR and PRMR	Maternal mortality (MMR)	Pregnancy-related mortality (PRMR)
	Women who died when pregnant, during delivery, or within **42 days** of delivery or the termination of a pregnancy, **except** when death was due to accident or violence	Women who died when pregnant, during delivery, or within **2 months** of delivery or the termination of a pregnancy, **including** deaths due to accident or violence

Figure 8.3 presents estimates of the pregnancy-related mortality ratio (PRMR) with confidence intervals for the 2007 and 2017 GMHS surveys. The point estimates show a decline from 451 maternal deaths per 100,000 live births in 2007 to 343 maternal deaths per 100,000 live births in 2017; since the confidence interval for the 2007 estimate overlaps with the 2017 point estimate, however, the difference between the 2007 and 2017 estimates is not statistically significant.

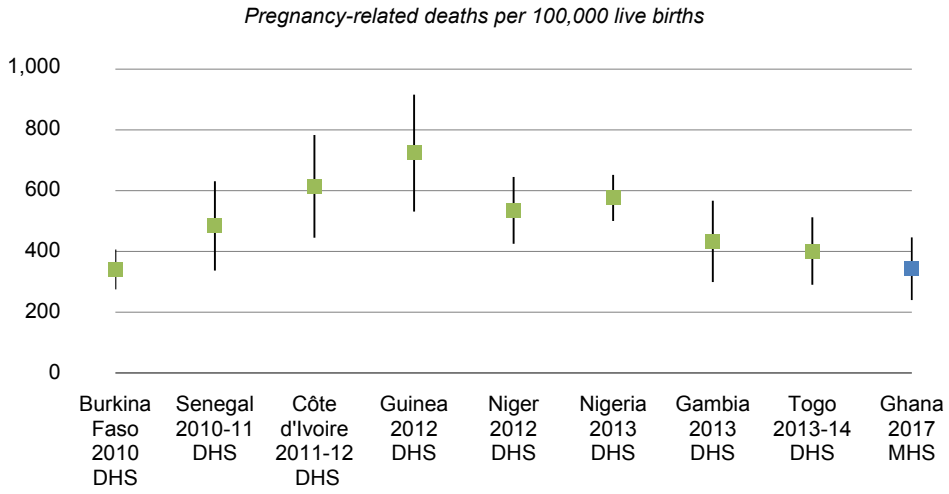
Figure 8.4 presents estimates of the pregnancy-related mortality ratio with confidence intervals for Ghana and other West African countries from DHS surveys conducted between 2010 and 2017. The point estimates range from 341 maternal deaths per 100,000 live births in Burkina Faso to 724 maternal deaths per 100,000 live births in Guinea. Although Ghana's point estimate is the second lowest (343 per 100,000 live births) among these countries, work remains to be done to improve the maternal mortality situation in the country.

Figure 8.3 **Trends in Pregnancy-Related Mortality Ratio (PRMR) with confidence intervals**



Note: PRMR includes all deaths during pregnancy, delivery, and within 2 months of the end of a pregnancy; it includes deaths due to accident and violence during these time periods. This indicator is consistent with how data were collected in 2007, and is different than the MMR estimate in Figure 8.2.

Figure 8.4 **Pregnancy-related mortality ratio in West Africa, 2010-2017**



LIST OF TABLES

For more information on adult and maternal mortality, see the following tables:

- **Table 8.1.1 Adult mortality rates: national**
- **Table 8.1.2 Adult mortality rates: zones**
- **Table 8.2 Adult mortality probabilities**
- **Table 8.3.1 Maternal mortality: national**
- **Table 8.3.2 Maternal mortality: zones**
- **Table 8.4 Maternal mortality ratio**
- **Table C.9 Pregnancy-related mortality**

Table 8.1.1 Adult mortality rates: national

Direct estimates of female and male mortality rates for the 7 years preceding the survey by 5-year age groups, Ghana MHS 2017

Age	Deaths	Exposure years	Mortality rate[1]
	FEMALE		
15-19	72	46,486	1.54
20-24	63	54,463	1.15
25-29	148	54,462	2.71
30-34	201	48,003	4.18
35-39	194	38,515	5.04
40-44	155	27,269	5.68
45-49	154	18,476	8.35
Total 15-49	986	287,673	3.57[a]
	MALE		
15-19	108	46,301	2.34
20-24	130	55,325	2.34
25-29	174	54,601	3.19
30-34	219	48,854	4.49
35-39	233	39,354	5.92
40-44	257	27,701	9.26
45-49	225	18,351	12.24
Total 15-49	1,346	290,486	4.88[a]

[1] Expressed per 1,000 population
[a] Age-adjusted rate

Table 8.1.2 Adult mortality rates: zones

Direct estimates of female and male mortality rates for the 7 years preceding the survey at the zonal level by 5-year age groups, Ghana MHS 2017

	Coastal			Middle			Northern		
Age	Deaths	Exposure years	Mortality rate[1]	Deaths	Exposure years	Mortality rate[1]	Deaths	Exposure years	Mortality rate[1]
				FEMALE					
15-19	35	21,340	1.65	25	18,325	1.37	11	6,820	1.68
20-24	26	25,302	1.02	24	21,462	1.11	13	7,699	1.69
25-29	74	25,406	2.90	56	21,635	2.60	18	7,422	2.39
30-34	107	22,749	4.71	76	18,928	4.00	18	6,326	2.80
35-39	78	18,608	4.21	95	14,951	6.34	21	4,956	4.23
40-44	66	13,209	5.01	74	10,809	6.86	14	3,252	4.44
45-49	80	8,740	9.15	64	7,746	8.28	10	1,990	5.08
Total 15-49	466	135,354	3.62[a]	414	113,855	3.74[a]	105	38,464	2.88[a]
				MALE					
15-19	42	21,521	1.94	51	18,142	2.83	15	6,638	2.32
20-24	58	25,891	2.24	47	21,360	2.18	25	8,073	3.11
25-29	78	25,879	3.03	62	20,876	2.97	34	7,846	4.30
30-34	81	23,576	3.44	105	18,752	5.60	33	6,526	5.05
35-39	109	18,941	5.77	102	15,449	6.57	22	4,964	4.48
40-44	131	13,362	9.81	96	11,111	8.64	30	3,229	9.14
45-49	112	9,238	12.10	93	7,241	12.88	20	1,872	10.50
Total 15-49	611	138,408	4.66[a]	556	112,932	5.12[a]	179	39,147	4.88[a]

[1] Expressed per 1,000 population
[a] Age-adjusted rate

Table 8.2 Adult mortality probabilities

The probability of dying between the ages of 15 and 50 for women and men during the 7 years preceding the survey, Ghana MHS 2017

	Female	Male
Survey	$_{35}q_{15}$[1]	$_{35}q_{15}$[1]
National		
2017 Ghana MHS	134	181
2007 Ghana MHS	148	172
Zone (2017)		
Coastal	134	174
Middle	142	188
Northern	106	177

[1] The probability of dying between exact ages 15 and 50, expressed per 1,000 persons at age 15

Table 8.3.1 Maternal mortality: national

Direct estimates of maternal mortality rates for the 7 years preceding the survey by 5-year age groups, Ghana MHS 2017

Age	Percentage of female deaths that are maternal	Maternal deaths[1]	Exposure years	Maternal mortality rate[2]
15-19	7.3	5	46,486	0.11
20-24	15.6	10	54,463	0.18
25-29	14.9	22	54,462	0.40
30-34	21.4	43	48,003	0.90
35-39	12.8	25	38,515	0.64
40-44	7.8	12	27,269	0.44
45-49	0.7	1	18,476	0.06
Total 15-49	12.0	118	287,673	0.39[a]

[1] A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause except accident or violence.
[2] Expressed per 1,000 woman-years of exposure
[a] Age-adjusted rate

Table 8.3.2 Maternal mortality: zones

Direct estimates of maternal mortality rates for the 7 years preceding the survey at the zonal level by 5-year age groups, Ghana MHS 2017

	Coastal				Middle				Northern			
Age	Percentage of female deaths that are maternal	Maternal deaths[1]	Exposure years	Maternal mortality rate[2]	Percentage of female deaths that are maternal	Maternal deaths[1]	Exposure years	Maternal mortality rate[2]	Percentage of female deaths that are maternal	Maternal deaths[1]	Exposure years	Maternal mortality rate[2]
15-19	0.0	0	21,340	0.00	14.9	4	18,325	0.20	13.0	1	6,820	0.22
20-24	17.8	5	25,302	0.18	11.0	3	21,462	0.12	19.5	3	7,699	0.33
25-29	8.9	7	25,406	0.26	19.8	11	21,635	0.52	23.7	4	7,422	0.57
30-34	24.3	26	22,749	1.14	17.1	13	18,928	0.69	22.7	4	6,326	0.64
35-39	20.5	16	18,608	0.86	5.8	5	14,951	0.37	15.7	3	4,956	0.66
40-44	4.2	3	13,209	0.21	9.3	7	10,809	0.64	16.9	2	3,252	0.75
45-49	0.0	0	8,740	0.00	1.3	1	7,746	0.11	2.4	0	1,990	0.12
Total 15-49	12.0	56	135,354	0.38[a]	10.5	44	113,855	0.37[a]	17.3	18	38,464	0.45[a]

[1] A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause except accident or violence.
[2] Expressed per 1,000 woman-years of exposure
[a] Age-adjusted rate

Table 8.4 Maternal mortality ratio

Total fertility rate, general fertility rate, maternal mortality ratio, and lifetime risk of maternal death for the 7 years preceding the survey, Ghana MHS 2017

	Zone			
	Coastal	Middle	Northern	Total
Total fertility rate (TFR)	3.7	4.0	5.5	4.0
General fertility rate (GFR)[1]	115	124	164	125
Maternal mortality ratio (MMR)[2]	336	296	276	310
	CI: (151, 521)	CI: (177, 414)	CI: (186, 365)	CI: (217, 402)
Lifetime risk of maternal death[3]	0.012	0.012	0.015	0.012

CI: Confidence interval
[1] Age-adjusted rate expressed per 1,000 women age 15-49
[2] Expressed per 100,000 live births; calculated as the age-adjusted maternal mortality rate (shown in Tables 8.3.1 and 8.3.2) times 100 divided by the age-adjusted general fertility rate
[3] Calculated as $1-(1-MMR)^{TFR}$, where TFR represents the total fertility rate for the 7 years preceding the survey

CAUSES OF DEATH 9

Key Findings

- ***All-cause mortality:*** The most frequent cause of death among women age 12-49 is infectious and parasitic disease (24%). Direct maternal causes account for 10% of deaths and indirect maternal causes for 4%.
- ***Maternal causes of death:*** Among deaths due to maternal causes, 67% were due to direct maternal causes, 27% were due to indirect maternal causes, and 6% were due to unspecified maternal causes.
- ***Direct maternal causes of death:*** Among deaths due to direct maternal causes, the most frequent cause was obstetric haemorrhage (30%), followed by hypertensive disorders (14%).
- ***Timing of obstetric-coded deaths:*** Among deaths with an obstetric code (direct, indirect, or unspecified), 41% took place within 42 days of the end of a pregnancy, 32% took place during childbirth, and 22% took place during pregnancy.

This chapter presents results of the verbal autopsy interviews conducted for deaths of women age 12-49 in the 5 years preceding the 2017 GMHS, including causes of death. Knowing the causes of maternal death can help in formulating policies to prevent those deaths. However, obtaining data on deaths requires robust vital registration systems, which are lacking in most developing countries including Ghana. In the absence of such systems, the verbal autopsy method (an interview with family members or caregivers of the deceased person) has been developed as a way of collecting information that can be used to determine the cause or causes of death.

9.1 VERBAL AUTOPSY QUESTIONNAIRE

The Verbal Autopsy Questionnaire used in the 2017 GMHS is based on the 2016 WHO standard verbal autopsy questionnaire for adults age 15 and above (version 1.4), with some adaptations to the country-specific context and to preserve comparability with the 2007 GMHS instrument. It contains questions on the deceased woman's background, whether she experienced any accident or violence leading to death, specific diagnoses she may have received, signs and symptoms in the period preceding death, maternal signs and symptoms in the period preceding death, and treatment by or contact with health care providers before death.

9.2 VERBAL AUTOPSY FIELDWORK

During the household listing phase, every household in every cluster was asked if any household member had died since January 2012. If the answer was yes, information on name, sex, age at death, and year of death was collected. Fieldwork teams were provided with a list of all households in each cluster where a female resident had died when she was between age 10 and age 54; this range was used in case of inaccuracies in the recall of the listing informant. Interviews were completed only for deaths that were

truly eligible, that is, deaths that took place on or after 1 January 2012 when the female resident was age 12-49 and for which the household could furnish a respondent with knowledge of the circumstances of the death.

During fieldwork, 1,367 Verbal Autopsy Questionnaires were completed for women who died on or after 1 January 2012 and were age 12-49 at the time of death; 1,240 questionnaires were completed for women who died in the 5 years preceding the survey (5 years before the date of the interview) at age 12-49.

9.3 CAUSE OF DEATH CERTIFICATION AND ICD-10 CODING

For the verbal autopsy process to be complete, each questionnaire must be reviewed so that a death certificate with the immediate and underlying cause(s) of death for the deceased person can be completed. Coding the cause(s) of death recorded in the death certificate according to the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10; WHO 2016), is a further step that produces internationally comparable data on the final underlying cause of death.

Six Ghanaian physicians were trained to review the 2017 GMHS Verbal Autopsy Questionnaires, fill out death certificates according to WHO guidelines, and code the cause or causes of death using the ICD-10 to determine the final underlying cause of death.

Death Certification

The WHO standard death certificate requires certifiers to identify a sequence of conditions and/or events leading to death that make both chronological and pathological sense. Conditions and events (for example, a road traffic accident) that have a causal relationship to death are listed in Part 1 of the certificate. The immediate (direct) cause of death is listed on the first line (a) of Part 1. There must always be an entry on line 1(a), and it is possible that in Part 1 only line 1(a) is filled out. When there are two or more conditions and/or events that form part of the sequence leading directly to death, each condition/event should be recorded on a separate line in Part 1. The last-listed condition/event in Part 1 is considered the underlying cause of death (the "tentative starting point" in the process of ICD-10 coding, described below); if it had not taken place, the death would have been averted. In the example below, line "c" is the underlying cause of death.

Conditions and events that are significant and contributory but not causally related to death are listed in Part 2 of the certificate.

Administrative Data																
Sex	☐ Female				☒ Male				☐ Unknown							
Date of birth	3	0	0	1	1	9	6	2	Date of death	3	1	0	1	2	0	1	7

Death Certificate: Part 1 and 2			
1 Report disease or condition directly leading to death on line a Report chain of events in due to order (if applicable) State the underlying cause on the lowest used line		Cause of death	Time interval from onset to death
	a	Haemorrhagic shock	1 hour
	b	Due to: Abdominal haemorrhage	2 hours
	c	Due to: Passenger in car that hit another car	2 hours
	d	Due to :	
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)		Diabetes mellitus (5 years)	

ICD-10 Coding

The coding of causes of death was done by applying the standard ICD coding procedures. This process is essential for a correct application of the ICD-10 instructions and for selection and modification of the tentative starting point.

The ICD-10 categorises diseases and health conditions into four-digit codes. In hard copy, it consists of three books. Volume 1 is a tabular list by ICD-10 code of diseases and conditions; Volume 2 provides guidance on use of the ICD-10, including coding procedures; and Volume 3 is an alphabetical index of diseases and health conditions.

To code a death certificate and determine the final underlying cause of death, coders first look up each entry on each line of the death certificate in the alphabetical index (Volume 3) to obtain the ICD-10 code for the entry and then look up each code in Volume 1 to verify that it is the correct one and see if there are any special instructions on how to use the code (which may lead to modification of the tentative starting point).

After the code for each entry on the death certificate has been obtained, coders determine the tentative underlying cause of death by applying steps SP1 through SP8 to the codes in the death certificate as described in Volume 2. Next, coders apply the special instructions for modifications of the starting point (steps M1 to M4) as described in Volume 2, check for age and sex inconsistencies, and arrive at the final underlying cause of death. It is this final underlying cause of death that has ultimately been tabulated in the 2017 GMHS final report.

Each Verbal Autopsy Questionnaire was independently reviewed by two physicians. When both physicians identified the same underlying cause of death and the same subsequent conditions (if any) in Part 1 of the death certificate (although the subsequent conditions did not need to be in the same order), the death certificate and the final underlying cause of death were considered complete. When questionnaires had discordant results between the two original reviewers; these questionnaires were re-reviewed by two of the physicians who arrived at a consensus to write a third, final death certificate.

9.4 LIMITATIONS

There are several limitations to the verbal autopsy component of the 2017 GMHS that must be acknowledged. They can be grouped into two areas: identifying eligible deaths and obtaining adequate information to determine the cause or causes of death.

Identifying Eligible Deaths

The linchpin of the death identification process is the screening that took place during the household listing. Any number of things could have gone wrong: the individual providing information for a household during the screening did not understand the screening questions, was reluctant to disclose deaths, misreported the year of death and/or the age at death, or did not possess complete information on the household and/or its deceased members in the past 5 years; the household had moved from some other place in the past 5 years; a household was composed just of the deceased person; or a household dissolved upon the death of a member. In addition, deaths that took place between the listing and fieldwork were of course not captured by the listing.

The 2017 GMHS attempted to correct for some of these problems by using fieldwork as an opportunity to review the list of deaths with community members/leaders and add deaths that had not been identified during the listing. However, despite best efforts, we cannot be certain that all deaths in the past 5 years among women age 12-49 at the time of death in all 900 clusters were captured by the survey.

Adequate Information on Eligible Deaths

Once a death is confirmed to be eligible, the problem remains of identifying someone who is familiar enough with the circumstances of the death to respond to the Verbal Autopsy Questionnaire; this issue is not unique to the 2017 GMHS. Fieldworkers were trained to discuss this with household members; the respondent was not required to be a member of the deceased woman's household but, in the interests of time and feasibility, was expected to be a resident of the same community. Even if a well-informed respondent is found, he or she may not have been made aware of all of the signs and symptoms experienced by the deceased, may not have been allowed to be with her at all times when receiving medical treatment, or may have difficulty remembering the circumstances or understanding the questions.

Finally, even if the respondent has and provides perfect knowledge, depending on the sensitivity and specificity of different symptoms and pieces of information contained in the questionnaire, it may be difficult for coders to distinguish the exact cause or causes of death. Again, this issue is not unique to the 2017 GMHS.

9.5 CHARACTERISTICS OF DECEASED WOMEN

Due to the issues discussed in identifying eligible deaths in section 9.4, the deaths described in this chapter cannot definitively be said to be representative of all deaths among women age 12-49 in Ghana from 2012 to 2017; the characteristics of the deceased women pertain only to themselves and not to all such deaths.

The Verbal Autopsy Questionnaire was completed and a final death certificate was written for 1,260 women (weighted) who died at age 12-49 in the 5 years preceding the survey (**Table 9.1**).

Patterns by background characteristics

- Just over half of the deaths took place in 2016 (27%) or 2015 (25%). The percentage of deaths in a given year decreases further back in time; presumably, deaths in earlier years were less well recollected by respondents. Since fieldwork finished before the end of 2017, a smaller percentage of deaths took place in that year (8%).
- About 1 in 10 deaths occurred among adolescents (4% age 12-14, 7% age 15-19).
- Sixty-one percent of deceased women were rural dwellers, as compared with 39% who were urban dwellers, and a much larger share of deaths took place in the Coastal zone (48%) than in the Northern zone (19%). These results should be interpreted in light of the overall distribution of the population in Ghana.

Respondents to the Verbal Autopsy Questionnaire

Almost all of the respondents to the Verbal Autopsy Questionnaire were family members of the deceased woman: a sibling (22%), parent or child (both 21%), other family member (17%), or husband/partner (16%). Two percent had some other relationship to the deceased, and 0.4% were a friend (**Table 9.2**).

9.6 CAUSE-SPECIFIC MORTALITY

Underlying cause of death

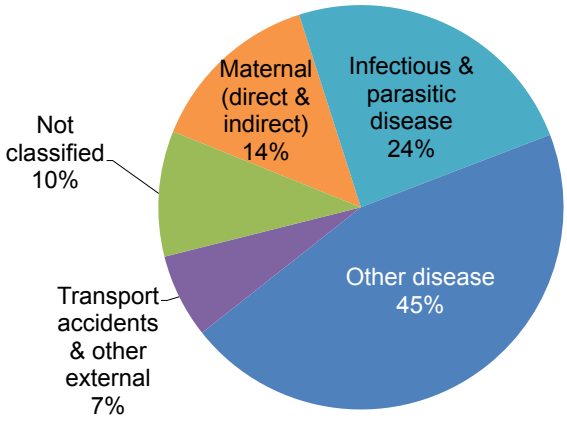
The disease or injury that initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury (WH0 2016).

Sample: Women who died at age 12-49 in the 5 years preceding the survey

The most important causes of death included infectious and parasitic disease (24%); conditions of the nervous, digestive, and respiratory systems (14%); other classified causes (13%); and circulatory disease (11%). Direct maternal causes account for 10% of deaths and indirect maternal causes for 4%. A cause of death could not be determined for 10% of deaths (**Table 9.3.1** and **Figure 9.1**).

Figure 9.1 **All-cause mortality**

Percent distribution of causes of death among women age 12-49 in the 5 years before the survey



Trends: **Table 9.3.2** is based on 2017 GMHS data tabulated to be comparable to the tabulation used in the 2007 GMHS, which did not include deaths not due to maternal causes (deaths with non-obstetric codes, i.e., other than A34 and O00-O99) that took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy (excluding those due to accidents or violence) among indirect maternal deaths. A slightly smaller percentage of deaths in 2017 were due to maternal causes (11%) than in 2007 (14%); a much smaller percentage of deaths in 2017 were due to infectious and parasitic disease (24% versus 41%). The percentage of deaths for which a cause could not be determined was higher in 2017 (10%) than in 2007 (0.2%), although the 2017 figure is not dissimilar from those reported in other studies in similar settings using physician review of verbal autopsy questionnaires (Mwanyangala et al. 2011; Oti and Kyobutungi 2010).

Patterns by background characteristics

- Unsurprisingly, a higher percentage of deaths among women age 20-39 (10%-19%) than among younger or older women (4%-7%) were due to direct maternal causes (**Table 9.3.1**).
- Although not increasing consistently with age, the percentage of deaths due to infectious and parasitic disease is lowest for women age 15-19 (15%) and highest for women age 45-49 (31%).
- A smaller percentage of women age 20 and above died of other external causes (2%-7%) or conditions of the nervous, digestive, and respiratory systems (11%-13%) than women age 15-19 (13% and 27%, respectively.)
- The percentage of deaths for which a cause could not be determined is slightly higher for rural (12%) than urban (8%) women.
- A slightly higher percentage of deaths in the Coastal zone (12%) than deaths in the other zones (8%-9%) were due to direct maternal causes.

9.7 MATERNAL CAUSES OF DEATH

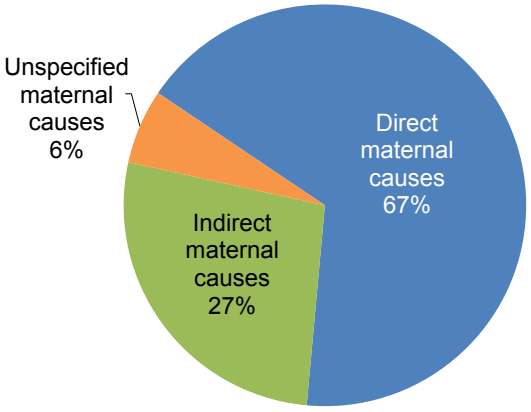
Appendix E provides details on how underlying causes of death due to obstetric codes in the 2017 GMHS verbal autopsy data were tabulated in Tables 9.4.1, 9.4.2, and 9.5. Table 9.4.1 follows the tabulation

recommendations outlined in WHO's Application of ICD-10 to deaths during pregnancy, childbirth, and the puerperium: ICD-Maternal Mortality (ICD-MM; WHO 2012).

Two-thirds of deaths due to maternal causes were direct maternal deaths (67%); the most frequent cause was obstetric haemorrhage (30%), followed by hypertensive disorders (14%). Just over a quarter of deaths due to maternal causes were the result of indirect causes (27%), and most deaths with indirect causes (22%) had non-obstetric codes (excluding accidents and violence) and took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy. Six percent of deaths due to maternal causes were attributable to unspecified maternal causes (**Table 9.4.1** and **Figure 9.2**).

Figure 9.2 **Maternal causes of death**

Percent distribution of maternal causes of death among women age 12-49 in the 5 years before the survey



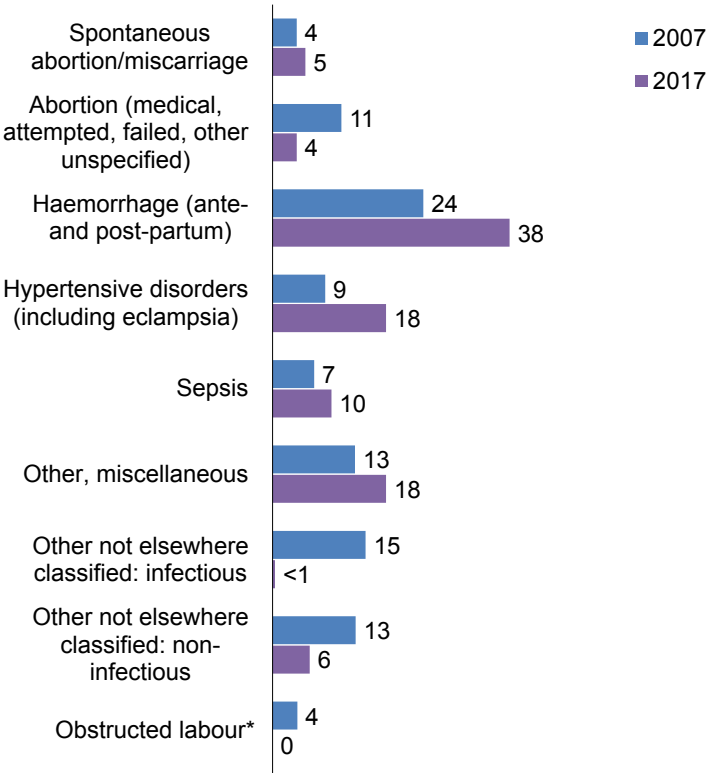
Among deaths with an obstetric code (direct, indirect, or unspecified), just over 4 in 10 took place within 42 days of the end of a pregnancy (41%), just over 3 in 10 took place during childbirth (32%), and just over 2 in 10 took place during pregnancy (22%); the remainder took place between 43 days and 1 year after the end of a pregnancy (6%) (**Table 9.5**).

Trends: **Table 9.4.2** follows the tabulation of maternal causes of death used in the 2007 GMHS, although in 2007 obstructed labour was considered a valid underlying cause of death, which was not the case in 2017. As in Table 9.3.2, deaths with non-obstetric codes (i.e., other than A34 and O00-O99) that took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy (excluding those due to accidents or violence) are not included among indirect maternal deaths.

Some causes of death decreased as a percentage of all obstetric causes between 2007 and 2017: induced abortion fell from 11% to 4%, not elsewhere classified (infectious) decreased from 15% to 0.4%, and not elsewhere classified (non-infectious) decreased from 13% to 6%. Others increased, although this does not mean that there were more deaths due to these causes; rather, it means that their relative proportion in the overall distribution of obstetric causes grew. These causes include haemorrhage (from 24% to 38%), hypertensive disorders (9% to 18%), and other (miscellaneous) (from 13% to 18%) (**Figure 9.3**).

***Figure 9.3* Causes of obstetric-coded deaths**

Percent distribution of deceased women age 12-49 in the 5 years preceding the survey whose deaths were due to obstetric causes



** Obstructed labour was not used as an underlying cause of death in 2017*

9.8 Deceased Women and Health Care

9.8.1 Treatment Seeking for Deceased Women

Seventy-one percent of women who died at age 12-49 in the 5 years preceding the survey sought medical care at either public or private sector health facilities. Six percent sought care at private facilities only, and a much higher percentage (58%) sought care at public facilities only (**Table 9.6**).

In addition, questions were asked about the use of traditional/herbal and spiritual medicine; women using these kinds of medicine may also have sought medical care. Six in 10 women who died at age 12-49 in the 5 years preceding the survey did not use either traditional/herbal or spiritual medicine (61%); 16% used traditional/herbal medicine, 9% used spiritual medicine, and 12% used both traditional/herbal and spiritual medicine (**Table 9.7**).

Patterns by background characteristics

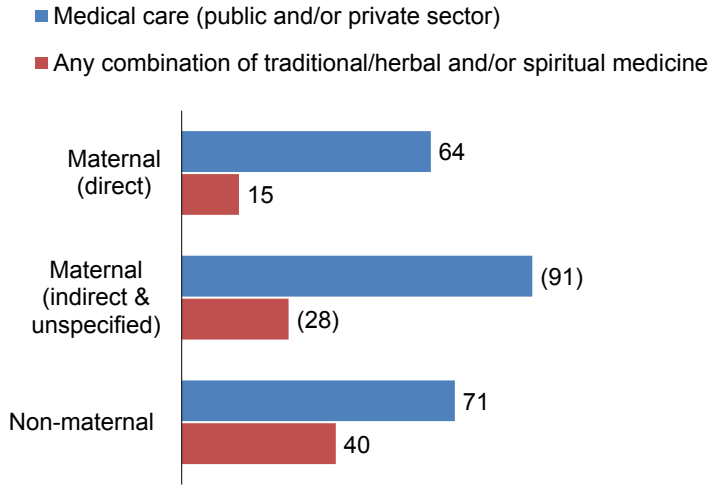
- The percentage of women who sought medical care from public and/or private sector facilities ranges from 65% in the Coastal zone to 71% in the Northern zone and 80% in the Middle zone (**Table 9.6**).

- A slightly smaller percentage of women who died of direct maternal causes sought medical care (64%) than women who died of non-maternal causes (71%), and a noticeably smaller percentage of women who died of direct maternal causes (15%) than women who died of non-maternal causes (40%) used any combination of traditional/herbal and/or spiritual medicine (**Table 9.6**, **Table 9.7**, and **Figure 9.4**).

- The percentage of women who did not use either traditional/herbal or spiritual medicine generally decreases with age (**Table 9.7**).

Figure 9.4 **Use of medical care and traditional/herbal and/or spiritual medicine by cause of death**

Percentage of deceased women age 12-49 in the 5 years before the survey who received care



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

- Differences by zone in the percentage of women who did not use traditional/herbal or spiritual medicine are small (60%-64%); however, there are larger differences in the percentage who used traditional/herbal (13%-28%) versus spiritual (2%-11%) medicine (**Table 9.7**).

9.8.2 Sources of Care for Deceased Women

Among women who died at age 12-49 in the 5 years preceding the survey and had sought care, 84% sought care in the public medical sector, 16% sought care in the private medical sector, 9% received care at home, and 20% went to a prayer camp/shrine; care may have been received from more than one source (**Table 9.8**).

Patterns by background characteristics

- A slightly larger percentage of women who sought care and died of direct maternal causes went to public sector medical facilities (89%) than women who died of non-maternal causes (83%), while a slightly smaller percentage of women who died of direct maternal causes went to private sector medical facilities (11%) than women who died of non-maternal causes (17%).

- A larger percentage of women who sought care in urban areas (21%) than in rural areas (13%) went to private sector medical facilities.

- A larger percentage of women who died of non-maternal causes, who lived in rural areas, and who lived in the Northern zone sought care at home.

- The percentage of women who went to a prayer camp/shrine rises from 9% in the Northern zone to 20% in the Middle zone and 26% in the Coastal zone.

9.8.3 Visits to Health Facilities before Death

Sixty-seven percent of women who died at age 12-49 in the 5 years preceding the survey travelled to a health care facility in the final days before death. Among these women, 95% used motorised transport to get to the health facility. Regardless of means of transportation, the median travel time to the health facility was 34.3 minutes. About 1 in 10 women encountered problems with being received (11%), obtaining treatment (12%), or getting medications and diagnostic tests (10%) at the facility (**Table 9.9**).

Patterns by background characteristics

- A larger percentage of women who died of direct maternal causes travelled to a health care facility in the final days before death (84%) than women who died of non-maternal causes (64%).
- A larger percentage of women in urban areas (71%) than in rural areas (64%) travelled to a health care facility in the final days before death.
- The median travel time to the health facility was longer for rural women (44.5 minutes) than for urban women (29.0 minutes); the median travel time was 4 minutes shorter than the national average of 34.3 minutes for women in the Coastal (30.0 minutes) and Middle (29.7 minutes) zones and nearly 13 minutes longer than the national average for women in the Northern zone (46.9 minutes).
- A larger percentage of women who died of direct maternal causes and travelled to a health facility in the final days before death encountered problems obtaining treatment at the facility (18%), nearly twice as often as women who died of non-maternal causes (10%).

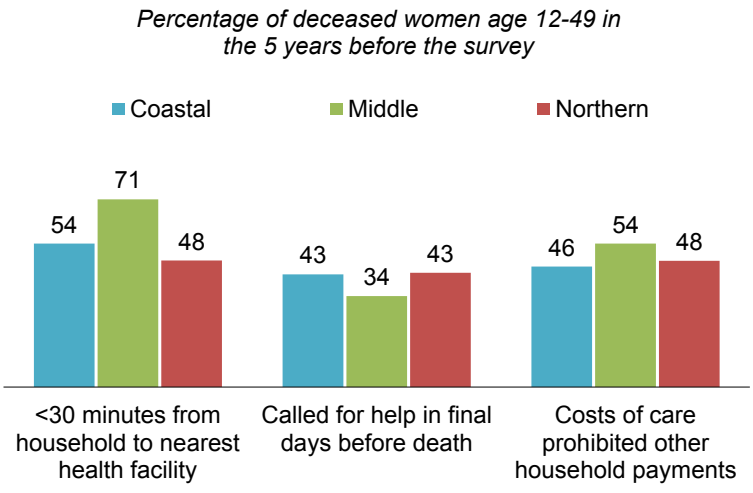
9.8.4 Logistical and Financial Issues

Among the households of nearly 6 in 10 women who died at age 12-49 in the 5 years preceding the survey (59%), it takes 30 minutes or less to reach the nearest health facility; among 6%, it takes more than 1 hour. For 40% of deceased women, a telephone or cell phone was used to call for help in the final days before death, and among the households of 49%, the costs of care for the deceased woman prohibited the payment of other household expenses (**Table 9.10**).

Patterns by background characteristics

- A smaller percentage of women whose households are more than 1 hour from the nearest health facility travelled to a health facility in the final days before death (3%) than did not travel to a health facility in the final days before death (11%).
- There are differences among zones in the percentage of households within 30 minutes of the nearest health facility, where a phone call was made for help, and where costs of care prohibited other payments (**Figure 9.5**).

Figure 9.5 **Logistical and financial issues by zone**



9.9 Death Certificates and Burial Permits

For 12% of women who died at age 12-49 in the 5 years preceding the survey, the verbal autopsy respondent was in possession of a death certificate, and for 9% he or she was in possession of a burial permit (**Table 9.11**).

Patterns by background characteristics

- The percentage of verbal autopsy respondents who were in possession of death certificates and burial permits was larger for women who died of direct maternal causes (19% and 16%, respectively) than for women who died of non-maternal causes (11% and 8%, respectively).
- A larger percentage of verbal autopsy respondents in urban areas than in rural areas had death certificates (18% versus 8%) and burial permits (15% versus 6%).
- The percentage of verbal autopsy respondents in possession of a death certificate and a burial permit is smaller in the Northern zone (2% and 1%) than in the Coastal (17% and 13%) and Middle (10% and 9%) zones.

List of Tables

For more information on the verbal autopsy data, see the following tables:

- **Table 9.1 Background characteristics of deceased women**
- **Table 9.2 Respondents to verbal autopsy questionnaires**
- **Table 9.3.1 All cause-specific mortality with provision for indirect maternal deaths**
- **Table 9.3.2 All cause-specific mortality**
- **Table 9.4.1 Causes of maternal deaths following ICD-MM**
- **Table 9.4.2 Causes of obstetric-coded deaths**
- **Table 9.5 Timing and onset period of causes of obstetric-coded deaths**
- **Table 9.6 Treatment seeking for deceased women in the medical sector**
- **Table 9.7 Treatment seeking for deceased women in the non-medical sector**
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- **Table 9.10 Logistical and financial issues**
- **Table 9.11 Death certificates and burial permits**

Table 9.1 Background characteristics of deceased women

Percent distribution of deceased women age 12-49 in the 5 years before the survey for whom verbal autopsies were completed, by selected background characteristics, Ghana MHS 2017

Background characteristic	Deceased women		
	Weighted percent	Weighted number	Unweighted number
Year of death			
2012	5.1	64	65
2013	14.6	184	178
2014	20.0	252	254
2015	25.1	316	315
2016	27.3	343	331
2017	8.0	101	97
Age at death			
12-14	3.9	49	44
15-19	7.1	90	85
20-24	11.2	141	128
25-29	13.4	169	161
30-34	18.0	227	218
35-39	17.3	218	215
40-44	15.3	193	201
45-49	13.7	173	188
Religion			
Catholic	9.6	121	156
Anglican/Methodist/Presbyterian	11.2	141	128
Pentecostal/Charismatic	37.8	477	405
Other Christian	13.8	174	154
Muslim	15.7	198	253
Traditional/Spiritualist	4.1	52	48
No religion	7.5	94	93
Don't know	0.3	4	3
Ethnic group			
Akan	40.7	512	445
Ga/Dangme	9.0	114	92
Ewe	16.7	210	160
Guan	5.4	67	62
Mole-Dagbani	16.5	208	306
Grusi	1.8	23	43
Gurma	8.2	103	108
Mande	0.8	10	10
Other	1.0	13	14
Marital status			
Never married	26.2	330	311
Married	43.8	552	596
Living together	14.0	177	143
Divorced/separated	11.1	140	128
Widowed	4.9	62	62
Residence			
Urban	38.7	488	589
Rural	61.3	772	651
Region			
Western	11.1	139	111
Central	10.1	127	109
Greater Accra	11.8	148	111
Volta	14.9	188	126
Eastern	13.7	173	152
Ashanti	9.8	124	100
Brong Ahafo	9.7	123	114
Northern	12.5	157	227
Upper East	3.7	46	99
Upper West	2.7	34	91
Zone			
Coastal	47.9	603	457
Middle	33.3	419	366
Northern	18.9	238	417
Education			
No education	25.4	319	369
Primary	23.9	301	268
Middle/JSS/JHS	37.5	473	422
Secondary/SSS/SHS	9.9	125	129
More than secondary	2.0	25	37
Don't know	1.3	16	15
Total	100.0	1,260	1,240

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

Table 9.2 Respondents to Verbal Autopsy Questionnaires

Percent distribution of relationship of respondent to verbal autopsy questionnaire to the deceased woman, Ghana MHS 2017

Relationship	Deceased women
Husband/partner	16.3
Parent	21.3
Child	21.0
Sibling	22.0
Other family member	17.1
Friend	0.4
Another relationship	2.0
Total	100.0
Number of deceased women	1,260

Table 9.3.1 All cause-specific mortality with provision for indirect maternal deaths

Percent distribution of deceased women age 12-49 in the 5 years preceding the survey by cause of death, according to background characteristics, Ghana MHS 2017

Background characteristic	Maternal		Infectious and parasitic disease[3]	Neo-plasms[4]	Circulatory disease[5]	Transport accidents[6]	Other external causes[7]	Nervous system, digestive, respir-atory[8]	Other causes (clas-sified)[9]	No cause deter-mined[10]	Total	Number of deceased women
	Direct[1]	Indirect[2]										
Age at death												
12-14	(2.6)	(0.0)	(22.4)	(9.4)	(2.6)	(1.1)	(1.3)	(38.4)	(9.0)	(13.3)	100.0	49
15-19	6.8	5.3	15.1	1.9	1.0	3.4	12.8	26.5	23.8	3.6	100.0	90
20-24	13.7	5.6	21.4	3.1	6.4	3.7	6.0	11.7	18.2	10.1	100.0	141
25-29	18.9	4.5	25.0	1.3	5.4	0.9	6.6	13.4	9.8	14.2	100.0	169
30-34	10.1	5.5	21.3	9.3	11.4	1.6	5.5	12.2	11.5	11.5	100.0	227
35-39	14.1	5.2	26.0	11.9	10.7	1.8	4.3	12.1	8.6	5.4	100.0	218
40-44	4.6	1.3	24.1	8.2	16.2	1.0	3.4	13.0	15.2	12.8	100.0	193
45-49	3.6	0.7	30.6	8.2	18.1	0.8	1.9	11.4	13.5	11.3	100.0	173
Residence												
Urban	8.4	3.2	26.1	7.9	12.3	1.9	4.5	13.7	14.5	7.6	100.0	488
Rural	11.1	4.2	22.6	6.7	9.4	1.6	5.4	14.8	12.3	12.1	100.0	772
Zone												
Coastal	12.1	3.3	24.0	6.7	10.2	2.0	3.6	13.2	12.5	12.3	100.0	603
Middle	8.5	4.4	22.2	9.2	11.4	0.8	4.8	15.9	15.8	6.9	100.0	419
Northern	7.9	3.9	26.8	4.7	9.6	2.4	8.9	14.4	9.9	11.6	100.0	238
Total	10.1	3.8	23.9	7.1	10.5	1.7	5.0	14.3	13.1	10.3	100.0	1,260

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] ICD-10 codes A34, O00-O8, O11-O23, O24.4, O25-O97
[2] ICD-10 codes O10, O24.0-O24.3, O24.9, O98, O99, and deaths due to non-obstetric causes (excluding accident and violence) that took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy
[3] ICD-10 codes A00-A33, A35-B99
[4] ICD-10 codes C00-D48
[5] ICD-10 codes I00-I99
[6] ICD-10 codes V01-V99
[7] ICD-10 codes S00-T98, W00-Y98
[8] ICD-10 codes G00-G99, J00-J99, K00-K93
[9] ICD-10 codes D50-D89, E00-E90, F00-F99, G00-G99, H00-H59, H60-H95, L00-L99, M00-M99, N00-N99, Q00-Q99, R00-R94
[10] ICD-10 codes R95-R99

Table 9.3.2 All cause-specific mortality

Percent distribution of deceased women age 12-49 in the 5 years preceding the survey by cause of death, according to background characteristics, Ghana MHS 2017

Background characteristic	Maternal[1]	Infectious and parasitic disease[2]	Neo-plasms[3]	Circulatory disease[4]	Transport accidents[5]	Other external causes[6]	Nervous system, digestive, respiratory[7]	Other causes (classified)[8]	No cause deter-mined[9]	Total	Number of deceased women
Age at death											
12-14	(2.6)	(22.4)	(9.4)	(2.6)	(1.1)	(1.3)	(38.4)	(9.0)	(13.3)	100.0	49
15-19	7.6	15.1	1.9	1.0	3.4	12.8	28.5	26.2	3.6	100.0	90
20-24	15.3	23.5	3.1	6.4	3.7	6.0	11.7	19.2	11.1	100.0	141
25-29	20.2	25.0	2.1	6.7	0.9	6.6	13.4	10.5	14.5	100.0	169
30-34	11.1	22.4	9.3	12.2	1.6	5.5	12.5	12.1	13.3	100.0	227
35-39	14.7	26.0	14.4	11.1	1.8	4.3	12.1	10.2	5.5	100.0	218
40-44	4.6	25.1	8.2	16.2	1.0	3.4	13.0	15.2	13.1	100.0	193
45-49	3.6	31.3	8.2	18.1	0.8	1.9	11.4	13.5	11.3	100.0	173
Residence											
Urban	9.3	26.9	8.2	13.1	1.9	4.5	13.7	14.7	7.8	100.0	488
Rural	11.8	23.2	7.4	9.5	1.6	5.4	15.1	13.4	12.8	100.0	772
Zone											
Coastal	12.2	24.5	7.7	10.8	2.0	3.6	13.3	13.3	12.4	100.0	603
Middle	9.6	23.1	9.2	11.4	0.8	4.8	16.4	16.9	7.8	100.0	419
Northern	9.4	27.4	5.1	10.0	2.4	8.9	14.4	10.1	12.3	100.0	238
Total	10.8	24.6	7.7	10.9	1.7	5.0	14.5	13.9	10.9	100.0	1,260

Note: This table follows the tabulation used in the 2007 GMHS final report to enable comparisons. In this table, deaths with non-obstetric codes that took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy are coded in the column for the direct cause of death. Figures in parentheses are based on 25-49 unweighted cases.

[1] ICD-10 codes A34, O00-O99
[2] ICD-10 codes A00-A33, A35-B99
[3] ICD-10 codes C00-D48
[4] ICD-10 codes I00-I99
[5] ICD-10 codes V01-V99
[6] ICD-10 codes S00-T98, W00-Y98
[7] ICD-10 codes G00-G99, J00-J99, K00-K93
[8] ICD-10 codes D50-D89, E00-E90, F00-F99, G00-G99, H00-H59, H60-H95, L00-L99, M00-M99, N00-N99, Q00-Q99, R00-R94
[9] ICD-10 codes R95-R99

Table 9.4.1 Causes of maternal deaths following ICD-MM

Percent distribution of deceased women age 12-49 in the 5 years preceding the survey who died from maternal causes, by cause of death, Ghana MHS 2017

Cause of death	Maternal deaths
Maternal death: direct	67.2
Pregnancy with abortive outcome	7.1
Hypertensive disorders in pregnancy, childbirth, and the puerperium	14.3
Obstetric haemorrhage	29.7
Pregnancy-related infection	7.4
Other obstetric complications	8.7
Unanticipated complications of management	0.0
Maternal death: indirect	27.3
Non-obstetric complications	5.0
Non-obstetric codes[1]	22.3
Maternal death: unspecified	
Unknown/undetermined	5.5
Total	100.0
Number of deceased women who died from maternal causes (direct, indirect, and unspecified)	175

Note: Coding in this table follows the recommendations of WHO's Application of ICD-10 to deaths during pregnancy, childbirth, and the puerperium: ICD-Maternal Mortality (ICD-MM). For the specific categorisation of ICD-10 codes in this table, see Appendix E.

[1] Deaths due to non-obstetric causes (excluding accidents and violence) that took place during pregnancy, childbirth, or within 42 days of the end of a pregnancy; not included in Appendix E

Table 9.4.2 Causes of obstetric-coded deaths

Percent distribution of deceased women age 12-49 in the 5 years preceding the survey due to obstetric causes, by cause of death, Ghana MHS 2017

Cause of death	Obstetric-coded deaths
Spontaneous abortion/miscarriage	5.3
Abortion (medical, attempted, failed, other unspecified)	3.9
Haemorrhage (ante- and postpartum)	38.2
Hypertensive disorders (including eclampsia)	18.3
Sepsis	9.5
Other, miscellaneous	18.3
Other not elsewhere classified: infectious	0.4
Other not elsewhere classified: non-infectious	6.0
Total	100.0
Number of deceased women due to obstetric-coded causes	136

Note: This table follows the tabulation used in the 2007 GMHS final report to enable comparisons. All deaths with obstetric codes (direct, indirect, and unspecified) are included. For the specific categorisation of ICD-10 codes in this table, see Appendix E.

Table 9.5 Timing and onset period of causes of obstetric-coded deaths

Percent distribution of deceased women age 12-49 in the 5 years before the survey due to obstetric-coded causes by timing of death and by onset period of cause of death, Ghana MHS 2017

Background characteristic	Obstetric-coded deaths
Timing of death	
During pregnancy	21.7
During childbirth	31.7
Within 42 days of the end of a pregnancy	41.2
Between 43 days and 1 year of the end of a pregnancy	5.5
Total	100.0
Onset period of cause of death	
Before pregnancy	0.6
Pregnancy	23.6
Pregnancy or childbirth	6.1
Childbirth	14.0
Puerperium	39.4
Any period	16.2
Total	100.0
Number of deceased women due to obstetric-coded causes	136

Note: All deaths with obstetric codes (direct, indirect, and unspecified) are included. The onset period is not necessarily when the individual died. This categorisation is based on the onset period of the cause of death, regardless of the actual timing of the death.

Table 9.6 Treatment seeking for deceased women in the medical sector

Percentage of deceased women age 12-49 in the 5 years before the survey who received medical care, according to background characteristics, Ghana MHS 2017

Background characteristic	Medical care			Number of deceased women
	Public sector only[1]	Private sector only[2]	Public and/or private sector	
Cause of death				
Maternal (direct)	56.8	2.9	64.3	127
Maternal (indirect and unspecified)	(80.7)	(3.7)	(90.5)	48
Non-maternal	57.6	6.2	70.5	1,085
Age at death				
12-14	(45.8)	(12.0)	(64.9)	49
15-19	65.0	5.4	72.9	90
20-24	64.0	6.3	72.0	141
25-29	53.3	7.4	66.2	169
30-34	57.3	5.1	72.8	227
35-39	63.8	3.5	73.3	218
40-44	58.1	7.3	73.3	193
45-49	54.1	4.0	65.3	173
Residence				
Urban	55.5	7.7	71.7	488
Rural	60.2	4.5	70.0	772
Zone				
Coastal	52.4	5.4	64.5	603
Middle	65.3	7.4	79.5	419
Northern	61.5	3.9	70.7	238
Total	58.4	5.8	70.7	1,260

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes government hospital, government health centre/clinic, government health post/CHPS, mobile clinic, and other public sector
[2] Includes private hospital/clinic, FP/PPAG clinic, mobile clinic, maternity home, pharmacy/ chemist/drugstore, and other private medical sector

Table 9.7 Treatment seeking for deceased women in the non-medical sector

Percent distribution of deceased women age 12-49 in the 5 years before the survey by use of traditional/herbal and spiritual medicine, according to background characteristics, Ghana MHS 2017

Background characteristic	Use of traditional/herbal and spiritual medicine						Number of deceased women
	Traditional/ herbal only	Spiritual only	Both traditional/ herbal and spiritual	Neither	Don't know	Total	
Cause of death							
Maternal (direct)	3.5	6.6	4.7	80.5	4.7	100.0	127
Maternal (indirect and unspecified)	(4.6)	(12.4)	(10.6)	(72.4)	(0.0)	(100.0)	48
Non-maternal	18.4	8.8	12.6	58.7	1.4	100.0	1,085
Age at death							
12-14	(15.8)	(18.7)	(12.3)	(53.2)	(0.0)	(100.0)	49
15-19	6.9	6.1	9.7	77.3	0.0	100.0	90
20-24	14.5	12.0	10.6	61.6	1.4	100.0	141
25-29	20.6	5.6	7.6	62.5	3.7	100.0	169
30-34	13.3	6.9	12.0	65.8	2.0	100.0	227
35-39	15.8	6.2	17.1	60.8	0.0	100.0	218
40-44	20.1	9.0	12.8	56.1	2.0	100.0	193
45-49	19.4	13.1	9.3	55.5	2.7	100.0	173
Residence							
Urban	15.3	9.0	11.7	62.0	1.9	100.0	488
Rural	17.1	8.6	11.8	61.1	1.6	100.0	772
Zone							
Coastal	12.8	10.6	13.3	59.8	3.5	100.0	603
Middle	15.1	9.9	11.0	63.9	0.1	100.0	419
Northern	27.6	1.9	9.2	61.3	0.0	100.0	238
Total	16.4	8.7	11.7	61.4	1.7	100.0	1,260

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

Table 9.8 Source of care for deceased women

Among deceased women age 12-49 in the 5 years before the survey who received care, percentage who received care from various sources, according to cause of death, residence, and zone, Ghana MHS 2017

	Cause of death			Residence		Zone			
Source of care	Maternal (direct)	Maternal (indirect and unspecified)	Non-maternal	Urban	Rural	Coastal	Middle	Northern	Total
Public sector	89.4	(92.1)	83.3	82.7	85.2	83.7	85.4	83.3	84.2
Government hospital	81.3	(88.6)	73.0	75.8	73.6	73.9	78.6	68.3	74.5
Government health centre/clinic	16.8	(16.2)	20.6	13.6	24.1	19.8	15.3	29.3	20.0
Government health post/CHPS	3.9	(1.2)	1.2	0.1	2.3	0.8	0.6	4.6	1.5
Mobile clinic	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other public sector	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private sector	10.8	(10.3)	16.7	21.0	12.7	17.1	16.9	11.4	15.9
Private hospital/clinic	8.8	(10.3)	14.6	18.7	10.8	15.8	14.7	8.1	13.9
FP/PPAG clinic	0.0	(0.0)	0.1	0.2	0.0	0.1	0.0	0.0	0.1
Mobile clinic	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maternity home	2.0	(0.0)	0.0	0.5	0.0	0.4	0.0	0.0	0.2
Pharmacy/chemist/drugstore	0.0	(0.0)	2.4	2.6	1.8	1.7	1.7	3.8	2.1
Other private medical sector	0.0	(0.0)	0.2	0.1	0.2	0.0	0.5	0.0	0.2
Home	4.4	(2.8)	10.1	6.5	11.0	4.5	9.7	19.0	9.2
Deceased woman's home	2.3	(0.0)	4.0	1.8	4.9	2.0	3.7	7.4	3.7
Other home	1.4	(2.8)	6.2	4.5	6.3	2.9	6.0	11.0	5.6
Traditional birth attendant's home	0.7	(0.0)	0.2	0.3	0.2	0.2	0.0	1.0	0.3
Prayer camp/shrine	6.3	(9.8)	22.4	17.6	22.1	26.0	19.7	8.8	20.3
Other	3.1	(8.1)	1.0	1.0	1.8	1.1	1.4	2.6	1.5
Number of deceased women who received care	87	45	838	378	593	425	354	191	970

Note: Care may have been received from more than one source. Figures in parentheses are based on 25-49 unweighted cases.

Table 9.9 Visits to health facilities before death

Percentage of deceased women age 12-49 in the 5 years before the survey who travelled to a health facility before death, and among deceased women who travelled to a health facility, percentage who used motorised transport, median travel time to health facility, and percentage who encountered problems being received, with treatment, or getting medications or diagnostic tests at the health facility, according to background characteristics, Ghana MHS 2017

Background characteristic	Travelled to a health facility in final days before death	Number of deceased women	Deceased women who travelled to a health facility:					Number of deceased women who travelled to a health facility in final days before death
			Used motorised transport to get to the health facility	Median travel time to the health facility in minutes[1]	Encountered problems at the health facility with:			
					Being received	Obtaining treatment	Getting medications or diagnostic tests	
Cause of death								
Maternal (direct)	84.1	127	90.5	29.8	11.5	17.8	11.6	107
Maternal (indirect and unspecified)	(88.1)	48	(100.0)	(44.3)	(23.5)	(28.9)	(12.5)	42
Non-maternal	63.6	1,085	95.9	34.5	10.5	10.4	9.2	690
Age at death								
12-14	(53.7)	49	(91.4)	(44.1)	(23.2)	(30.5)	(18.3)	26
15-19	65.5	90	97.4	44.3	15.5	13.6	16.8	59
20-24	68.2	141	98.5	29.8	10.6	18.8	13.0	96
25-29	59.1	169	97.6	39.8	8.6	5.6	8.0	100
30-34	74.0	227	95.6	39.4	12.2	13.3	4.9	168
35-39	69.0	218	94.5	29.9	8.2	12.9	10.9	151
40-44	73.2	193	92.3	29.8	16.5	11.2	10.3	141
45-49	57.1	173	95.6	29.6	4.4	5.6	6.7	99
Residence								
Urban	71.2	488	95.4	29.0	11.8	13.1	9.5	347
Rural	63.7	772	95.4	44.5	10.9	11.6	9.7	492
Zone								
Coastal	63.4	603	96.3	30.0	13.3	11.3	10.1	382
Middle	70.9	419	95.1	29.7	10.9	15.3	8.4	297
Northern	67.4	238	93.8	46.9	6.9	8.8	11.1	160
Total	66.6	1,260	95.4	34.3	11.3	12.2	9.7	839

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Medians are calculated excluding respondents who gave non-numeric responses.

Table 9.10 Logistical and financial issues

Among deceased women, percentage with various travel times from deceased woman's household to the nearest health facility, percentage for whom a telephone or cell phone was used to call for help in the final days before death, and percentage for whom the cost of care prohibited other household payments, according to background characteristics, Ghana MHS 2017

Background characteristic	Travel time to nearest health facility[1,2]				Telephone or cell phone was used to call for help in final days before death	Over the course of illness, costs of care prohibited other household payments	Number of deceased women
	<30 minutes	30 minutes to 1 hour	61 minutes to 2 hours	>2 hours			
Travelled to a health facility in final days before death							
Yes	65.0	30.1	2.3	1.1	46.2	48.4	839
No[3]	45.8	38.8	8.1	2.6	27.6	49.6	420
Cause of death							
Maternal (direct)	55.7	32.0	3.4	3.3	46.7	43.7	127
Maternal (indirect and unspecified)	(51.9)	(38.8)	(2.9)	(6.3)	(42.8)	(41.6)	48
Non-maternal	59.2	32.8	4.4	1.2	39.1	49.7	1,085
Residence							
Urban	71.6	24.8	0.6	0.4	39.4	44.4	488
Rural	50.3	38.2	6.5	2.4	40.3	51.6	772
Zone							
Coastal	54.2	35.7	4.6	2.2	42.6	45.5	603
Middle	70.9	24.7	1.8	0.7	34.4	54.2	419
Northern	47.8	40.9	7.6	1.8	43.2	47.7	238
Total	58.6	33.0	4.2	1.6	40.0	48.8	1,260

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Hypothetical question on travel time to nearest facility, not necessarily the facility that was visited (if the deceased woman travelled to any facility)
[2] Excludes respondents who gave non-numeric responses
[3] Includes 4 individuals who responded don't know

Table 9.11 Death certificates and burial permits

Percentage of deceased women age 12-49 in the 5 years before the survey for whom the verbal autopsy respondent had a death certificate and percentage for whom the respondent had a burial permit, according to background characteristics, Ghana MHS 2017

Background characteristic	Respondent in possession of death certificate	Respondent in possession of burial permit	Number of deceased women
Cause of death			
Maternal (direct)	18.8	16.4	127
Maternal (indirect and unspecified)	(13.3)	(11.0)	48
Non-maternal	10.7	8.3	1,085
Age at death			
12-14	(4.2)	(4.3)	49
15-19	17.2	13.2	90
20-24	6.6	5.8	141
25-29	12.0	7.4	169
30-34	13.6	12.2	227
35-39	14.5	9.7	218
40-44	9.4	10.0	193
45-49	10.6	7.9	173
Residence			
Urban	17.8	15.1	488
Rural	7.7	5.5	772
Zone			
Coastal	16.5	13.0	603
Middle	9.8	8.5	419
Northern	2.2	1.2	238
Total	11.6	9.2	1,260

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

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SAMPLE DESIGN

Appendix A

A.1 INTRODUCTION

The 2017 Ghana Maternal Health Survey (2017 GMHS) was the second of its kind following the original conducted in 2007 (2007 GMHS). The survey was planned to collect information on maternal health and mortality in Ghana through data collection at the household and individual woman's level. As in the 2007 GMHS, the 2017 GMHS collected data from a nationally representative sample. The 2017 GMHS sample consisted of 900 clusters and 27,000 households randomly selected from the entire country. In the first phase, during the household listing operation, a screening on death of all household members occurring since January 2012 was conducted in all households in each of the selected clusters. A list of households where a female resident age 10-54 at time of death occurred in the past 5 years was constructed. In the second phase, interviewer visited all the households in this list to confirm the death, and conduct a verbal autopsy interview for all deaths of female residents age 12-49 occurring in the past 5 years to obtain information on the cause of death. Also in the second phase, 30 households were randomly selected from all households listed in the first phase, in each of the 900 selected clusters. This selection was independent of whether the household was also on the list for verbal autopsy interviews. In the selected households, a household questionnaire was applied to collect basic household information. All women age 15-49 in the selected households were eligible for an interview using a woman's questionnaire, including both members and visitors who stayed in the selected household the night before the survey. The woman's questionnaire collected information on key demographic and health indicators including antenatal, maternity, and emergency obstetric care in the event of a birth, abortion, or miscarriage in the past 5 years. In addition, a sibling history module was applied to every eligible woman to collect their sibling's survival information which was used to calculate direct estimates of adult and maternal mortality rates.

The survey was designed to produce representative estimates for maternal mortality indicators for the country as a whole, and for each of the three geographical zones, namely Coastal (Western, Central, Greater Accra and Volta), Middle (Eastern, Ashanti and Brong Ahafo) and Northern (Northern, Upper East and Upper West). For other indicators such as maternal care, fertility and child mortality, the survey was designed to produce representative results for the country as whole, for the urban and rural areas, and for each of the country's 10 administrative regions.

A.2 SAMPLING FRAME

The sampling frame used for 2017 GMHS is the frame of the Population and Housing Census (PHC) conducted in Ghana in 2010, provided by the Ghana Statistical Service (GSS), with updated information on identification of the 216 administrative districts defined after the census. The census frame is a complete list of all census *enumeration areas* (EA) created for the PHC 2010. Ghana is administratively divided into 10 administrative regions, and each region is sub-divided into a number of districts; in total there are 216 districts in Ghana. **Table A.1** below gives the population distribution by region and by type of residence. The proportion of the population varies greatly by region, from 2.8% in Upper West region to 19.4% in Ashanti region. The urbanization of the regions varies also greatly, with Greater Accra region being 90.5% urban, while in Upper West region only 16.3% of the population lives in urban areas. In Ghana, 50.9% of the population lives in urban areas. **Table A.2** below gives the distribution of residential households by region and by type of residence. The household distribution is slightly different from the population distribution because the average urban household size is smaller than the average rural household size. In Ghana, 55.8% of households are in urban areas. **Table A.3** below gives the distribution of EAs and their average size (number of households) by region and by type of residence. There are in total 37,675 EAs; 16,503 are in urban areas and 21,172 are in rural areas. The average EA size is 145

households; urban EAs have a slightly larger size, with an average of 185 households per EA; the rural EAs have a smaller size with an average of 114 households per EA. The EA size is adequate to serve as a primary sampling unit (PSU) with a sample take of 30 households per EA.

Table A.1 Distribution of population by region and by type of residence

	Distribution of Population			Percentage	
Region Name	Urban	Rural	Total	Urban	Region
Western	1,007,969	1,368,052	2,376,021	42.4	9.6
Central	1,037,878	1,163,985	2,201,863	47.1	8.9
Greater Accra	3,630,955	379,099	4,010,054	90.5	16.3
Volta	713,735	1,404,517	2,118,252	33.7	8.6
Eastern	1,143,918	1,489,236	2,633,154	43.4	10.7
Ashanti	2,897,290	1,883,090	4,780,380	60.6	19.4
Brong Ahafo	1,028,473	1,282,510	2,310,983	44.5	9.4
Northern	750,712	1,728,749	2,479,461	30.3	10.1
Upper East	219,646	826,899	1,046,545	21.0	4.2
Upper West	114,653	587,457	702,110	16.3	2.8
Ghana	12,545,229	12,113,594	24,658,823	50.9	100.0

Source: 2010 Population and Housing Census, including institutional population

Table A.2 Distribution of residential households by region and by type of residence

	Distribution of Residential Households			Percentage	
Region Name	Urban	Rural	Total	Urban	Region
Western	248,919	304,715	553,634	45.0	10.1
Central	255,365	271,398	526,763	48.5	9.6
Greater Accra	950,336	86,034	1,036,370	91.7	19.0
Volta	178,814	316,786	495,600	36.1	9.1
Eastern	293,547	338,498	632,045	46.4	11.6
Ashanti	715,462	410,743	1,126,205	63.5	20.6
Brong Ahafo	236,283	254,232	490,515	48.2	9.0
Northern	106,071	212,048	318,119	33.3	5.8
Upper East	41,941	135,688	177,629	23.6	3.2
Upper West	22,628	87,546	110,174	20.5	2.0
Ghana	3,049,366	2,417,688	5,467,054	55.8	100.0

Source: 2010 Population and Housing Census

Table A.3 Distribution of enumeration areas and their average size in number of households

	Distribution of EAs			Average EA size		
Region Name	Urban	Rural	Total	Urban	Rural	Total
Western	1,239	2,300	3,539	201	132	156
Central	1,350	1,885	3,235	189	144	163
Greater Accra	4,724	699	5,423	201	123	191
Volta	964	2,646	3,610	185	120	137
Eastern	1,708	2,705	4,413	172	125	143
Ashanti	3,618	3,442	7,060	198	119	160
Brong Ahafo	1,425	2,246	3,671	166	113	134
Northern	998	2,873	3,871	106	74	82
Upper East	324	1,403	1,727	129	97	103
Upper West	153	973	1,126	148	90	98
Ghana	16,503	21,172	37,675	185	114	145

Source: 2010 Population and Housing Census

A.3 SAMPLE DESIGN AND THE SAMPLING PROCEDURE

The sample for the 2017 GMHS is a stratified sample selected in two stages from the sampling frame. Stratification was achieved by separating each region into urban and rural areas; in total, 20 sampling strata were created. Samples were selected independently in each sampling stratum by a two stage selection. In the first stage, 900 EAs were selected with probability proportional to size (PPS) selection procedure according to the sample allocation given in **Table A.4** below. The EA size is the number of residential households in the EA per the 2010 PHC. Implicit stratification with proportional allocation was achieved

at each of the lower administrative unit levels by sorting the EA frame before the sample selection according to a certain geographical order, within each of the explicit strata, and by using a probability proportional to size selection procedure.

After the selection of EAs and before the main survey, a household listing operation was carried out in all of the selected EAs. The household listing operation consisted of visiting each of the 900 selected EAs, drawing a location map and a detailed sketch map of the EA, recording a all residential structures and households within each structure with the address (location description) and the name of the head of the household. Questions on deaths of household members in the past 5 years were also asked. The resulting list of households served as sampling frame for the selection of 30 sample households in the second stage for the main survey in the second phase. All households identified with death of female resident age 10-54 in the past 5 years were followed up during data collection to conduct a verbal autopsy interview. Some of the households selected for the verbal autopsy component might also have been selected for the main survey.

In the second stage of selection, a fixed number of 30 households was selected in every cluster, by an equal probability systematic sampling based on the newly updated household listing. A spreadsheet indicating the selected household numbers for each cluster was prepared. The survey interviewers were asked to interview only the pre-selected households. No replacements and no changes of the pre-selected households were allowed during fieldwork in order to prevent bias.

Table A.4 below gives the sample allocation of clusters and households by zone, by region and by type of residence. The sample allocation featured an equal size allocation for each of the three zones, that is, 300 clusters and 9,000 households per zone. The sample allocated to each zone was then allocated to the regions within each zone by using a power allocation with small adjustment because a proportional allocation will result a very small sample size for less populous regions such as Upper East and Upper West regions. Since the Northern zone is much smaller compared to the other two, the Northern zone was oversampled in order to have comparable survey precision for the maternal mortality indicators. The sample allocation of EAs and households were converted to the expected number of interviews with women by taking into account non-response and the average number of women 15-49 per household, as shown in **Table A.5** below.

Table A.4 Sample allocation of clusters and households by region and by type of residence

		Allocation of clusters			Allocation of households		
Zone Name	Region Name	Urban	Rural	Region	Urban	Rural	Region
Coastal	Western	34	34	68	1,020	1,020	2,040
	Central	36	31	67	1,080	930	2,010
	Greater Accra	93	7	100	2,790	210	3,000
	Volta	27	38	65	810	1,140	1,950
Coastal Total		190	110	300	5,700	3,300	9,000
Middle	Eastern	47	46	93	1,410	1,380	2,790
	Ashanti	83	42	125	2,490	1,260	3,750
	Brong Ahafo	42	40	82	1,260	1,200	2,460
Middle Total		172	128	300	5,160	3,840	9,000
Northern	Northern	53	75	128	1,590	2,250	3,840
	Upper East	30	66	96	900	1,980	2,880
	Upper West	21	55	76	630	1,650	2,280
Northern Total		104	196	300	3,120	5,880	9,000
Ghana		466	434	900	13,980	13,020	27,000

Table A.5 Sample allocation of expected number of women interviews

Zone Name	Region Name	Women 15-49		
		Urban	Rural	Region
Coastal	Western	723	772	1,495
	Central	765	704	1,469
	Greater Accra	1,977	159	2,136
	Volta	574	862	1,436
Coastal Total		4,039	2,497	6,536
Middle	Eastern	999	1,044	2,043
	Ashanti	1,764	953	2,717
	Brong Ahafo	893	908	1,801
Middle Total		3,656	2,905	6,561
Northern	Northern	1,127	1,702	2,829
	Upper East	638	1,498	2,136
	Upper West	446	1,249	1,695
Northern Total		2,211	4,449	6,660
Ghana		9,906	9,851	19,757

The parameters used in the sample calculation came from the previous DHS conducted in Ghana in 2014 (GDHS 2014). In that survey, the survey results showed that the household completion rates were 91.5% and 93% for urban and rural areas, respectively; there were on average 0.80 and 0.83 women 15-49 per urban and rural households, respectively; women's response rates were 96.8% and 97.8% for the urban and rural areas respectively.

A.4 SELECTION PROBABILITY AND SAMPLING WEIGHT

Due to the non-proportional allocation of the sample to the different regions and the differences in response rates, sampling weights are required for any analysis using 2017 GMHS data to ensure the actual representation of the survey results at national level and as well as at domain level. Since the 2017 GMHS sample was a two-stage stratified cluster sample, sampling weights were 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 i^{th} EA in stratum h from the sampling frame
P_{2hi}: second-stage sampling probability within the i^{th} EA (household selection)

Let n_h be the number of EAs selected in stratum h, M_{hi} the measure of size (number of residential households) according to the sampling frame in the i^{th} EA, and $\sum M_{hi}$ the total measure of size (total number of residential households) in the stratum h. The probability of selecting the i^{th} EA in stratum h from the sampling frame was calculated as follows:

$$P_{1hi} = \frac{n_h M_{hi}}{\sum M_{hi}}$$

In case of a selected cluster with a very large number of households, the listing team decided to segment the cluster into several segments, only one segment was randomly selected to be covered by the 2017 GMHS. Household listing was conducted only in the selected segment.

Let s_{hi} be the proportion of households in the selected segment compared to the estimated total number of households in EA i in stratum h if the EA was segmented, otherwise let $s_{hi} = 1$. Then the selection probability of a segmented cluster was recalculated as:

$$P_{1hi} = \frac{n_h M_{hi}}{\sum M_{hi}} \times s_{hi}$$

Let L_{hi} be the number of households listed in the household listing operation in cluster *i* in stratum *h*, let m_{hi} be the number of households selected in the cluster. The second stage's selection probability for each household in the cluster was calculated as follows:

$$P_{2hi} = \frac{m_{hi}}{L_{hi}}$$

The overall selection probability of each household in cluster *i* of stratum *h* was therefore the production of the selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

The design weight for each household in cluster *i* of stratum *h* was the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

A spreadsheet containing all the sampling parameters and selection probabilities were prepared to facilitate the calculation of the design weights. Design weights were adjusted for household non-response and as well as for women individual non-response to get the sampling weights, for households and for women individuals, respectively. The differences of the household sampling weights and the women individual sampling weights are introduced by women individual non-response. The final sampling weights were normalized in order to achieve the total number of un-weighted cases equal to the total number of weighted cases at national level, for both household weights and individual weights, respectively. The normalized weights are relative weights which are valid for estimating means, proportions and ratios, but not valid for estimating population totals and for pooled data.

The design weight for the verbal autopsy indicators were the inverse of the cluster selection probability for the first stage selection. Correction of cluster level non-response as well as case level nonresponse may apply if there was non-response, either at cluster level or at case level.

Sampling errors were calculated for selected indicators for the national sample, for the urban and rural areas separately, and for each of the 10 regions.

A.5 SURVEY IMPLEMENTATION RESULTS

Table A.6 Sample implementation: Women

Percent distribution of households and eligible women age 15-49 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 MHS 2017

	Residence		Region										
Result	Urban	Rural	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Brong Ahafo	Northern	Upper East	Upper West	Total
Selected households													
Completed (C)	97.2	97.8	98.6	98.2	95.2	97.1	96.2	96.7	98.6	99.4	96.3	99.3	97.5
Household present but no competent respondent at home (HP)	0.7	0.3	0.6	0.7	1.7	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.5
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)	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1
Dwelling not found (DNF)	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1
Household absent (HA)	0.7	1.0	0.2	0.4	0.9	1.1	1.3	0.8	0.6	0.3	2.4	0.3	0.8
Dwelling vacant/address not a dwelling (DV)	1.1	0.7	0.5	0.4	1.3	1.3	1.8	1.7	0.4	0.1	0.9	0.3	0.9
Dwelling destroyed (DD)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Other (O)	0.1	0.1	0.0	0.0	0.2	0.0	0.3	0.1	0.2	0.0	0.1	0.0	0.1
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	13,980	13,021	2,040	2,010	3,000	1,950	2,790	3,751	2,460	3,840	2,880	2,280	27,001
Household response rate (HRR)[1]	99.1	99.6	99.3	99.0	97.6	99.6	99.6	99.3	99.8	99.8	99.6	99.9	99.3
Eligible women													
Completed (EWC)	98.9	99.2	98.9	98.0	98.4	98.8	99.4	99.4	98.9	99.6	98.7	99.5	99.0
Not at home (EWNH)	0.5	0.4	0.5	1.2	0.9	0.4	0.1	0.3	0.6	0.1	0.8	0.0	0.5
Postponed (EWP)	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (EWR)	0.2	0.0	0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1
Incapacitated (EWI)	0.3	0.4	0.4	0.6	0.2	0.7	0.5	0.2	0.4	0.2	0.5	0.4	0.4
Other (EWO)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	12,681	12,623	2,359	1,636	2,576	1,484	2,185	3,155	2,328	4,220	2,746	2,615	25,304
Eligible women response rate (EWRR)[2]	98.9	99.2	98.9	98.0	98.4	98.8	99.4	99.4	98.9	99.6	98.7	99.5	99.0
Overall women response rate (ORR)[3]	98.0	98.8	98.3	97.0	96.1	98.4	99.0	98.7	98.6	99.3	98.3	99.4	98.4

[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 response rate (EWRR) is equivalent to the percentage of interviews completed (EWC)
[3] The overall women response rate (OWRR) is calculated as:

$$OWRR = HRR * EWRR/100$$

ESTIMATES OF SAMPLING ERRORS

Appendix B

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2017 Ghana Maternal Health Survey (2017 GMHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2017 GMHS is only one of many samples that could have been selected from the same population, using the same design and sample size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall in. For example, for any given statistic calculated from a sample survey, the true value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95% of all possible samples of identical size and design.

If the sample of respondents had been selected by simple random sampling, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2017 GMHS sample is the result of a multi-stage stratified sampling, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed by SAS programs developed by ICF International. These programs use the Taylor linearization method to estimate variances for survey estimates that are means, proportions, or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor 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:

$$SE^2(r) = var(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

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 h^{th} stratum,
y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,
x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} 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 formulas. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2017 GMHS there were 900 non-empty clusters. Hence, 900 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 900 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 899 clusters (i^{th} cluster excluded), and
k is the total number of clusters.

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 simple random sampling had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sampling, 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 for the estimates are also calculated. A relative standard error, also known as coefficient of variation, is the standard error relative to the estimated value of the statistic, calculated as the ratio of the standard error over the estimated value SE/R. Relative standard error reflects the magnitude of sampling error compared to the indicator value; it indicates the survey precision in another way.

Sampling errors for the 2017 GMHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, for the three ecological zones, and for each of the 10 regions. 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.18** 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% confidence limits (R±2SE), for each variable. The sampling errors for mortality rates are presented for the 5-year period preceding the survey for the national sample and for the 10-year period preceding the survey at domain levels. 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 *children ever born to women age 40-49*) can be interpreted as follows: the overall average number of children ever born to women age 40-49 from the national sample is 4.618 and its standard error is 0.050. Therefore, to obtain the 95% confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 4.618±2×0.050. There is a high probability (95%) that the true average number of children ever born to all women age 40 to 49 is between 4.518 and 4.717.

For the total sample, the value of the DEFT, averaged over all variables, is 1.602. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor o1.602 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Ghana MHS 2017

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	Women 15-49
Literacy	Proportion	Women 15-49
No education	Proportion	Women 15-49
Secondary education or higher	Proportion	Women 15-49
Never married/never in union	Proportion	Women 15-49
Currently married/in union	Proportion	Women 15-49
Married before age 18	Proportion	Women 20-49
Had sexual intercourse before age 18	Proportion	Women 20-49
Currently pregnant	Proportion	Women 15-49
Children ever born	Mean	Women 15-49
Children surviving	Mean	Women 15-49
Children ever born to women 40-49	Mean	Women 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 male condoms	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using implants	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Currently using rhythm	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Mothers received antenatal care for last birth/stillbirth	Proportion	Women with a live birth/stillbirth in last 5 years
Mothers protected against tetanus for last birth/stillbirth	Proportion	Women with a live birth/stillbirth in last 5 years
Births/stillbirths with skilled attendant at delivery	Proportion	Births/stillbirths occurring 1-59 months before survey
Induced abortion in the 5 years before the survey	Proportion	Women with an induced abortion in the 5 years before the survey
Miscarriage in the 5 years before the survey	Proportion	Women with a miscarriage in the 5 years before the survey
Ever had an induced abortion	Proportion	Women who have ever had an induced abortion
No induced abortion but have heard of induced abortion	Proportion	Women who have not had an induced abortion but have heard of induced abortion
Believe induced abortion is legal in Ghana	Proportion	Women who believe induced abortion is legal in Ghana
Total fertility rate (3 years)	Rate	Women-years of exposure to childbearing
Neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Post-neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Infant mortality rate[1]	Rate	Children exposed to the risk of mortality
Child mortality rate[1]	Rate	Children exposed to the risk of mortality
Under-5 mortality rate[1]	Rate	Children exposed to the risk of mortality

[1] The mortality rates are calculated for 5 years before the survey for national sample and by residence type, and 10 years for regional samples.

Table B.2 Sampling errors: Total sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.549	0.010	25062	25062	3.157	0.018	0.529	0.569
Literacy	0.538	0.007	25062	25062	2.076	0.012	0.525	0.551
No education	0.183	0.005	25062	25062	2.192	0.029	0.172	0.194
Secondary or higher education	0.660	0.007	25062	25062	2.375	0.011	0.646	0.674
Never married/never in union	0.335	0.004	25062	25062	1.417	0.013	0.327	0.343
Currently married/in union	0.573	0.005	25062	25062	1.517	0.008	0.564	0.582
Married before age 18	0.247	0.005	20174	20277	1.658	0.020	0.237	0.257
Had sexual intercourse before age 18	0.486	0.006	20174	20277	1.825	0.013	0.473	0.499
Currently pregnant	0.064	0.002	25062	25062	1.312	0.032	0.060	0.068
Children ever born	2.239	0.023	25062	25062	1.556	0.010	2.194	2.284
Children surviving	2.058	0.020	25062	25062	1.527	0.010	2.017	2.098
Children ever born to women age 40-49	4.618	0.050	4846	4818	1.448	0.011	4.518	4.717
Know any contraceptive method	0.994	0.001	15052	14361	1.317	0.001	0.992	0.996
Know a modern method	0.994	0.001	15052	14361	1.302	0.001	0.992	0.995
Currently using any method	0.308	0.006	15052	14361	1.513	0.018	0.297	0.319
Currently using a modern method	0.250	0.005	15052	14361	1.491	0.021	0.240	0.261
Currently using pill	0.043	0.002	15052	14361	1.395	0.054	0.038	0.047
Currently using IUD	0.008	0.001	15052	14361	1.489	0.134	0.006	0.010
Currently using condoms	0.011	0.001	15052	14361	1.325	0.104	0.008	0.013
Currently using injectables	0.082	0.003	15052	14361	1.425	0.039	0.076	0.089
Currently using implants	0.074	0.003	15052	14361	1.487	0.043	0.067	0.080
Currently using female sterilization	0.019	0.002	15052	14361	1.548	0.092	0.015	0.022
Currently using rhythm	0.042	0.003	15052	14361	1.604	0.062	0.037	0.048
Currently using withdrawal	0.013	0.001	15052	14361	1.465	0.106	0.010	0.015
Mothers received antenatal care for last birth/stillbirth	0.976	0.002	11492	10940	1.525	0.002	0.971	0.980
Mothers protected against tetanus for last birth/stillbirth	0.767	0.006	11492	10940	1.498	0.008	0.755	0.780
Births/stillbirths with skilled attendant at delivery	0.794	0.009	11492	10940	2.266	0.011	0.776	0.811
Induced abortion in the 5 years before the survey	0.067	0.002	25062	25062	1.465	0.035	0.062	0.072
Miscarriage in the 5 years before the survey	0.071	0.002	25062	25062	1.322	0.030	0.067	0.076
Ever had an induced abortion	0.196	0.005	25062	25062	1.837	0.023	0.187	0.205
No induced abortion but have heard of induced abortion	0.753	0.005	25062	25062	1.961	0.007	0.743	0.764
Believe induced abortion is legal in Ghana	0.114	0.004	23160	23801	1.924	0.035	0.106	0.122
Total fertility rate (last 3 years)	3.923	0.062	69994	70346	1.440	0.016	3.798	4.048
Neonatal mortality (last 0-4 years)	24.805	1.658	15375	14616	1.230	0.067	21.489	28.120
Post-neonatal mortality (last 0-4 years)	12.052	1.243	15351	14628	1.370	0.103	9.566	14.538
Infant mortality (last 0-4 years)	36.857	2.029	15393	14635	1.231	0.055	32.799	40.915
Child mortality (last 0-4 years)	15.647	1.208	15108	14337	1.150	0.077	13.232	18.063
Under-5 mortality (last 0-4 years)	51.927	2.341	15513	14727	1.217	0.045	47.244	56.610

Table B.3 Sampling errors: Urban sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	1.000	0.000	12544	13752	na	0.000	1.000	1.000
Literacy	0.648	0.008	12544	13752	1.900	0.012	0.632	0.665
No education	0.112	0.005	12544	13752	1.932	0.049	0.101	0.122
Secondary or higher education	0.760	0.008	12544	13752	2.045	0.010	0.744	0.775
Never married/never in union	0.378	0.006	12544	13752	1.360	0.016	0.366	0.389
Currently married/in union	0.525	0.007	12544	13752	1.464	0.012	0.512	0.539
Married before age 18	0.185	0.006	10304	11341	1.637	0.034	0.173	0.198
Had sexual intercourse before age 18	0.413	0.009	10304	11341	1.758	0.021	0.396	0.430
Currently pregnant	0.055	0.002	12544	13752	1.203	0.044	0.050	0.060
Children ever born	1.845	0.025	12544	13752	1.389	0.013	1.796	1.894
Children surviving	1.716	0.023	12544	13752	1.403	0.013	1.670	1.762
Children ever born to women age 40-49	3.820	0.062	2325	2559	1.389	0.016	3.696	3.944
Know any contraceptive method	0.998	0.000	6730	7226	1.016	0.000	0.997	0.999
Know a modern method	0.998	0.000	6730	7226	0.995	0.000	0.997	0.999
Currently using any method	0.302	0.008	6730	7226	1.385	0.026	0.287	0.318
Currently using a modern method	0.226	0.007	6730	7226	1.314	0.030	0.213	0.240
Currently using pill	0.039	0.003	6730	7226	1.213	0.073	0.034	0.045
Currently using IUD	0.011	0.002	6730	7226	1.458	0.169	0.007	0.015
Currently using condoms	0.016	0.002	6730	7226	1.257	0.119	0.013	0.020
Currently using injectables	0.066	0.004	6730	7226	1.364	0.063	0.058	0.074
Currently using implants	0.060	0.004	6730	7226	1.357	0.065	0.052	0.068
Currently using female sterilization	0.018	0.002	6730	7226	1.272	0.115	0.014	0.022
Currently using rhythm	0.057	0.004	6730	7226	1.485	0.074	0.048	0.065
Currently using withdrawal	0.015	0.002	6730	7226	1.354	0.132	0.011	0.019
Mothers received antenatal care for last birth/stillbirth	0.983	0.003	4940	5286	1.565	0.003	0.977	0.989
Mothers protected against tetanus for last birth/stillbirth	0.803	0.008	4940	5286	1.469	0.010	0.786	0.820
Births/stillbirths with skilled attendant at delivery	0.906	0.009	4940	5286	2.031	0.009	0.889	0.923
Induced abortion in the 5 years before the survey	0.081	0.003	12544	13752	1.373	0.041	0.074	0.087
Miscarriage in the 5 years before the survey	0.071	0.003	12544	13752	1.247	0.040	0.065	0.076
Ever had an induced abortion	0.236	0.007	12544	13752	1.730	0.028	0.223	0.249
No induced abortion but have heard of induced abortion	0.731	0.008	12544	13752	1.916	0.010	0.716	0.746
Believe induced abortion is legal in Ghana	0.142	0.006	12008	13298	1.832	0.041	0.130	0.154
Total fertility rate (last 3 years)	3.334	0.075	35356	38943	1.391	0.022	3.184	3.484
Neonatal mortality (last 0-4 years)	25.468	2.663	6405	6925	1.252	0.105	20.141	30.794
Post-neonatal mortality (last 0-4 years)	10.192	1.843	6398	6934	1.394	0.181	6.506	13.877
Infant mortality (last 0-4 years)	35.659	3.196	6412	6934	1.242	0.090	29.267	42.051
Child mortality (last 0-4 years)	12.436	1.660	6286	6758	1.165	0.133	9.115	15.756
Under-5 mortality (last 0-4 years)	47.651	3.542	6444	6968	1.203	0.074	40.567	54.736

Table B.4 Sampling errors: Rural sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.000	0.000	12518	11310	na	na	0.000	0.000
Literacy	0.405	0.009	12518	11310	2.086	0.023	0.386	0.423
No education	0.270	0.009	12518	11310	2.367	0.035	0.251	0.289
Secondary or higher education	0.539	0.012	12518	11310	2.587	0.021	0.516	0.562
Never married/never in union	0.283	0.006	12518	11310	1.488	0.021	0.271	0.295
Currently married/in union	0.631	0.007	12518	11310	1.629	0.011	0.617	0.645
Married before age 18	0.326	0.007	9870	8936	1.560	0.023	0.311	0.340
Had sexual intercourse before age 18	0.578	0.008	9870	8936	1.645	0.014	0.562	0.595
Currently pregnant	0.074	0.003	12518	11310	1.430	0.045	0.067	0.081
Children ever born	2.718	0.036	12518	11310	1.578	0.013	2.646	2.790
Children surviving	2.473	0.032	12518	11310	1.549	0.013	2.410	2.537
Children ever born to women age 40-49	5.521	0.070	2521	2259	1.502	0.013	5.381	5.661
Know any contraceptive method	0.989	0.002	8322	7135	1.423	0.002	0.986	0.993
Know a modern method	0.989	0.002	8322	7135	1.411	0.002	0.986	0.992
Currently using any method	0.314	0.008	8322	7135	1.633	0.026	0.297	0.331
Currently using a modern method	0.274	0.008	8322	7135	1.601	0.029	0.259	0.290
Currently using pill	0.047	0.004	8322	7135	1.558	0.077	0.039	0.054
Currently using IUD	0.005	0.001	8322	7135	1.439	0.216	0.003	0.008
Currently using condoms	0.005	0.001	8322	7135	1.336	0.213	0.003	0.007
Currently using injectables	0.099	0.005	8322	7135	1.452	0.048	0.089	0.108
Currently using implants	0.088	0.005	8322	7135	1.577	0.056	0.078	0.097
Currently using female sterilization	0.019	0.003	8322	7135	1.803	0.141	0.014	0.025
Currently using rhythm	0.028	0.003	8322	7135	1.662	0.108	0.022	0.034
Currently using withdrawal	0.010	0.002	8322	7135	1.589	0.177	0.006	0.013
Mothers received antenatal care for last birth/stillbirth	0.969	0.003	6552	5655	1.543	0.004	0.962	0.975
Mothers protected against tetanus for last birth/stillbirth	0.734	0.009	6552	5655	1.523	0.012	0.717	0.751
Births/stillbirths with skilled attendant at delivery	0.689	0.014	6552	5655	2.391	0.020	0.661	0.717
Induced abortion in the 5 years before the survey	0.050	0.003	12518	11310	1.522	0.059	0.044	0.056
Miscarriage in the 5 years before the survey	0.072	0.003	12518	11310	1.411	0.045	0.066	0.079
Ever had an induced abortion	0.148	0.006	12518	11310	1.858	0.040	0.136	0.160
No induced abortion but have heard of induced abortion	0.781	0.007	12518	11310	1.950	0.009	0.766	0.795
Believe induced abortion is legal in Ghana	0.078	0.005	11152	10503	2.070	0.067	0.068	0.089
Total fertility rate (last 3 years)	4.667	0.089	34639	31403	1.521	0.019	4.489	4.845
Neonatal mortality (last 0-4 years)	24.207	2.055	8970	7691	1.199	0.085	20.097	28.318
Post-neonatal mortality (last 0-4 years)	13.725	1.666	8953	7694	1.356	0.121	10.394	17.056
Infant mortality (last 0-4 years)	37.933	2.567	8981	7702	1.214	0.068	32.799	43.067
Child mortality (last 0-4 years)	18.415	1.722	8822	7579	1.165	0.094	14.970	21.859
Under-5 mortality (last 0-4 years)	55.649	3.063	9069	7759	1.227	0.055	49.523	61.775

Table B.5 Sampling errors: Coastal zone sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.626	0.016	7938	12121	2.989	0.026	0.593	0.658
Literacy	0.605	0.011	7938	12121	2.033	0.018	0.583	0.627
No education	0.136	0.008	7938	12121	2.191	0.062	0.119	0.153
Secondary or higher education	0.708	0.012	7938	12121	2.286	0.016	0.684	0.731
Never married/never in union	0.357	0.007	7938	12121	1.215	0.018	0.344	0.371
Currently married/in union	0.546	0.007	7938	12121	1.339	0.014	0.531	0.561
Married before age 18	0.223	0.008	6494	9915	1.538	0.036	0.207	0.239
Had sexual intercourse before age 18	0.455	0.010	6494	9915	1.634	0.022	0.435	0.475
Currently pregnant	0.058	0.003	7938	12121	1.133	0.051	0.052	0.063
Children ever born	2.081	0.037	7938	12121	1.509	0.018	2.007	2.155
Children surviving	1.918	0.032	7938	12121	1.446	0.017	1.853	1.982
Children ever born to women age 40-49	4.251	0.077	1565	2351	1.274	0.018	4.098	4.404
Know any contraceptive method	0.998	0.001	4323	6622	1.610	0.001	0.996	1.000
Know a modern method	0.998	0.001	4323	6622	1.579	0.001	0.996	1.000
Currently using any method	0.293	0.009	4323	6622	1.269	0.030	0.276	0.311
Currently using a modern method	0.235	0.008	4323	6622	1.293	0.036	0.218	0.251
Currently using pill	0.040	0.004	4323	6622	1.328	0.099	0.032	0.048
Currently using IUD	0.009	0.002	4323	6622	1.297	0.208	0.005	0.013
Currently using condoms	0.011	0.002	4323	6622	1.110	0.159	0.008	0.015
Currently using injectables	0.069	0.005	4323	6622	1.294	0.072	0.059	0.079
Currently using implants	0.072	0.005	4323	6622	1.228	0.067	0.062	0.082
Currently using female sterilization	0.022	0.003	4323	6622	1.311	0.133	0.016	0.028
Currently using rhythm	0.038	0.003	4323	6622	1.144	0.087	0.032	0.045
Currently using withdrawal	0.017	0.002	4323	6622	1.254	0.145	0.012	0.022
Mothers received antenatal care for last birth/stillbirth	0.969	0.004	3217	4916	1.325	0.004	0.961	0.977
Mothers protected against tetanus for last birth/stillbirth	0.795	0.009	3217	4916	1.312	0.012	0.776	0.813
Births/stillbirths with skilled attendant at delivery	0.799	0.015	3217	4916	2.150	0.019	0.769	0.829
Induced abortion in the 5 years before the survey	0.075	0.003	7938	12121	1.159	0.046	0.068	0.082
Miscarriage in the 5 years before the survey	0.070	0.003	7938	12121	1.129	0.046	0.064	0.077
Ever had an induced abortion	0.218	0.007	7938	12121	1.545	0.033	0.203	0.232
No induced abortion but have heard of induced abortion	0.747	0.009	7938	12121	1.743	0.011	0.730	0.764
Believe induced abortion is legal in Ghana	0.113	0.006	7702	11689	1.644	0.052	0.102	0.125
Total fertility rate (last 3 years)	3.634	0.101	22351	34123	1.360	0.028	3.433	3.835
Neonatal mortality (last 0-4 years)	27.663	2.310	8150	12515	1.139	0.084	23.043	32.283
Post-neonatal mortality (last 0-4 years)	14.967	1.765	8154	12529	1.265	0.118	11.437	18.496
Infant mortality (last 0-4 years)	42.629	2.913	8157	12525	1.201	0.068	36.803	48.456
Child mortality (last 0-4 years)	16.922	1.676	7963	12230	1.099	0.099	13.569	20.274
Under-5 mortality (last 0-4 years)	58.830	3.424	8195	12588	1.226	0.058	51.981	65.678

Table B.6 Sampling errors: Middle zone sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.548	0.015	7610	9674	2.570	0.027	0.518	0.577
Literacy	0.526	0.009	7610	9674	1.498	0.016	0.509	0.543
No education	0.135	0.007	7610	9674	1.811	0.052	0.121	0.149
Secondary or higher education	0.705	0.010	7610	9674	1.883	0.014	0.686	0.725
Never married/never in union	0.336	0.007	7610	9674	1.255	0.020	0.323	0.350
Currently married/in union	0.564	0.007	7610	9674	1.305	0.013	0.549	0.578
Married before age 18	0.251	0.008	6104	7758	1.437	0.032	0.236	0.267
Had sexual intercourse before age 18	0.523	0.010	6104	7758	1.586	0.019	0.503	0.543
Currently pregnant	0.062	0.003	7610	9674	1.248	0.056	0.055	0.069
Children ever born	2.245	0.033	7610	9674	1.254	0.015	2.179	2.310
Children surviving	2.081	0.031	7610	9674	1.273	0.015	2.019	2.142
Children ever born to women age 40-49	4.617	0.077	1454	1846	1.279	0.017	4.462	4.772
Know any contraceptive method	0.997	0.001	4256	5452	0.948	0.001	0.996	0.999
Know a modern method	0.997	0.001	4256	5452	0.948	0.001	0.996	0.999
Currently using any method	0.352	0.009	4256	5452	1.292	0.027	0.333	0.371
Currently using a modern method	0.277	0.009	4256	5452	1.240	0.031	0.260	0.294
Currently using pill	0.051	0.003	4256	5452	1.027	0.068	0.044	0.058
Currently using IUD	0.009	0.002	4256	5452	1.174	0.186	0.006	0.013
Currently using condoms	0.013	0.002	4256	5452	1.117	0.151	0.009	0.016
Currently using injectables	0.083	0.005	4256	5452	1.219	0.062	0.073	0.094
Currently using implants	0.080	0.006	4256	5452	1.349	0.070	0.069	0.091
Currently using female sterilization	0.021	0.003	4256	5452	1.227	0.130	0.015	0.026
Currently using rhythm	0.060	0.005	4256	5452	1.494	0.091	0.049	0.071
Currently using withdrawal	0.011	0.002	4256	5452	1.085	0.157	0.008	0.015
Mothers received antenatal care for last birth/stillbirth	0.980	0.003	3294	4243	1.248	0.003	0.974	0.986
Mothers protected against tetanus for last birth/stillbirth	0.781	0.010	3294	4243	1.389	0.013	0.761	0.801
Births/stillbirths with skilled attendant at delivery	0.824	0.012	3294	4243	1.857	0.015	0.799	0.848
Induced abortion in the 5 years before the survey	0.075	0.004	7610	9674	1.342	0.054	0.067	0.083
Miscarriage in the 5 years before the survey	0.078	0.004	7610	9674	1.202	0.047	0.071	0.086
Ever had an induced abortion	0.224	0.007	7610	9674	1.541	0.033	0.210	0.239
No induced abortion but have heard of induced abortion	0.747	0.007	7610	9674	1.505	0.010	0.732	0.762
Believe induced abortion is legal in Ghana	0.112	0.007	7360	9401	1.832	0.060	0.099	0.126
Total fertility rate (last 3 years)	3.842	0.086	21355	27177	1.140	0.022	3.671	4.014
Neonatal mortality (last 0-4 years)	25.503	2.083	8337	10751	1.090	0.082	21.337	29.669
Post-neonatal mortality (last 0-4 years)	11.795	1.367	8333	10757	1.145	0.116	9.061	14.528
Infant mortality (last 0-4 years)	37.298	2.547	8346	10762	1.130	0.068	32.203	42.392
Child mortality (last 0-4 years)	16.126	1.594	8211	10580	1.101	0.099	12.939	19.313
Under-5 mortality (last 0-4 years)	52.822	2.950	8370	10791	1.104	0.056	46.923	58.721

Table B.7 Sampling errors: Northern zone sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.267	0.011	9514	3267	2.469	0.042	0.244	0.289
Literacy	0.328	0.011	9514	3267	2.194	0.032	0.307	0.349
No education	0.499	0.011	9514	3267	2.166	0.022	0.477	0.521
Secondary or higher education	0.349	0.011	9514	3267	2.230	0.031	0.328	0.371
Never married/never in union	0.248	0.006	9514	3267	1.336	0.024	0.236	0.260
Currently married/in union	0.700	0.007	9514	3267	1.504	0.010	0.686	0.714
Married before age 18	0.325	0.007	7576	2604	1.291	0.021	0.311	0.339
Had sexual intercourse before age 18	0.494	0.009	7576	2604	1.510	0.018	0.477	0.512
Currently pregnant	0.092	0.004	9514	3267	1.273	0.041	0.084	0.099
Children ever born	2.807	0.038	9514	3267	1.417	0.014	2.731	2.884
Children surviving	2.508	0.032	9514	3267	1.358	0.013	2.444	2.572
Children ever born to women age 40-49	6.006	0.076	1827	621	1.469	0.013	5.854	6.158
Know any contraceptive method	0.975	0.004	6473	2287	1.832	0.004	0.968	0.982
Know a modern method	0.974	0.004	6473	2287	1.811	0.004	0.967	0.981
Currently using any method	0.245	0.010	6473	2287	1.885	0.041	0.225	0.265
Currently using a modern method	0.230	0.010	6473	2287	1.873	0.043	0.210	0.249
Currently using pill	0.032	0.003	6473	2287	1.372	0.094	0.026	0.038
Currently using IUD	0.003	0.001	6473	2287	1.395	0.316	0.001	0.005
Currently using condoms	0.004	0.001	6473	2287	1.265	0.244	0.002	0.006
Currently using injectables	0.119	0.006	6473	2287	1.481	0.050	0.107	0.131
Currently using implants	0.064	0.005	6473	2287	1.548	0.074	0.055	0.073
Currently using female sterilization	0.003	0.001	6473	2287	1.163	0.253	0.002	0.005
Currently using rhythm	0.012	0.002	6473	2287	1.274	0.144	0.008	0.015
Currently using withdrawal	0.003	0.001	6473	2287	1.145	0.255	0.002	0.005
Mothers received antenatal care for last birth/stillbirth	0.983	0.003	4981	1782	1.712	0.003	0.977	0.990
Mothers protected against tetanus for last birth/stillbirth	0.661	0.011	4981	1782	1.644	0.016	0.639	0.682
Births/stillbirths with skilled attendant at delivery	0.708	0.016	4981	1782	2.608	0.023	0.675	0.741
Induced abortion in the 5 years before the survey	0.015	0.001	9514	3267	1.104	0.093	0.012	0.017
Miscarriage in the 5 years before the survey	0.057	0.003	9514	3267	1.121	0.047	0.052	0.062
Ever had an induced abortion	0.034	0.003	9514	3267	1.376	0.076	0.029	0.039
No induced abortion but have heard of induced abortion	0.796	0.013	9514	3267	3.245	0.017	0.769	0.823
Believe induced abortion is legal in Ghana	0.121	0.006	8098	2710	1.770	0.053	0.108	0.134
Total fertility rate (last 3 years)	5.267	0.109	26288	9046	1.528	0.021	5.048	5.485
Neonatal mortality (last 0-4 years)	25.033	1.620	12919	4678	1.123	0.065	21.792	28.274
Post-neonatal mortality (last 0-4 years)	14.903	1.248	12917	4683	1.219	0.084	12.408	17.398
Infant mortality (last 0-4 years)	39.936	2.049	12928	4683	1.145	0.051	35.837	44.034
Child mortality (last 0-4 years)	32.310	2.231	12616	4577	1.346	0.069	27.847	36.773
Under-5 mortality (last 0-4 years)	70.955	3.087	13023	4716	1.288	0.044	64.782	77.129

Table B.8 Sampling errors: Western region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.452	0.031	2334	3230	2.986	0.068	0.390	0.513
Literacy	0.524	0.021	2334	3230	1.997	0.039	0.483	0.565
No education	0.176	0.014	2334	3230	1.824	0.082	0.147	0.205
Secondary or higher education	0.685	0.020	2334	3230	2.121	0.030	0.644	0.726
Never married/never in union	0.357	0.014	2334	3230	1.452	0.040	0.328	0.386
Currently married/in union	0.557	0.016	2334	3230	1.507	0.028	0.526	0.588
Married before age 18	0.271	0.016	1871	2580	1.580	0.060	0.239	0.304
Had sexual intercourse before age 18	0.528	0.019	1871	2580	1.602	0.035	0.491	0.565
Currently pregnant	0.064	0.006	2334	3230	1.100	0.087	0.053	0.076
Children ever born	2.272	0.074	2334	3230	1.561	0.033	2.124	2.420
Children surviving	2.086	0.068	2334	3230	1.571	0.033	1.950	2.222
Children ever born to women age 40-49	4.821	0.131	424	579	1.182	0.027	4.560	5.083
Know any contraceptive method	0.994	0.004	1293	1799	1.815	0.004	0.987	1.002
Know a modern method	0.994	0.004	1293	1799	1.815	0.004	0.987	1.002
Currently using any method	0.323	0.016	1293	1799	1.249	0.050	0.290	0.355
Currently using a modern method	0.270	0.016	1293	1799	1.326	0.061	0.238	0.303
Currently using pill	0.058	0.010	1293	1799	1.599	0.179	0.038	0.079
Currently using IUD	0.000	0.000	1293	1799	na	na	0.000	0.000
Currently using condoms	0.010	0.003	1293	1799	1.189	0.323	0.004	0.017
Currently using injectables	0.089	0.010	1293	1799	1.267	0.113	0.069	0.109
Currently using implants	0.071	0.006	1293	1799	0.905	0.091	0.058	0.084
Currently using female sterilization	0.029	0.006	1293	1799	1.379	0.220	0.017	0.042
Currently using rhythm	0.038	0.007	1293	1799	1.245	0.173	0.025	0.052
Currently using withdrawal	0.011	0.003	1293	1799	1.014	0.271	0.005	0.017
Mothers received antenatal care for last birth/stillbirth	0.966	0.009	1008	1415	1.540	0.009	0.949	0.984
Mothers protected against tetanus for last birth/stillbirth	0.762	0.019	1008	1415	1.416	0.025	0.724	0.799
Births/stillbirths with skilled attendant at delivery	0.783	0.026	1008	1415	2.014	0.033	0.732	0.835
Induced abortion in the 5 years before the survey	0.089	0.007	2334	3230	1.130	0.075	0.076	0.103
Miscarriage in the 5 years before the survey	0.074	0.006	2334	3230	1.015	0.074	0.063	0.085
Ever had an induced abortion	0.208	0.011	2334	3230	1.259	0.051	0.187	0.230
No induced abortion but have heard of induced abortion	0.749	0.013	2334	3230	1.401	0.017	0.724	0.774
Believe induced abortion is legal in Ghana	0.068	0.007	2259	3092	1.341	0.104	0.054	0.082
Total fertility rate (last 3 years)	4.138	0.215	6502	9017	1.513	0.052	3.708	4.569
Neonatal mortality (last 0-9 years)	30.254	4.252	2568	3675	1.124	0.141	21.751	38.757
Post-neonatal mortality (last 0-9 years)	16.722	3.775	2569	3679	1.444	0.226	9.171	24.272
Infant mortality (last 0-9 years)	46.976	5.490	2572	3682	1.228	0.117	35.997	57.956
Child mortality (last 0-9 years)	23.038	3.678	2485	3579	1.174	0.160	15.683	30.394
Under-5 mortality (last 0-9 years)	68.932	6.256	2585	3705	1.198	0.091	56.421	81.443

Table B.9 Sampling errors: Central region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.515	0.031	1603	2218	2.483	0.060	0.453	0.577
Literacy	0.527	0.021	1603	2218	1.716	0.041	0.484	0.570
No education	0.132	0.011	1603	2218	1.264	0.081	0.110	0.153
Secondary or higher education	0.695	0.021	1603	2218	1.783	0.030	0.654	0.736
Never married/never in union	0.311	0.013	1603	2218	1.113	0.041	0.285	0.336
Currently married/in union	0.579	0.015	1603	2218	1.212	0.026	0.549	0.609
Married before age 18	0.246	0.015	1313	1805	1.283	0.062	0.216	0.277
Had sexual intercourse before age 18	0.489	0.016	1313	1805	1.188	0.034	0.456	0.522
Currently pregnant	0.061	0.007	1603	2218	1.135	0.111	0.048	0.075
Children ever born	2.457	0.070	1603	2218	1.146	0.028	2.318	2.596
Children surviving	2.223	0.062	1603	2218	1.151	0.028	2.099	2.348
Children ever born to women age 40-49	5.149	0.157	327	447	1.168	0.031	4.834	5.464
Know any contraceptive method	0.999	0.001	913	1285	0.895	0.001	0.997	1.001
Know a modern method	0.999	0.001	913	1285	0.895	0.001	0.997	1.001
Currently using any method	0.281	0.021	913	1285	1.404	0.074	0.239	0.323
Currently using a modern method	0.246	0.019	913	1285	1.365	0.079	0.207	0.285
Currently using pill	0.039	0.006	913	1285	0.924	0.153	0.027	0.050
Currently using IUD	0.007	0.003	913	1285	1.192	0.468	0.000	0.014
Currently using condoms	0.004	0.002	913	1285	0.837	0.446	0.000	0.007
Currently using injectables	0.061	0.009	913	1285	1.125	0.146	0.043	0.079
Currently using implants	0.104	0.015	913	1285	1.492	0.145	0.074	0.134
Currently using female sterilization	0.028	0.007	913	1285	1.233	0.238	0.015	0.042
Currently using rhythm	0.024	0.006	913	1285	1.260	0.268	0.011	0.036
Currently using withdrawal	0.007	0.003	913	1285	1.035	0.401	0.001	0.013
Mothers received antenatal care for last birth/stillbirth	0.975	0.007	702	986	1.112	0.007	0.962	0.988
Mothers protected against tetanus for last birth/stillbirth	0.823	0.015	702	986	1.017	0.018	0.794	0.852
Births/stillbirths with skilled attendant at delivery	0.782	0.033	702	986	2.129	0.042	0.716	0.848
Induced abortion in the 5 years before the survey	0.060	0.006	1603	2218	1.094	0.108	0.047	0.073
Miscarriage in the 5 years before the survey	0.075	0.008	1603	2218	1.239	0.109	0.059	0.092
Ever had an induced abortion	0.184	0.009	1603	2218	0.972	0.051	0.165	0.203
No induced abortion but have heard of induced abortion	0.784	0.009	1603	2218	0.913	0.012	0.765	0.803
Believe induced abortion is legal in Ghana	0.094	0.012	1555	2148	1.577	0.124	0.071	0.118
Total fertility rate (last 3 years)	4.331	0.199	4514	6226	1.209	0.046	3.932	4.730
Neonatal mortality (last 0-9 years)	31.324	4.444	1844	2616	0.980	0.142	22.436	40.212
Post-neonatal mortality (last 0-9 years)	17.724	4.037	1829	2594	1.258	0.228	9.650	25.799
Infant mortality (last 0-9 years)	49.048	6.096	1846	2618	1.131	0.124	36.856	61.240
Child mortality (last 0-9 years)	15.383	2.813	1800	2563	0.932	0.183	9.757	21.008
Under-5 mortality (last 0-9 years)	63.676	6.034	1851	2626	1.015	0.095	51.608	75.745

Table B.10 Sampling errors: Greater Accra region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.915	0.013	2535	4673	2.262	0.014	0.890	0.940
Literacy	0.737	0.014	2535	4673	1.598	0.019	0.709	0.765
No education	0.073	0.008	2535	4673	1.499	0.106	0.057	0.088
Secondary or higher education	0.791	0.014	2535	4673	1.773	0.018	0.763	0.820
Never married/never in union	0.398	0.010	2535	4673	1.058	0.026	0.377	0.418
Currently married/in union	0.504	0.012	2535	4673	1.237	0.024	0.479	0.528
Married before age 18	0.152	0.012	2130	3926	1.496	0.077	0.128	0.175
Had sexual intercourse before age 18	0.342	0.014	2130	3926	1.385	0.042	0.314	0.371
Currently pregnant	0.050	0.005	2535	4673	1.094	0.095	0.040	0.059
Children ever born	1.609	0.037	2535	4673	1.038	0.023	1.535	1.682
Children surviving	1.516	0.033	2535	4673	1.008	0.022	1.450	1.583
Children ever born to women age 40-49	3.274	0.110	493	897	1.186	0.034	3.053	3.494
Know any contraceptive method	0.999	0.001	1266	2354	1.120	0.001	0.997	1.001
Know a modern method	0.999	0.001	1266	2354	1.026	0.001	0.997	1.001
Currently using any method	0.284	0.014	1266	2354	1.140	0.051	0.255	0.313
Currently using a modern method	0.208	0.013	1266	2354	1.117	0.061	0.182	0.233
Currently using pill	0.030	0.006	1266	2354	1.165	0.185	0.019	0.042
Currently using IUD	0.019	0.005	1266	2354	1.220	0.244	0.010	0.029
Currently using condoms	0.017	0.004	1266	2354	1.063	0.227	0.009	0.025
Currently using injectables	0.053	0.008	1266	2354	1.327	0.158	0.036	0.070
Currently using implants	0.055	0.008	1266	2354	1.243	0.144	0.039	0.071
Currently using female sterilization	0.016	0.005	1266	2354	1.307	0.292	0.007	0.025
Currently using rhythm	0.051	0.006	1266	2354	0.997	0.121	0.039	0.064
Currently using withdrawal	0.022	0.005	1266	2354	1.240	0.232	0.012	0.032
Mothers received antenatal care for last birth/stillbirth	0.975	0.008	865	1613	1.435	0.008	0.959	0.990
Mothers protected against tetanus for last birth/stillbirth	0.816	0.017	865	1613	1.320	0.021	0.781	0.850
Births/stillbirths with skilled attendant at delivery	0.921	0.013	865	1613	1.441	0.014	0.895	0.948
Induced abortion in the 5 years before the survey	0.080	0.006	2535	4673	1.132	0.076	0.068	0.093
Miscarriage in the 5 years before the survey	0.067	0.006	2535	4673	1.159	0.086	0.055	0.078
Ever had an induced abortion	0.264	0.014	2535	4673	1.541	0.051	0.237	0.292
No induced abortion but have heard of induced abortion	0.699	0.017	2535	4673	1.861	0.024	0.665	0.733
Believe induced abortion is legal in Ghana	0.166	0.011	2461	4501	1.511	0.068	0.143	0.189
Total fertility rate (last 3 years)	2.798	0.133	7230	13301	1.265	0.048	2.532	3.064
Neonatal mortality (last 0-9 years)	19.384	3.995	2049	3800	1.221	0.206	11.393	27.375
Post-neonatal mortality (last 0-9 years)	13.002	3.160	2065	3829	1.226	0.243	6.682	19.321
Infant mortality (last 0-9 years)	32.386	4.918	2050	3802	1.145	0.152	22.549	42.223
Child mortality (last 0-9 years)	9.562	2.149	2023	3705	0.987	0.225	5.265	13.860
Under-5 mortality (last 0-9 years)	41.639	5.102	2060	3818	1.076	0.123	31.434	51.843

Table B.11 Sampling errors: Volta region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.353	0.037	1466	2000	2.916	0.103	0.280	0.426
Literacy	0.513	0.029	1466	2000	2.211	0.056	0.455	0.571
No education	0.222	0.034	1466	2000	3.117	0.153	0.154	0.290
Secondary or higher education	0.564	0.037	1466	2000	2.864	0.066	0.490	0.639
Never married/never in union	0.315	0.013	1466	2000	1.096	0.042	0.289	0.342
Currently married/in union	0.592	0.017	1466	2000	1.295	0.028	0.558	0.625
Married before age 18	0.293	0.017	1180	1604	1.285	0.058	0.259	0.327
Had sexual intercourse before age 18	0.575	0.022	1180	1604	1.494	0.037	0.531	0.618
Currently pregnant	0.060	0.008	1466	2000	1.218	0.126	0.045	0.075
Children ever born	2.460	0.115	1466	2000	1.852	0.047	2.231	2.690
Children surviving	2.246	0.093	1466	2000	1.638	0.041	2.060	2.431
Children ever born to women age 40-49	4.590	0.184	321	427	1.385	0.040	4.222	4.957
Know any contraceptive method	1.000	0.000	851	1183	na	0.000	1.000	1.000
Know a modern method	1.000	0.000	851	1183	na	0.000	1.000	1.000
Currently using any method	0.279	0.019	851	1183	1.260	0.069	0.241	0.318
Currently using a modern method	0.222	0.017	851	1183	1.183	0.076	0.189	0.256
Currently using pill	0.034	0.007	851	1183	1.118	0.205	0.020	0.048
Currently using IUD	0.004	0.002	851	1183	1.039	0.570	0.000	0.008
Currently using condoms	0.009	0.003	851	1183	0.978	0.357	0.003	0.015
Currently using injectables	0.078	0.012	851	1183	1.264	0.149	0.054	0.101
Currently using implants	0.073	0.010	851	1183	1.081	0.132	0.054	0.092
Currently using female sterilization	0.017	0.005	851	1183	1.057	0.279	0.007	0.026
Currently using rhythm	0.028	0.006	851	1183	1.084	0.218	0.016	0.040
Currently using withdrawal	0.027	0.007	851	1183	1.280	0.266	0.012	0.041
Mothers received antenatal care for last birth/stillbirth	0.956	0.008	642	902	0.950	0.008	0.941	0.971
Mothers protected against tetanus for last birth/stillbirth	0.777	0.021	642	902	1.320	0.027	0.735	0.820
Births/stillbirths with skilled attendant at delivery	0.624	0.040	642	902	2.144	0.065	0.543	0.704
Induced abortion in the 5 years before the survey	0.054	0.006	1466	2000	1.050	0.115	0.042	0.067
Miscarriage in the 5 years before the survey	0.065	0.006	1466	2000	0.976	0.097	0.052	0.077
Ever had an induced abortion	0.159	0.015	1466	2000	1.603	0.096	0.129	0.190
No induced abortion but have heard of induced abortion	0.815	0.015	1466	2000	1.485	0.019	0.784	0.845
Believe induced abortion is legal in Ghana	0.085	0.012	1427	1948	1.640	0.143	0.060	0.109
Total fertility rate (last 3 years)	4.075	0.221	4105	5579	1.538	0.054	3.633	4.516
Neonatal mortality (last 0-9 years)	32.827	6.207	1689	2423	1.247	0.189	20.412	45.241
Post-neonatal mortality (last 0-9 years)	12.410	2.924	1691	2427	1.046	0.236	6.561	18.259
Infant mortality (last 0-9 years)	45.237	7.554	1689	2423	1.346	0.167	30.129	60.345
Child mortality (last 0-9 years)	20.998	3.921	1655	2383	1.094	0.187	13.156	28.840
Under-5 mortality (last 0-9 years)	65.285	9.999	1699	2440	1.587	0.153	45.287	85.283

Table B.12 Sampling errors: Eastern region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.463	0.026	2172	2517	2.400	0.056	0.412	0.514
Literacy	0.605	0.017	2172	2517	1.603	0.028	0.572	0.639
No education	0.110	0.012	2172	2517	1.743	0.106	0.087	0.134
Secondary or higher education	0.697	0.021	2172	2517	2.092	0.030	0.656	0.739
Never married/never in union	0.328	0.011	2172	2517	1.139	0.035	0.305	0.351
Currently married/in union	0.562	0.014	2172	2517	1.299	0.025	0.534	0.589
Married before age 18	0.273	0.017	1751	2027	1.583	0.062	0.239	0.307
Had sexual intercourse before age 18	0.569	0.021	1751	2027	1.814	0.038	0.526	0.612
Currently pregnant	0.059	0.006	2172	2517	1.193	0.102	0.047	0.071
Children ever born	2.305	0.060	2172	2517	1.214	0.026	2.185	2.425
Children surviving	2.146	0.056	2172	2517	1.219	0.026	2.034	2.258
Children ever born to women age 40-49	4.553	0.144	448	521	1.306	0.032	4.264	4.841
Know any contraceptive method	0.998	0.001	1211	1414	0.945	0.001	0.995	1.000
Know a modern method	0.998	0.001	1211	1414	0.945	0.001	0.995	1.000
Currently using any method	0.356	0.016	1211	1414	1.159	0.045	0.324	0.388
Currently using a modern method	0.277	0.015	1211	1414	1.197	0.056	0.246	0.308
Currently using pill	0.031	0.005	1211	1414	1.061	0.170	0.021	0.042
Currently using IUD	0.016	0.004	1211	1414	1.234	0.281	0.007	0.025
Currently using condoms	0.017	0.004	1211	1414	1.127	0.246	0.009	0.025
Currently using injectables	0.079	0.010	1211	1414	1.287	0.126	0.059	0.099
Currently using implants	0.105	0.012	1211	1414	1.387	0.116	0.081	0.130
Currently using female sterilization	0.016	0.004	1211	1414	0.999	0.227	0.009	0.023
Currently using rhythm	0.058	0.008	1211	1414	1.194	0.138	0.042	0.075
Currently using withdrawal	0.017	0.004	1211	1414	1.000	0.220	0.009	0.024
Mothers received antenatal care for last birth/stillbirth	0.970	0.006	930	1086	1.100	0.006	0.958	0.982
Mothers protected against tetanus for last birth/stillbirth	0.798	0.013	930	1086	1.000	0.016	0.772	0.824
Births/stillbirths with skilled attendant at delivery	0.783	0.026	930	1086	1.901	0.033	0.732	0.835
Induced abortion in the 5 years before the survey	0.059	0.007	2172	2517	1.447	0.124	0.044	0.074
Miscarriage in the 5 years before the survey	0.066	0.005	2172	2517	1.031	0.083	0.055	0.077
Ever had an induced abortion	0.199	0.013	2172	2517	1.535	0.066	0.173	0.225
No induced abortion but have heard of induced abortion	0.765	0.014	2172	2517	1.494	0.018	0.738	0.792
Believe induced abortion is legal in Ghana	0.178	0.016	2078	2426	1.860	0.088	0.147	0.209
Total fertility rate (last 3 years)	3.802	0.151	6080	7055	1.103	0.040	3.501	4.104
Neonatal mortality (last 0-9 years)	27.722	4.323	2384	2836	1.027	0.156	19.077	36.368
Post-neonatal mortality (last 0-9 years)	9.659	2.456	2386	2846	1.240	0.254	4.746	14.572
Infant mortality (last 0-9 years)	37.381	4.383	2387	2839	0.939	0.117	28.616	46.147
Child mortality (last 0-9 years)	14.742	2.657	2337	2789	0.985	0.180	9.428	20.055
Under-5 mortality (last 0-9 years)	51.572	4.820	2397	2851	0.888	0.093	41.933	61.211

Table B.13 Sampling errors: Ashanti region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.631	0.022	3136	4790	2.539	0.035	0.588	0.675
Literacy	0.540	0.011	3136	4790	1.271	0.021	0.517	0.562
No education	0.108	0.009	3136	4790	1.565	0.080	0.090	0.125
Secondary or higher education	0.752	0.011	3136	4790	1.483	0.015	0.729	0.775
Never married/never in union	0.347	0.011	3136	4790	1.252	0.031	0.325	0.368
Currently married/in union	0.554	0.011	3136	4790	1.288	0.021	0.531	0.577
Married before age 18	0.216	0.011	2530	3854	1.337	0.051	0.194	0.238
Had sexual intercourse before age 18	0.489	0.015	2530	3854	1.458	0.030	0.460	0.518
Currently pregnant	0.060	0.006	3136	4790	1.301	0.092	0.049	0.071
Children ever born	2.151	0.044	3136	4790	1.117	0.021	2.062	2.240
Children surviving	1.999	0.043	3136	4790	1.179	0.022	1.913	2.086
Children ever born to women age 40-49	4.497	0.109	619	931	1.200	0.024	4.279	4.715
Know any contraceptive method	0.997	0.001	1698	2655	0.904	0.001	0.995	0.999
Know a modern method	0.997	0.001	1698	2655	0.904	0.001	0.995	0.999
Currently using any method	0.350	0.015	1698	2655	1.270	0.042	0.321	0.379
Currently using a modern method	0.260	0.013	1698	2655	1.183	0.048	0.235	0.285
Currently using pill	0.052	0.005	1698	2655	0.984	0.102	0.042	0.063
Currently using IUD	0.008	0.002	1698	2655	1.071	0.288	0.003	0.013
Currently using condoms	0.014	0.003	1698	2655	1.057	0.214	0.008	0.020
Currently using injectables	0.066	0.007	1698	2655	1.229	0.112	0.051	0.081
Currently using implants	0.062	0.008	1698	2655	1.326	0.126	0.046	0.077
Currently using female sterilization	0.026	0.005	1698	2655	1.241	0.184	0.016	0.036
Currently using rhythm	0.074	0.009	1698	2655	1.480	0.127	0.055	0.093
Currently using withdrawal	0.011	0.003	1698	2655	1.062	0.250	0.005	0.016
Mothers received antenatal care for last birth/stillbirth	0.979	0.005	1266	2017	1.308	0.005	0.969	0.990
Mothers protected against tetanus for last birth/stillbirth	0.813	0.016	1266	2017	1.469	0.019	0.781	0.844
Births/stillbirths with skilled attendant at delivery	0.859	0.016	1266	2017	1.616	0.018	0.828	0.890
Induced abortion in the 5 years before the survey	0.086	0.006	3136	4790	1.290	0.075	0.073	0.099
Miscarriage in the 5 years before the survey	0.088	0.006	3136	4790	1.245	0.072	0.075	0.100
Ever had an induced abortion	0.249	0.011	3136	4790	1.474	0.046	0.227	0.272
No induced abortion but have heard of induced abortion	0.731	0.012	3136	4790	1.467	0.016	0.707	0.754
Believe induced abortion is legal in Ghana	0.099	0.009	3066	4693	1.621	0.088	0.082	0.117
Total fertility rate (last 3 years)	3.812	0.130	8812	13475	1.095	0.034	3.551	4.072
Neonatal mortality (last 0-9 years)	26.148	3.222	3206	5052	1.124	0.123	19.704	32.593
Post-neonatal mortality (last 0-9 years)	9.916	2.163	3212	5054	1.227	0.218	5.589	14.243
Infant mortality (last 0-9 years)	36.065	4.366	3210	5058	1.255	0.121	27.333	44.796
Child mortality (last 0-9 years)	13.467	2.252	3141	4932	1.070	0.167	8.964	17.971
Under-5 mortality (last 0-9 years)	49.046	4.613	3216	5068	1.129	0.094	39.820	58.273

Table B.14 Sampling errors: Brong Ahafo region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.468	0.024	2302	2367	2.259	0.050	0.421	0.515
Literacy	0.414	0.017	2302	2367	1.635	0.041	0.380	0.447
No education	0.218	0.018	2302	2367	2.072	0.082	0.182	0.253
Secondary or higher education	0.620	0.022	2302	2367	2.184	0.036	0.576	0.664
Never married/never in union	0.324	0.013	2302	2367	1.303	0.039	0.298	0.349
Currently married/in union	0.584	0.013	2302	2367	1.277	0.022	0.558	0.611
Married before age 18	0.301	0.015	1823	1878	1.356	0.048	0.272	0.331
Had sexual intercourse before age 18	0.544	0.017	1823	1878	1.451	0.031	0.510	0.578
Currently pregnant	0.068	0.006	2302	2367	1.059	0.082	0.057	0.079
Children ever born	2.370	0.075	2302	2367	1.529	0.032	2.220	2.520
Children surviving	2.175	0.066	2302	2367	1.477	0.030	2.044	2.307
Children ever born to women age 40-49	4.987	0.168	387	394	1.402	0.034	4.651	5.322
Know any contraceptive method	0.997	0.001	1347	1384	0.989	0.001	0.994	1.000
Know a modern method	0.997	0.001	1347	1384	0.989	0.001	0.994	1.000
Currently using any method	0.353	0.018	1347	1384	1.387	0.051	0.317	0.389
Currently using a modern method	0.311	0.016	1347	1384	1.288	0.052	0.279	0.344
Currently using pill	0.068	0.007	1347	1384	1.026	0.104	0.054	0.082
Currently using IUD	0.005	0.002	1347	1384	1.046	0.400	0.001	0.009
Currently using condoms	0.005	0.002	1347	1384	0.993	0.376	0.001	0.009
Currently using injectables	0.120	0.010	1347	1384	1.109	0.082	0.101	0.140
Currently using implants	0.089	0.009	1347	1384	1.190	0.104	0.071	0.108
Currently using female sterilization	0.015	0.004	1347	1384	1.084	0.237	0.008	0.023
Currently using rhythm	0.035	0.007	1347	1384	1.410	0.201	0.021	0.050
Currently using withdrawal	0.006	0.003	1347	1384	1.280	0.433	0.001	0.012
Mothers received antenatal care for last birth/stillbirth	0.992	0.003	1098	1140	0.958	0.003	0.987	0.997
Mothers protected against tetanus for last birth/stillbirth	0.708	0.019	1098	1140	1.408	0.027	0.670	0.747
Births/stillbirths with skilled attendant at delivery	0.800	0.026	1098	1140	2.161	0.032	0.748	0.852
Induced abortion in the 5 years before the survey	0.070	0.006	2302	2367	1.079	0.082	0.058	0.081
Miscarriage in the 5 years before the survey	0.071	0.005	2302	2367	0.995	0.075	0.061	0.082
Ever had an induced abortion	0.201	0.012	2302	2367	1.449	0.060	0.177	0.225
No induced abortion but have heard of induced abortion	0.763	0.012	2302	2367	1.406	0.016	0.738	0.788
Believe induced abortion is legal in Ghana	0.069	0.010	2216	2281	1.872	0.146	0.049	0.090
Total fertility rate (last 3 years)	3.970	0.175	6463	6647	1.233	0.044	3.620	4.320
Neonatal mortality (last 0-9 years)	22.157	3.396	2747	2863	1.110	0.153	15.365	28.949
Post-neonatal mortality (last 0-9 years)	17.175	2.281	2735	2856	0.907	0.133	12.614	21.736
Infant mortality (last 0-9 years)	39.332	3.753	2749	2865	1.004	0.095	31.827	46.838
Child mortality (last 0-9 years)	22.062	3.493	2733	2859	1.201	0.158	15.075	29.048
Under-5 mortality (last 0-9 years)	60.526	5.635	2757	2873	1.221	0.093	49.256	71.796

Table B.15 Sampling errors: Northern region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.307	0.015	4202	1786	2.124	0.049	0.277	0.337
Literacy	0.291	0.015	4202	1786	2.189	0.053	0.260	0.322
No education	0.583	0.017	4202	1786	2.198	0.029	0.550	0.617
Secondary or higher education	0.298	0.016	4202	1786	2.286	0.054	0.266	0.331
Never married/never in union	0.233	0.009	4202	1786	1.364	0.038	0.215	0.250
Currently married/in union	0.733	0.011	4202	1786	1.586	0.015	0.712	0.755
Married before age 18	0.305	0.010	3385	1434	1.250	0.032	0.286	0.325
Had sexual intercourse before age 18	0.496	0.012	3385	1434	1.420	0.025	0.471	0.520
Currently pregnant	0.101	0.005	4202	1786	1.082	0.050	0.091	0.111
Children ever born	2.997	0.055	4202	1786	1.310	0.018	2.887	3.107
Children surviving	2.675	0.046	4202	1786	1.243	0.017	2.584	2.767
Children ever born to women age 40-49	6.340	0.114	762	321	1.396	0.018	6.113	6.567
Know any contraceptive method	0.960	0.006	3038	1309	1.684	0.006	0.948	0.972
Know a modern method	0.960	0.006	3038	1309	1.674	0.006	0.948	0.972
Currently using any method	0.185	0.014	3038	1309	1.918	0.073	0.158	0.212
Currently using a modern method	0.168	0.013	3038	1309	1.896	0.077	0.142	0.194
Currently using pill	0.036	0.005	3038	1309	1.399	0.131	0.027	0.046
Currently using IUD	0.003	0.001	3038	1309	1.291	0.415	0.001	0.006
Currently using condoms	0.004	0.002	3038	1309	1.334	0.374	0.001	0.007
Currently using injectables	0.093	0.009	3038	1309	1.632	0.092	0.076	0.111
Currently using implants	0.023	0.004	3038	1309	1.464	0.174	0.015	0.031
Currently using female sterilization	0.002	0.001	3038	1309	0.967	0.431	0.000	0.003
Currently using rhythm	0.013	0.003	3038	1309	1.254	0.200	0.008	0.018
Currently using withdrawal	0.004	0.001	3038	1309	1.138	0.333	0.001	0.006
Mothers received antenatal care for last birth/stillbirth	0.977	0.005	2442	1056	1.634	0.005	0.967	0.987
Mothers protected against tetanus for last birth/stillbirth	0.658	0.016	2442	1056	1.683	0.024	0.626	0.690
Births/stillbirths with skilled attendant at delivery	0.593	0.026	2442	1056	2.630	0.044	0.541	0.645
Induced abortion in the 5 years before the survey	0.010	0.002	4202	1786	1.114	0.168	0.007	0.014
Miscarriage in the 5 years before the survey	0.054	0.004	4202	1786	1.119	0.072	0.046	0.062
Ever had an induced abortion	0.028	0.004	4202	1786	1.522	0.138	0.020	0.036
No induced abortion but have heard of induced abortion	0.769	0.023	4202	1786	3.566	0.030	0.723	0.815
Believe induced abortion is legal in Ghana	0.117	0.010	3425	1423	1.872	0.088	0.097	0.138
Total fertility rate (last 3 years)	5.786	0.156	11683	4966	1.481	0.027	5.473	6.099
Neonatal mortality (last 0-9 years)	26.071	2.294	6588	2864	1.137	0.088	21.483	30.658
Post-neonatal mortality (last 0-9 years)	16.031	1.537	6597	2868	0.984	0.096	12.958	19.104
Infant mortality (last 0-9 years)	42.102	2.705	6593	2866	1.050	0.064	36.691	47.512
Child mortality (last 0-9 years)	36.627	3.112	6472	2821	1.254	0.085	30.403	42.850
Under-5 mortality (last 0-9 years)	77.186	4.224	6643	2888	1.221	0.055	68.739	85.633

Table B.16 Sampling errors: Upper East region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.232	0.021	2709	854	2.612	0.091	0.190	0.275
Literacy	0.386	0.019	2709	854	1.996	0.048	0.349	0.423
No education	0.382	0.017	2709	854	1.822	0.045	0.348	0.416
Secondary or higher education	0.425	0.018	2709	854	1.885	0.042	0.390	0.461
Never married/never in union	0.254	0.010	2709	854	1.142	0.038	0.235	0.273
Currently married/in union	0.666	0.010	2709	854	1.078	0.015	0.647	0.686
Married before age 18	0.357	0.013	2153	678	1.261	0.036	0.331	0.384
Had sexual intercourse before age 18	0.504	0.018	2153	678	1.633	0.035	0.469	0.540
Currently pregnant	0.085	0.006	2709	854	1.198	0.076	0.072	0.098
Children ever born	2.506	0.064	2709	854	1.418	0.026	2.377	2.635
Children surviving	2.280	0.056	2709	854	1.377	0.024	2.168	2.391
Children ever born to women age 40-49	5.439	0.143	526	169	1.637	0.026	5.154	5.724
Know any contraceptive method	0.996	0.002	1765	569	1.263	0.002	0.993	1.000
Know a modern method	0.995	0.002	1765	569	1.190	0.002	0.990	0.999
Currently using any method	0.324	0.018	1765	569	1.635	0.056	0.288	0.361
Currently using a modern method	0.316	0.018	1765	569	1.633	0.057	0.280	0.353
Currently using pill	0.022	0.004	1765	569	1.109	0.178	0.014	0.029
Currently using IUD	0.003	0.001	1765	569	0.967	0.444	0.000	0.005
Currently using condoms	0.003	0.001	1765	569	0.970	0.418	0.000	0.006
Currently using injectables	0.153	0.011	1765	569	1.274	0.071	0.131	0.174
Currently using implants	0.132	0.011	1765	569	1.313	0.080	0.111	0.154
Currently using female sterilization	0.003	0.002	1765	569	1.179	0.519	0.000	0.006
Currently using rhythm	0.006	0.002	1765	569	1.062	0.317	0.002	0.010
Currently using withdrawal	0.002	0.001	1765	569	0.976	0.590	0.000	0.003
Mothers received antenatal care for last birth/stillbirth	0.996	0.002	1321	424	1.162	0.002	0.993	1.000
Mothers protected against tetanus for last birth/stillbirth	0.619	0.017	1321	424	1.315	0.028	0.584	0.653
Births/stillbirths with skilled attendant at delivery	0.918	0.012	1321	424	1.555	0.013	0.895	0.941
Induced abortion in the 5 years before the survey	0.014	0.002	2709	854	0.963	0.157	0.009	0.018
Miscarriage in the 5 years before the survey	0.057	0.005	2709	854	1.112	0.087	0.047	0.067
Ever had an induced abortion	0.035	0.004	2709	854	1.183	0.120	0.026	0.043
No induced abortion but have heard of induced abortion	0.825	0.010	2709	854	1.426	0.013	0.804	0.846
Believe induced abortion is legal in Ghana	0.133	0.010	2345	734	1.432	0.075	0.113	0.153
Total fertility rate (last 3 years)	4.662	0.194	7513	2370	1.505	0.042	4.275	5.049
Neonatal mortality (last 0-9 years)	19.910	2.763	3192	1023	0.949	0.139	14.384	25.436
Post-neonatal mortality (last 0-9 years)	8.556	1.781	3181	1020	1.096	0.208	4.993	12.119
Infant mortality (last 0-9 years)	28.466	3.402	3192	1023	1.035	0.120	21.662	35.270
Child mortality (last 0-9 years)	19.642	3.104	3060	975	1.132	0.158	13.434	25.849
Under-5 mortality (last 0-9 years)	47.549	4.790	3207	1027	1.176	0.101	37.968	57.129

Table B.17 Sampling errors: Upper West region sample, Ghana MHS 2017

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: Lower (R-2SE)	Confidence Limits: Upper (R+2SE)
WOMEN								
Urban residence	0.198	0.027	2603	628	3.502	0.138	0.144	0.253
Literacy	0.355	0.022	2603	628	2.362	0.063	0.310	0.399
No education	0.418	0.018	2603	628	1.824	0.042	0.383	0.454
Secondary or higher education	0.391	0.021	2603	628	2.203	0.054	0.349	0.433
Never married/never in union	0.285	0.011	2603	628	1.295	0.040	0.262	0.308
Currently married/in union	0.651	0.013	2603	628	1.434	0.021	0.625	0.678
Married before age 18	0.338	0.014	2038	492	1.361	0.042	0.310	0.367
Had sexual intercourse before age 18	0.476	0.016	2038	492	1.423	0.033	0.445	0.508
Currently pregnant	0.074	0.010	2603	628	1.901	0.131	0.055	0.094
Children ever born	2.678	0.072	2603	628	1.363	0.027	2.534	2.822
Children surviving	2.343	0.061	2603	628	1.349	0.026	2.221	2.464
Children ever born to women age 40-49	5.920	0.102	539	131	1.069	0.017	5.716	6.124
Know any contraceptive method	0.994	0.003	1670	409	1.472	0.003	0.988	0.999
Know a modern method	0.992	0.004	1670	409	1.680	0.004	0.985	0.999
Currently using any method	0.326	0.019	1670	409	1.618	0.057	0.289	0.363
Currently using a modern method	0.307	0.018	1670	409	1.624	0.060	0.270	0.343
Currently using pill	0.031	0.005	1670	409	1.204	0.164	0.021	0.042
Currently using IUD	0.003	0.003	1670	409	2.095	0.952	0.000	0.008
Currently using condoms	0.006	0.002	1670	409	1.059	0.349	0.002	0.009
Currently using injectables	0.153	0.010	1670	409	1.113	0.064	0.133	0.172
Currently using implants	0.101	0.013	1670	409	1.810	0.132	0.074	0.128
Currently using female sterilization	0.009	0.003	1670	409	1.383	0.359	0.002	0.015
Currently using rhythm	0.017	0.004	1670	409	1.324	0.249	0.008	0.025
Currently using withdrawal	0.003	0.001	1670	409	0.826	0.369	0.001	0.005
Mothers received antenatal care for last birth/stillbirth	0.988	0.004	1218	301	1.389	0.004	0.979	0.996
Mothers protected against tetanus for last birth/stillbirth	0.730	0.014	1218	301	1.120	0.019	0.702	0.758
Births/stillbirths with skilled attendant at delivery	0.813	0.021	1218	301	1.882	0.026	0.771	0.854
Induced abortion in the 5 years before the survey	0.027	0.003	2603	628	1.091	0.127	0.020	0.034
Miscarriage in the 5 years before the survey	0.066	0.005	2603	628	0.988	0.073	0.056	0.075
Ever had an induced abortion	0.048	0.004	2603	628	0.959	0.084	0.040	0.056
No induced abortion but have heard of induced abortion	0.832	0.013	2603	628	1.811	0.016	0.806	0.859
Believe induced abortion is legal in Ghana	0.115	0.010	2328	553	1.550	0.089	0.094	0.135
Total fertility rate (last 3 years)	4.577	0.160	7092	1710	1.363	0.035	4.256	4.898
Neonatal mortality (last 0-9 years)	27.887	3.106	3139	792	0.992	0.111	21.674	34.100
Post-neonatal mortality (last 0-9 years)	18.868	3.979	3139	794	1.798	0.211	10.910	26.827
Infant mortality (last 0-9 years)	46.755	4.991	3143	794	1.318	0.107	36.773	56.738
Child mortality (last 0-9 years)	33.006	4.906	3084	781	1.470	0.149	23.194	42.818
Under-5 mortality (last 0-9 years)	78.218	5.766	3173	801	1.150	0.074	66.686	89.749

Table B.18 Sampling errors for adult and maternal mortality rates, Ghana 2017

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: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
			WOMEN					
Adult mortality rates								
Age								
15-19	1.543	0.243	47751	46486	1.334	0.157	1.058	2.029
20-24	1.151	0.162	55437	54463	1.108	0.141	0.827	1.474
25-29	2.710	0.315	54566	54462	1.382	0.116	2.081	3.340
30-34	4.180	0.424	47456	48003	1.425	0.102	3.331	5.029
35-39	5.040	0.528	37864	38515	1.447	0.105	3.985	6.095
40-44	5.679	0.587	26159	27269	1.288	0.103	4.506	6.852
45-49	8.345	0.934	17432	18476	1.375	0.112	6.476	10.214
Total 15-49 (Age adjusted)	3.570	0.163	286666	287673	1.369	0.046	3.245	3.896
Zone								
Coastal (Age adjusted)	3.622	0.271	88377	135354	1.231	0.075	3.080	4.164
Middle (Age adjusted)	3.737	0.243	88166	113855	1.162	0.065	3.251	4.223
Northern (Age adjusted)	2.882	0.228	110122	38464	1.095	0.079	2.426	3.338
Adult mortality probabilities $_{35}q_{15}$								
Total 15-49	134	6	286666	287673	1.776	0.045	121	146
Coastal	134	10	88377	135354	1.444	0.073	114	153
Middle	142	9	88166	113855	1.288	0.065	123	160
Northern	106	9	110122	38464	1.199	0.081	88	123
Total 15-49 [2007]	148	8	119415	120656	1.412	0.057	131	165
Maternal mortality rates								
Age								
15-19	0.112	0.068	47751	46486	1.383	0.605	0.000	0.249
20-24	0.179	0.070	55437	54463	1.224	0.392	0.039	0.320
25-29	0.403	0.113	54566	54462	1.311	0.280	0.177	0.628
30-34	0.896	0.239	47456	48003	1.749	0.267	0.418	1.374
35-39	0.644	0.176	37864	38515	1.361	0.273	0.292	0.995
40-44	0.443	0.144	26159	27269	1.128	0.325	0.155	0.731
45-49	0.058	0.047	17432	18476	0.842	0.810	0.000	0.153
Total 15-49 (Age adjusted)	0.387	0.058	286666	287673	1.448	0.149	0.271	0.502
Zone								
Coastal (Age adjusted)	0.385	0.107	88377	135354	1.390	0.277	0.172	0.598
Middle (Age adjusted)	0.368	0.073	88166	113855	1.213	0.199	0.222	0.514
Northern (Age adjusted)	0.454	0.073	110122	38464	1.051	0.161	0.308	0.600
Maternal Mortality Ratio (MMR)								
Total 15-49 (Age adjusted)	310	46	286666	287673	1.448	0.149	217	402
Coastal (Age adjusted)	336	93	88377	135354	1.390	0.276	151	521
Middle (Age adjusted)	296	59	88166	113855	1.213	0.200	177	414
Northern (Age adjusted)	276	45	110122	38464	1.051	0.162	186	365
Pregnancy Related Mortality Ratio (PRMR)								
Total 15-49	343	51	286666	287673	1.465	0.150	240	446
Coastal	379	107	88377	135354	1.431	0.282	165	593
Middle	314	60	88166	113855	1.195	0.191	194	433
Northern	326	48	110122	38464	1.049	0.147	230	422
Total 15-49 [2007]	451	63	119415	120656	1.164	0.141	324	577
			MEN					
Adult mortality rates								
Age								
15-19	2.342	0.312	47457	46301	1.334	0.133	1.719	2.965
20-24	2.343	0.273	56907	55325	1.325	0.116	1.798	2.889
25-29	3.189	0.304	55769	54601	1.257	0.095	2.580	3.797
30-34	4.486	0.439	48399	48854	1.386	0.098	3.607	5.364
35-39	5.921	0.494	38425	39354	1.241	0.083	4.933	6.909
40-44	9.261	0.802	26553	27701	1.370	0.087	7.656	10.865
45-49	12.244	1.190	16944	18351	1.386	0.097	9.864	14.624
Total 15-49 (Age adjusted)	4.884	0.201	290452	290486	1.344	0.041	4.482	5.286
Zone								
Coastal (Age adjusted)	4.658	0.289	90401	138408	1.173	0.062	4.080	5.236
Middle (Age adjusted)	5.116	0.349	88635	112932	1.200	0.068	4.417	5.815
Northern (Age adjusted)	4.879	0.308	111417	39147	1.146	0.063	4.262	5.496
Adult mortality probabilities $_{35}q_{15}$								
Total 15-49	181	7	290452	290486	1.762	0.040	166	195
Coastal	174	10	90401	138408	1.416	0.060	154	195
Middle	188	12	88635	112932	1.357	0.066	164	213
Northern	177	10	111417	39147	1.325	0.059	156	198
Total 15-49 [2007]	172	10	122353	123943	1.341	0.059	152	192

DATA QUALITY TABLES

Appendix **C**

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Ghana MHS 2017

	Female		Male			Female		Male	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	1,296	2.5	1,422	3.0	37	571	1.1	436	0.9
1	1,302	2.5	1,263	2.7	38	655	1.3	552	1.2
2	1,295	2.5	1,315	2.8	39	489	1.0	330	0.7
3	1,322	2.6	1,389	2.9	40	696	1.4	848	1.8
4	1,419	2.8	1,475	3.1	41	368	0.7	264	0.6
5	1,346	2.6	1,367	2.9	42	570	1.1	505	1.1
6	1,342	2.6	1,421	3.0	43	417	0.8	414	0.9
7	1,322	2.6	1,493	3.2	44	360	0.7	284	0.6
8	1,209	2.4	1,337	2.8	45	639	1.2	708	1.5
9	1,239	2.4	1,345	2.9	46	350	0.7	287	0.6
10	1,326	2.6	1,350	2.9	47	409	0.8	312	0.7
11	1,139	2.2	1,111	2.4	48	410	0.8	380	0.8
12	1,255	2.4	1,256	2.7	49	407	0.8	259	0.5
13	1,283	2.5	1,296	2.7	50	362	0.7	517	1.1
14	1,004	2.0	1,123	2.4	51	306	0.6	193	0.4
15	998	1.9	1,118	2.4	52	525	1.0	332	0.7
16	952	1.9	875	1.9	53	420	0.8	220	0.5
17	1,058	2.1	1,034	2.2	54	420	0.8	286	0.6
18	961	1.9	936	2.0	55	479	0.9	383	0.8
19	721	1.4	764	1.6	56	338	0.7	225	0.5
20	902	1.8	932	2.0	57	307	0.6	248	0.5
21	721	1.4	515	1.1	58	332	0.6	210	0.4
22	814	1.6	743	1.6	59	203	0.4	165	0.3
23	776	1.5	672	1.4	60	558	1.1	453	1.0
24	854	1.7	652	1.4	61	129	0.3	121	0.3
25	951	1.9	748	1.6	62	247	0.5	224	0.5
26	746	1.5	575	1.2	63	214	0.4	152	0.3
27	937	1.8	664	1.4	64	195	0.4	159	0.3
28	817	1.6	666	1.4	65	374	0.7	308	0.7
29	683	1.3	553	1.2	66	118	0.2	97	0.2
30	933	1.8	838	1.8	67	144	0.3	135	0.3
31	606	1.2	441	0.9	68	130	0.3	120	0.3
32	803	1.6	756	1.6	69	93	0.2	89	0.2
33	560	1.1	405	0.9	70+	2,081	4.0	1,405	3.0
34	674	1.3	480	1.0	37	571	1.1	436	0.9
35	856	1.7	802	1.7	38	655	1.3	552	1.2
36	636	1.2	396	0.8	39	489	1.0	330	0.7
					Don't know/ missing	13	0.0	23	0.0
					Total	51,391	100.0	47,173	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 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, number and percent distribution of interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by 5-year age groups, Ghana MHS 2017

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percentage	
10-14	6,008	na	na	na
15-19	4,690	4,636	19.3	98.8
20-24	4,067	4,028	16.7	99.1
25-29	4,135	4,101	17.0	99.2
30-34	3,576	3,542	14.7	99.0
35-39	3,206	3,169	13.2	98.8
40-44	2,411	2,387	9.9	99.0
45-49	2,216	2,197	9.1	99.1
50-54	2,034	na	na	na
15-49	24,302	24,059	100.0	99.0

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.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Ghana MHS 2017

Subject	Reference group	Percentage with information missing	Number of cases
Birth date	Births in the 15 years preceding the survey		
Day Only		4.25	38,962
Month Only		2.33	38,962
Month and Year		0.16	38,962
Age at Death	Deceased children born in the 15 years preceding the survey	0.00	2,360
Age/date at first union[1]	Ever married women age 15-49	0.83	16,665
Respondent's education	Women age 15-49	0.00	25,062

[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, dead, and total children (weighted), Ghana MHS 2017

Calendar year	Number of births			Percentage with year and month of birth given			Sex ratio at birth[2]			Calendar year ratio[3]		
	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2017	1,958	71	2,029	99.8	99.4	99.8	107.9	98.7	107.5	na	na	na
2016	2,908	108	3,016	99.5	98.9	99.5	100.6	153.6	102.1	na	na	na
2015	2,622	121	2,743	99.4	98.3	99.4	101.7	129.0	102.8	91.4	101.4	91.8
2014	2,830	131	2,961	99.2	94.2	99.0	99.6	81.9	98.7	106.6	102.5	106.4
2013	2,687	134	2,821	99.2	91.0	98.8	101.7	132.6	103.0	97.0	96.1	96.9
2012	2,713	148	2,861	98.7	88.5	98.2	98.6	123.5	99.7	102.2	96.8	101.9
2011	2,620	172	2,792	98.0	92.4	97.6	102.6	152.3	105.1	99.1	108.5	99.6
2010	2,573	169	2,742	97.4	89.9	96.9	111.4	125.9	112.2	102.0	104.6	102.2
2009	2,424	151	2,574	97.1	88.3	96.6	107.2	113.7	107.6	98.2	82.7	97.1
2008	2,362	196	2,558	97.5	87.8	96.8	106.1	135.7	108.1	96.9	101.6	97.3
2013 - 2017	13,005	565	13,570	99.4	95.9	99.3	101.9	116.7	102.5	na	na	na
2008 - 2012	12,692	836	13,528	97.8	89.4	97.3	105.0	130.3	106.4	na	na	na
2003 - 2007	10,394	913	11,308	96.8	83.8	95.8	102.2	133.6	104.5	na	na	na
1998 - 2002	7,748	884	8,633	95.0	84.6	94.0	99.8	125.6	102.2	na	na	na
<1998	7,729	1,346	9,075	92.2	82.3	90.7	101.9	123.1	104.8	na	na	na
All	51,568	4,545	56,113	96.7	86.1	95.9	102.4	126.1	104.1	na	na	na

NA = Not applicable
[1] $(B_m/B_f)x100$, where B_m and B_f are the numbers of male and female births, respectively
[2] $[2B_x/(B_{x-1}+B_{x+1})]x100$, where B_x 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 ages 0-6 days, for 5-year periods preceding the survey (weighted), Ghana MHS 2017

	Number of years preceding the survey				Total
Age at death (days)	0-4	5-9	10-14	15-19	0-19
<1	176	175	157	87	595
1	62	68	48	43	221
2	12	6	15	18	51
3	28	43	34	24	130
4	6	16	12	13	47
5	6	5	9	7	27
6	6	5	2	6	19
7	22	17	34	23	96
8	3	1	1	2	7
9	4	1	1	1	8
10	5	3	2	0	10
11	3	1	2	0	5
12	0	1	0	0	1
13	0	0	0	0	0
14	16	17	17	25	75
15	1	3	0	0	4
16	0	1	0	0	1
17	2	0	0	0	2
18	0	0	0	0	0
19	0	0	0	0	0
20	0	1	4	1	6
21	2	10	9	11	33
23	0	1	0	0	2
24	0	1	0	0	1
27	0	1	0	0	2
28	1	0	0	1	3
29	0	0	1	0	1
30	1	1	1	3	6
Percentage early neonatal[1]	82.3	84.4	78.9	74.6	80.5

[1] ≤ 6 days / ≤ 30 days

Table C.6 Reporting of age at death in months

Distribution of reported deaths under age 2 years by age at death in months and the percentage of infant deaths reported to occur at age under 1 month, for 5-year periods preceding the survey (weighted), Ghana MHS 2017

	Number of years preceding the survey				Total
Age at death (months)	0-4	5-9	10-14	15-19	0-19
<1[a]	361	377	351	265	1,355
1	31	28	30	40	129
2	24	22	20	18	84
3	28	28	28	19	103
4	12	21	11	11	55
5	7	14	8	13	42
6	8	18	20	30	76
7	11	11	19	9	49
8	4	21	20	22	67
9	10	11	22	15	59
10	2	9	10	4	25
11	14	9	21	12	55
12	14	33	40	59	146
13	3	6	4	13	26
14	3	6	6	8	24
15	8	6	5	6	25
16	2	6	5	4	16
17	1	4	2	2	10
18	10	13	20	18	61
19	1	3	3	0	8
20	2	1	3	0	5
21	3	5	0	0	9
22	0	1	0	0	1
23	0	1	2	0	4
Percentage neonatal[1]	70.4	66.3	62.7	57.9	64.5

[a] Includes deaths under one month reported in days
[1] Under one month / under one year

Table C.7 Completeness of information on siblings

Completeness of data on survival status of sisters and brothers reported by interviewed women, age of living siblings and age at death (AD) and years since death (YSD) of dead siblings (unweighted), Ghana MHS 2017

	Sisters		Brothers		All siblings	
	Number	Percent	Number	Percent	Number	Percent
All siblings	60,630	100.0	62,577	100.0	123,207	100.0
Living	53,760	88.7	54,281	86.7	108,041	87.7
Dead	6,865	11.3	8,288	13.2	15,153	12.3
Survival status unknown	5	0.0	8	0.0	13	0.0
Living siblings	53,760	100.0	54,281	100.0	108,041	100.0
Age reported	53,760	100.0	54,281	100.0	108,041	100.0
Dead siblings	6,865	100.0	8,288	100.0	15,153	100.0
AD and YSD reported	6,865	100.0	8,288	100.0	15,153	100.0

Table C.8 Sibship size and sex ratio of siblings

Mean sibship size and sex ratio of siblings at birth, Ghana MHS 2017

Background characteristic	Mean sibship size[1]	Sex ratio of siblings at birth[2]
Age of respondents		
15-19	5.3	107.0
20-24	5.6	102.1
25-29	5.8	103.5
30-34	6.0	98.9
35-39	6.2	101.6
40-44	6.3	101.5
45-49	6.5	104.0
Zone		
Coastal	5.7	103.5
Middle	5.9	101.2
Northern	6.2	104.1
Total	5.9	102.7

[1] Includes the respondent
[2] Excludes the respondent

Table C.9 Pregnancy-related mortality trends

Direct estimates of pregnancy-related mortality rates for the 7 years preceding each survey, by 5-year age groups, Ghana MHS 2017

	Pregnancy-related mortality rates[1,2]	
Age	2010-2017	2000-2007
15-19	0.12	0.26
20-24	0.18	0.41
25-29	0.50	0.53
30-34	0.99	0.66
35-39	0.69	1.41
40-44	0.46	1.40
45-49	0.07	0.13
Total 15-49 [a]	0.43	0.64
Total fertility rate (TFR)	4.0	4.7
General fertility rate (GFR)[3]	125	142
Pregnancy-related mortality ratio (PRMR)[4]	343	451
Confidence interval	(240-446)	(324-577)
Lifetime risk of pregnancy-related death[5]	0.014	0.021

[1] Pregnancy-related mortality is defined as the death of a woman while pregnant or within 2 months of termination of pregnancy, from any cause including accident or violence
[2] Expressed per 1,000 woman-years of exposure
[3] Age-adjusted rate expressed per 1,000 women age 15-49
[4] Expressed per 100,000 live births; calculated as the age-adjusted pregnancy-related mortality rate times 100 divided by the age-adjusted general fertility rate
[5] Calculated as $1-(1-PRMR)^{TFR}$ where TFR represents the total fertility rate for the 7 years preceding the survey
[a] Age-adjusted rate

PARTICIPANTS IN THE 2017 GHANA MATERNAL HEALTH SURVEY

Appendix **D**

PROJECT IMPLEMENTATION TEAM

Senior Project Management

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Emmanuel Boateng	Trainer & Field Coordinator
Michael Opoku Acheampong	Trainer & Field Coordinator
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Rochester Appiah-Kusi	CAPI Trainer & Field Coordinator
Leo Kwamena Arkafra	CAPI Trainer & Field Coordinator
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Timothy Afful	Deputy Director of Finance
Titus Quartey	Director of Transport
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Asante Ansah Asare	Audit
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Hannah Konadu Frempong	Administrative Support
Bernice Adjetey-Mensah	Administrative Support
Mary Nyarko	Administrative Support
Simon Kofi Kasakwa	Administrative Support, Driver

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Chris Amewu	Field Monitor
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Kobina Abaka Ansah	Field Monitor
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Abdul-Kadir Bawa	Field Monitor
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TABULATION OF INTERNATIONAL CLASSIFICATION OF DISEASE (ICD) 10 OBSTETRIC CODES

Appendix E

This key shows how obstetric codes were tabulated in the cause-of-death tables in Chapter 9.

Code	Description	Table 9.3.1	Table 9.3.2	Table 9.4.1 (ICD-MM Tabulation)	Table 9.4.2 (2007 GMHS Tabulation)	Table 9.5 (Onset period of cause of death)
O00.0	Abdominal pregnancy	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Spontaneous abortion/miscarriage	Pregnancy
O00.9	Ectopic pregnancy, unspecified	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Spontaneous abortion/miscarriage	Pregnancy
O03.0	Spontaneous abortion : incomplete, complicated by genital tract and pelvic infection	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Spontaneous abortion/miscarriage	Pregnancy
O03.1	Spontaneous abortion : incomplete, complicated by delayed or excessive haemorrhage	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Spontaneous abortion/miscarriage	Pregnancy
O03.6	Spontaneous abortion : complete or unspecified, complicated by delayed or excessive haemorrhage	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Spontaneous abortion/miscarriage	Pregnancy
O04.1	Medical abortion : incomplete, complicated by delayed or excessive haemorrhage	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O05	Complications following abortion and ectopic and molar pregnancy	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O06	Unspecified abortion	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O06.8	Unspecified abortion : complete or unspecified, with other and unspecified complications	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O07.5	Other and unspecified failed attempted abortion, complicated by genital tract and pelvic infection	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O07.6	Other and unspecified failed attempted abortion, complicated by delayed or excessive haemorrhage	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O07.8	Other and unspecified failed attempted abortion, with other and unspecified complications	Maternal (direct)	Maternal	Pregnancy with abortive outcome	Abortion (medical, attempted, failed, other unspecified)	Pregnancy
O10.0	Pre-existing essential hypertension complicating pregnancy, childbirth and the puerperium	Maternal (indirect)	Maternal	Non-obstetric complications	Other not elsewhere classified: non-infectious	Before pregnancy
O14	Pre-eclampsia	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Pregnancy
O14.1	Severe pre-eclampsia	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Pregnancy
O14.2	HELLP syndrome	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Pregnancy or childbirth
O14.9	Pre-eclampsia, unspecified	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Pregnancy

Continued

Code	Description	Table 9.3.1	Table 9.3.2	Table 9.4.1 (ICD-MM Tabulation)	Table 9.4.2 (2007 GMHS Tabulation)	Table 9.5 (Onset period of cause of death)
O15.0	Eclampsia in pregnancy	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Pregnancy
O15.1	Eclampsia in labour	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Childbirth
O15.2	Eclampsia in the puerperium	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Puerperium
O15.9	Eclampsia, unspecified as to time period	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Any
O16	Unspecified maternal hypertension	Maternal (direct)	Maternal	Hypertensive disorders in pregnancy, childbirth, and the puerperium	Hypertensive disorders (including eclampsia)	Any
O21.2	Late vomiting of pregnancy	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Pregnancy
O24.4	Diabetes mellitus arising in pregnancy	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Pregnancy
O43.2	Morbidly adherent placenta	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O46.9	Antepartum haemorrhage, unspecified	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Pregnancy
O67	Labour and delivery complicated by intrapartum haemorrhage, not elsewhere classified	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O67.0	Intrapartum haemorrhage with coagulation defect	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O67.8	Other intrapartum haemorrhage	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O67.9	Intrapartum haemorrhage, unspecified	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O71.1	Rupture of uterus during labour	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O72	Postpartum haemorrhage	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Puerperium
O72.0	Third-stage haemorrhage	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Childbirth
O72.1	Other immediate postpartum haemorrhage	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Puerperium
O72.2	Delayed and secondary postpartum haemorrhage	Maternal (direct)	Maternal	Obstetric haemorrhage	Haemorrhage (ante- and post-partum)	Puerperium
O73.0	Retained placenta without haemorrhage	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Childbirth
O75.4	Other complications of obstetric surgery and procedures	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Childbirth
O75.8	Haemorrhage (ante- and post-partum)	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Pregnancy or childbirth
O75.9	Complication of labour and delivery, unspecified	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Childbirth
O85	Puerperal sepsis	Maternal (direct)	Maternal	Pregnancy-related infection	Sepsis	Puerperium
O89.2	Central nervous system complications of anaesthesia during the puerperium	Maternal (direct)	Maternal	Unanticipated complications of management	Other, miscellaneous	Puerperium
O90.3	Cardiomyopathy in the puerperium	Maternal (direct)	Maternal	Other obstetric complications	Other, miscellaneous	Puerperium
O95	Obstetric death of unspecified cause	Maternal (direct)	Maternal	Unknown/ undetermined	Other, miscellaneous	Any

Continued

Code	Description	Table 9.3.1	Table 9.3.2	Table 9.4.1 (ICD-MM Tabulation)	Table 9.4.2 (2007 GMHS Tabulation)	Table 9.5 (Onset period of cause of death)
O98.8	Other maternal infectious and parasitic diseases complicating pregnancy, childbirth and the puerperium	Maternal (indirect)	Maternal	Non-obstetric complications	Other not elsewhere classified: infectious	Any
O99.0	Anaemia complicating pregnancy, childbirth and the puerperium	Maternal (indirect)	Maternal	Non-obstetric complications	Other not elsewhere classified: non-infectious	Any
O99.6	Diseases of the digestive system complicating pregnancy, childbirth and the puerperium	Maternal (indirect)	Maternal	Non-obstetric complications	Other not elsewhere classified: non-infectious	Any
O99.8	Other specified diseases and conditions complicating pregnancy, childbirth and the puerperium	Maternal (indirect)	Maternal	Non-obstetric complications	Other not elsewhere classified: non-infectious	Any

QUESTIONNAIRES

Appendix F

FORMATTING DATE: 30 May 2017
ENGLISH LANGUAGE: 17 Mar. 2017

2017 GHANA MATERNAL HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE

MINISTRY OF HEALTH — GHANA STATISTICAL SERVICES

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

REGION . . . . . | | |

DISTRICT . . . . . | | |

CLUSTER NUMBER . . . . . | 0 | | | |

HOUSEHOLD NUMBER . . . . . | | | | |

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY
				MONTH
				YEAR 2017
INTERVIEWER'S NAME				INT. NO.
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 | |

LINE NO. OF RESPONDENT TO HOUSEHOLD QUESTIONNAIRE | |

LANGUAGE OF QUESTIONNAIRE** 00 | LANGUAGE OF INTERVIEW** | | NATIVE LANGUAGE OF RESPONDENT** | | TRANSLATOR USED (YES = 1, NO = 2) |

LANGUAGE OF QUESTIONNAIRE** **ENGLISH**

**LANGUAGE CODES:

00 ENGLISH	05 MOLE-DAGBANI
01 AKAN	06 GRUSI
02 GA	07 GURMA
03 EWE	08 MANDE
04 GUAN	96 OTHER _____ (SPECIFY)

SUPERVISOR

_____ NAME

NUMBER

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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 national survey that asks about maternal health issues. The information we collect will help the government to plan health services for women. 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

100	RECORD THE TIME INTERVIEW STARTS.	HOURS . . . . . MINUTES . . . . .

HOUSEHOLD SCHEDULE

							IF AGE 3 YEARS OR OLDER		
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	EVER ATTENDED SCHOOL		ELIGI-BILITY
1	2	3	4	5	6	7	8	9	10
	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 5-9 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)? RECORD IN COMP-LETED YEARS IF 95 OR MORE, RECORD '95'.	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? SEE CODES BELOW What is the highest grade (NAME) completed at that level? SEE CODES BELOW	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49
01			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS	Y N 1 2 ↓ GO TO 10	LEVEL GRADE	01
02			1 2	1 2	1 2		1 2 ↓ GO TO 10		02
03			1 2	1 2	1 2		1 2 ↓ GO TO 10		03
04			1 2	1 2	1 2		1 2 ↓ GO TO 10		04
05			1 2	1 2	1 2		1 2 ↓ GO TO 10		05
06			1 2	1 2	1 2		1 2 ↓ GO TO 10		06
07			1 2	1 2	1 2		1 2 ↓ GO TO 10		07
08			1 2	1 2	1 2		1 2 ↓ GO TO 10		08
09			1 2	1 2	1 2		1 2 ↓ GO TO 10		09
10			1 2	1 2	1 2		1 2 ↓ GO TO 10		10

2A)	Just to make sure that I have a complete listing: are there any other people 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

CODES FOR Q. 9: EDUCATION

LEVEL
0 = PRE-PRIMARY
1 = PRIMARY
2 = MIDDLE
3 = JSS/JHS
4 = SECONDARY / TECH / VOC / COMM
5 = SSS/SHS / TECH / VOC / COMM
6 = HIGHER
8 = DON'T KNOW

GRADE
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

HOUSEHOLD SCHEDULE

							IF AGE 3 YEARS OR OLDER		
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	EVER ATTENDED SCHOOL		ELIGI-BILITY
1	2	3	4	5	6	7	8	9	10
	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 5-9 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)? RECORD IN COMP-LETED YEARS IF 95 OR MORE, RECORD '95'.	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? SEE CODES BELOW What is the highest grade (NAME) completed at that level? SEE CODES BELOW	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49
11			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS	Y N 1 2 ↓ GO TO 10	LEVEL GRADE	11
12			1 2	1 2	1 2		1 2 ↓ GO TO 10		12
13			1 2	1 2	1 2		1 2 ↓ GO TO 10		13
14			1 2	1 2	1 2		1 2 ↓ GO TO 10		14
15			1 2	1 2	1 2		1 2 ↓ GO TO 10		15
16			1 2	1 2	1 2		1 2 ↓ GO TO 10		16
17			1 2	1 2	1 2		1 2 ↓ GO TO 10		17
18			1 2	1 2	1 2		1 2 ↓ GO TO 10		18
19			1 2	1 2	1 2		1 2 ↓ GO TO 10		19
20			1 2	1 2	1 2		1 2 ↓ GO TO 10		20

TICK HERE IF CONTINUATION SHEET USED ☐

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

CODES FOR Q. 9: EDUCATION

LEVEL
0 = PRE-PRIMARY
1 = PRIMARY
2 = MIDDLE
3 = JSS/JHS
4 = SECONDARY / TECH / VOC / COMM
5 = SSS/SHS / TECH / VOC / COMM
6 = HIGHER
8 = DON'T KNOW

GRADE
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	What is the main source of drinking water for members of your household?	**PIPED WATER** PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PIPED TO NEIGHBOR . . . . . 13 PUBLIC TAP/STANDPIPE . . . . . 14 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 → 103 → 103
102	What is the main source of water used by your household for other purposes such as cooking and handwashing?	**PIPED WATER** PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PIPED TO NEIGHBOR . . . . . 13 PUBLIC TAP/STANDPIPE . . . . . 14 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 OTHER _____ 96 (SPECIFY)	→ 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	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
105	What kind of toilet facility do members of your household usually use? IF NOT POSSIBLE TO DETERMINE, ASK PERMISSION TO OBSERVE THE FACILITY.	**FLUSH OR POUR FLUSH TOILET** FLUSH TO PIPED SEWER SYSTEM . . . . . 11 FLUSH TO MANHOLE/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 COMPOSTING TOILET . . . . . 31 BUCKET TOILET . . . . . 41 HANGING TOILET/HANGING LATRINE . . . . . 51 NO FACILITY/BUSH/FIELD . . . . . 61 OTHER _____ 96 (SPECIFY)	→ 108
106	Do you share this toilet facility with other households?	YES . . . . . 1 NO 2	→ 108
107	Including your own household, how many households use this toilet facility?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . . 0 [ ] 10 OR MORE HOUSEHOLDS . . . . . 95 DON'T KNOW 98	
108	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 RESIDUE . . . . . 10 ANIMAL DUNG . . . . . 11 NO FOOD COOKED IN HOUSEHOLD . . . . . 95 OTHER _____ 96 (SPECIFY)	
109	How many rooms in this household are used for sleeping?	ROOMS . . . . . [ ][ ]	
110	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . . 1 NO 2	→ 112
111	How many of the following animals does this household own? IF NONE, RECORD '00'. IF 95 OR MORE, RECORD '95'. IF UNKNOWN, RECORD '98'. a) Milk cows? b) Other cattle? c) Horses, donkeys, or mules? d) Goats? e) Sheep? f) Chickens or other poultry? g) Pigs? h) Rabbits? i) Grasscutter?	a) MILK COWS . . . . . [ ][ ] b) OTHER CATTLE . . . . . [ ][ ] c) HORSES/DONKEYS/MULES . . . . . [ ][ ] d) GOATS . . . . . [ ][ ] e) SHEEP . . . . . [ ][ ] f) CHICKENS/POULTRY . . . . . [ ][ ] g) PIGS . . . . . [ ][ ] h) RABBITS . . . . . [ ][ ] i) GRASSCUTTER . . . . . [ ][ ]	

HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
112	Does any member of your household own any agricultural land?	YES . . . . . 1 NO 2	→ 114
113	How many hectares or acres or plots of agricultural land do members of this household own? IF 95 OR MORE HECTARES, CIRCLE '950' IF 95 OR MORE ACRES, RECORD IN HECTARES IF 95 OR MORE PLOTS, RECORD IN ACRES IF 95 OR MORE POLES, RECORD IN PLOTS	HECTARES . . . . . 1 ☐☐.☐ ACRES . . . . . 2 ☐☐.☐ PLOTS . . . . . 3 ☐☐.☐ POLES . . . . . 4 ☐☐.☐ 95 OR MORE HECTARES . . . . . 950 DON'T KNOW 998	
114	Does your household have:	YES NO	
	a) Electricity?	a) ELECTRICITY 1 2	
	b) A radio?	b) RADIO 1 2	
	c) A television?	c) TELEVISION 1 2	
	d) A non-mobile telephone (landline)?	d) NON-MOBILE TELEPHONE 1 2	
	e) A computer/Tablet computer?	e) COMPUTER 1 2	
	f) A refrigerator?	f) REFRIGERATOR 1 2	
	g) A freezer	g) FREEZER 1 2	
	h) An electric generator/Invertor?	h) GENERATOR 1 2	
	i) A washing machine?	i) WASHING MACHINE 1 2	
	j) A photo camera? (NOT ON PHONE)	j) CAMERA 1 2	
	k) A video deck/DVD/VCD?	k) VIDEO/DVD/VCD 1 2	
	l) A sewing machine?	l) SEWING MACHINE 1 2	
	m) A bed?	m) BED 1 2	
	n) A table?	n) TABLE 1 2	
	o) A chair?	o) CHAIR 1 2	
	p) A cabinet/cupboard?	p) CABINET 1 2	
115	Does any member of this household own:	YES NO	
	a) A wrist watch?	a) WRIST WATCH 1 2	
	b) A mobile phone?	b) MOBILE PHONE 1 2	
	c) A bicycle?	c) BICYCLE 1 2	
	d) A motorcycle or motor scooter?	d) MOTORCYCLE/SCOOTER 1 2	
	e) An animal-drawn cart?	e) ANIMAL-DRAWN CART 1 2	
	f) A car, bus or truck?	f) CAR/TRUCK 1 2	
	g) A boat with a motor?	g) BOAT WITH MOTOR 1 2	
	h) A boat without a motor?	h) BOAT WITHOUT MOTOR 1 2	
116	Does any member of this household have a bank account?	YES . . . . . 1 NO 2	

ADDITIONAL HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
117	OBSERVE MAIN MATERIAL OF THE FLOOR OF THE DWELLING. RECORD OBSERVATION.	**NATURAL FLOOR** EARTH/SAND . . . . . 11 DUNG . . . . . 12 **RUDIMENTARY FLOOR** WOOD PLANKS . . . . . 21 PALM/BAMBOO . . . . . 22 **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 . . . . . 36 OTHER _____ 96 (SPECIFY)	
118	OBSERVE MAIN MATERIAL OF THE ROOF OF THE DWELLING. RECORD OBSERVATION.	**NATURAL ROOFING** THATCH/PALM LEAF . . . . . 11 MUD/SOD . . . . . 12 **RUDIMENTARY ROOFING** RUSTIC MAT . . . . . 21 PALM/BAMBOO . . . . . 22 WOOD PLANKS . . . . . 23 CARDBOARD . . . . . 24 **FINISHED ROOFING** ZINC/ALUMINIUM . . . . . 31 WOOD . . . . . 32 CALAMINE/CEMENT FIBER . . . . . 33 CERAMIC/BRICK TILES . . . . . 34 CEMENT . . . . . 35 ROOFING SHINGLES . . . . . 36 ASBESTOS/SLATE ROOFING SHEETS . . 37 OTHER _____ 96 (SPECIFY)	
119	OBSERVE MAIN MATERIAL OF THE EXTERIOR WALLS OF THE DWELLING. RECORD OBSERVATION.	**NATURAL WALLS** CANE/PALM/TRUNKS . . . . . 11 MUD/LANDCRETE . . . . . 12 **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)	
120	RECORD THE TIME INTERVIEW ENDED.	HOURS . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT INTERVIEW:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

FORMATTING DATE: 1 June 2017
ENGLISH LANGUAGE: 2 June 2017

2017 GHANA MATERNAL HEALTH SURVEY
PHASE 2 WOMAN'S QUESTIONNAIRE

GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

REGION . . . . . | | |

DISTRICT . . . . . | | |

CLUSTER NUMBER | 0 | | | |

HOUSEHOLD NUMBER . . . . . | | | | |

NAME AND LINE NUMBER OF WOMAN . . . . . | | |

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY | | MONTH | | YEAR | 2 | 0 | 1 | 7
INTERVIEWER'S NAME	_____	_____	_____	INT. NO. | | | | |
RESULT*	_____	_____	_____	RESULT* | |
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS | |
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ SPECIFY

LANGUAGE OF QUESTIONNAIRE** | 0 | 0 |
LANGUAGE OF INTERVIEW** | | |
NATIVE LANGUAGE OF RESPONDENT** | | |
TRANSLATOR USED (YES = 1, NO = 2) | |

LANGUAGE OF QUESTIONNAIRE** **ENGLISH**

**LANGUAGE CODES:
00 ENGLISH
01 AKAN
02 GA
03 EWE
04 GUAN
05 MOLE-DAGBANI
06 GRUSI
07 GURMA
08 MANDE
96 OTHER _____ (SPECIFY)

SUPERVISOR

_____ NAME

				NUMBER

INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with the Ghana Statistical Service. We are conducting a survey about women's health issues 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 to 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

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME INTERVIEW STARTED.	HOURS . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	
102	How long have you been living continuously in (NAME OF CURRENT CITY, TOWN OR VILLAGE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . [ ][ ] ALWAYS . . . . . 95 VISITOR 96	→ 105
103	Just before you moved here, did you live in a city, in a town, or in a rural area?	CITY . . . . . 1 TOWN . . . . . 2 RURAL AREA 3	
104	Before you moved here, which region did you live in?	WESTERN . . . . . 01 CENTRAL . . . . . 02 GREATER ACCRA . . . . . 03 VOLTA . . . . . 04 EASTERN . . . . . 05 ASHANTI . . . . . 06 BRONG AHAFO . . . . . 07 NORTHERN . . . . . 08 UPPER EAST . . . . . 09 UPPER WEST . . . . . 10 OUTSIDE OF GHANA 96	
105	In what month and year were you born?	MONTH . . . . . [ ][ ] DON'T KNOW MONTH . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] DON'T KNOW YEAR 9998	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS . . . . . [ ][ ]	
107	Have you ever attended school?	YES . . . . . 1 NO 2	→ 111
108	What is the highest level of school you attended: primary, middle, JSS/JHS, SSS/SHS, secondary, or higher?	PRIMARY . . . . . 1 MIDDLE . . . . . 2 JSS/JHS . . . . . 3 SECONDARY / TECH / VOC / COMM . . . . . 4 SSS/SHS / TECH / VOC / COMM . . . . . 5 HIGHER 6	
109	What is the highest grade you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE . . . . . [ ][ ]	

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
110	CHECK 108: PRIMARY, MIDDLE, JSS/JHS SSS/SHS OR SECONDARY ☐	HIGHER ☐	→ 113
111	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 PART OF THE SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE . . . . . 3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
112	CHECK 111: CODE '2', '3' OR '4' CIRCLED ☐	CODE '1' OR '5' CIRCLED ☐	→ 114
113	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	
114	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	
115	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	
116	Do you own a mobile telephone?	YES . . . . . 1 NO 2	→ 118
117	Do you use your mobile phone for any financial transactions?	YES . . . . . 1 NO 2	
118	Do you have an account in a bank or other financial institution that you yourself use?	YES . . . . . 1 NO 2	
119	Have you ever used the internet?	YES . . . . . 1 NO 2	→ 122
120	In the last 12 months, have you used the internet? IF NECESSARY, PROBE FOR USE FROM ANY LOCATION, WITH ANY DEVICE.	YES . . . . . 1 NO 2	→ 122
121	During the last one month, how often did you use the internet: almost every day, at least once a week, less than once a week, or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
122	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)	
123	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)	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask you about all the pregnancies that you have had during your life. By this I mean all the children born to you whether they were born alive or dead, whether they are still living or not, whether they live with you or somewhere else, and all the pregnancies that you have had that did not result in a live birth. I will ask about pregnancies that resulted in a stillbirth, or that ended spontaneously in miscarriage, or that you may have had to end early in abortion. I understand that it is not easy to talk about children who have died, or pregnancies that ended before full term, but it is important that you tell us about all of them, so that the government can develop programs to improve maternal health. 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	a) How many sons live with you? b) And how many daughters live with you? IF NONE, RECORD '00'.	a) SONS AT HOME . . . . . [ ][ ] b) 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	a) How many sons are alive but do not live with you? b) And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	a) SONS ELSEWHERE . . . . . [ ][ ] b) DAUGHTERS ELSEWHERE . . . . . [ ][ ]	
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, who made any movement, sound, or effort to breathe, or who showed any other signs of life even if for a very short time?	YES . . . . . 1 NO 2	→ 207A
206A	a) How many boys have died? b) And how many girls have died? IF NONE, RECORD '00'.	a) BOYS DEAD . . . . . [ ][ ] b) GIRLS DEAD . . . . . [ ][ ]	
207A	Some women lose their pregnancy spontaneously, that is they have a miscarriage. Have you ever had a miscarriage? That is, have you ever lost a pregnancy spontaneously?	YES . . . . . 1 NO 2	→ 207C
207B	How many miscarriages have you had in your lifetime?	MISCARRIAGES . . . . . [ ][ ]	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
207C	Women sometimes take steps to end their pregnancy, because they find themselves pregnant when they do not want to be, or when it is difficult for them to continue with their pregnancy because of opposition from their husband, partner, relatives or others. Have you ever been in a situation when you or someone else have had to do something to end your pregnancy?	YES . . . . . 1 NO 2	→ 207E
207D	How many pregnancies have ended this way in your lifetime?	ABORTIONS . . . . . ☐☐	
207E	Some women have stillbirths, that is, they give birth in late pregnancy to a dead child. Have you ever had a still birth?	YES . . . . . 1 NO 2	→ 208A
207F	How many stillbirths have you had in your lifetime?	STILLBIRTHS . . . . . ☐☐	
208A	SUM ANSWERS TO 203, 205, AND 206A AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL LIVE BIRTHS . . . . . ☐☐	
208B	SUM ANSWERS TO 203, 205, 206A, 207B, 207D, AND 207F AND ENTER TOTAL. IF NONE, RECORD	TOTAL PREGNANCY OUTCOMES . . . . . ☐☐	
208C	SUM ANSWERS TO 207B, 207D, AND 207F AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL PREGNANCIES WITH NO LIVE BIRTH . . . . . ☐☐	
209	CHECK 208A AND 208C: Just to make sure that I have this right: you have had in TOTAL _____ births and _____ other pregnancies during your life. Is that correct? YES ☐ ↓ NO ☐ → PROBE AND CORRECT 201-208C AS NECESSARY.		
210	CHECK 208B: ONE OR MORE PREGNANCIES ☐ ↓ NO PREGNANCIES ☐ →		→ 226

211 Now I would like to record all your pregnancies, whether born alive, born dead, or lost before full term, starting with the first one you had.
RECORD ALL PREGNANCIES IN 212-221. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.
IF THERE ARE MORE THAN 10 PREGNANCIES, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW.

212 PREG-NANCY HISTORY LINE NUMBER	212A Think back to your (first/next) pregnancy. What name was given to the child? RECORD NAME	212B Was that a single or multiple pregnancy?	212C Was the baby born alive, born dead, or did you have a miscarriage or abortion?	212D Did that baby cry, move, or breathe when it was born?	213 Is (NAME) a boy or a girl?	215 On what day, month, and year was (NAME) born? PROBE: When is his/her birthday?	216 Is (NAME) still alive?
01	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
02	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
03	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
04	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
05	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)

217	220	220AA	220AB	220AC	220AD	221
STILL ALIVE	IF BORN ALIVE AND NOW DEAD:		IF BORN DEAD OR LOST BEFORE BIRTH			
How old was (NAME) at (NAME)'s last birthday? RECORD AGE IN COMPLETED YEARS	How old was (NAME) when (he/she) died? IF '12 MONTHS' OR '1 YR', ASK: Did (NAME) have (his/her) first birthday? THEN ASK: Exactly how many months old was (NAME) when (he/she) died? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	On what day, month, and year did (NAME) die?	On what day, month, and year did this pregnancy end?	How many months did this pregnancy last? RECORD IN COMP-LETED MONTHS.	Did you or someone else do something to end this preg-nancy?	Were there any other pregnancies between the previous pregnancy and this pregnancy?
AGE IN YEARS [ ][ ] (NEXT PREGNANCY)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (NEXT PREGNANCY)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)

211 Now I would like to record all your pregnancies, whether born alive, born dead, or lost before full term, starting with the first one you had.
RECORD ALL PREGNANCIES IN 212-221. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.
IF THERE ARE MORE THAN 10 PREGNANCIES, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW.

212 PREG-NANCY HISTORY LINE NUMBER	212A Think back to your (first/next) pregnancy. What name was given to the child? RECORD NAME	212B Was that a single or multiple pregnancy?	212C Was the baby born alive, born dead, or did you have a miscarriage or abortion?	212D Did that baby cry, move, or breathe when it was born?	213 Is (NAME) a boy or a girl?	215 On what day, month, and year was (NAME) born? PROBE: When is his/her birthday?	216 Is (NAME) still alive?
06	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
07	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
08	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
09	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)
10	NAME	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 213) BORN DEAD 2 MISCARR. 3 (SKIP TO 220AB) ABORTION 4	YES 1 NO 2 (SKIP TO 220AB)	BOY 1 GIRL 2	DAY MONTH YEAR	YES 1 NO 2 (SKIP TO 220)

217	220	220AA	220AB	220AC	220AD	221
STILL ALIVE	IF BORN ALIVE AND NOW DEAD:		IF BORN DEAD OR LOST BEFORE BIRTH			
How old was (NAME) at (NAME)'s last birthday?	How old was (NAME) when (he/she) died? IF '12 MONTHS' OR '1 YR', ASK: Did (NAME) have (his/her) first birthday? THEN ASK: Exactly how many months old was (NAME) when (he/she) died?	On what day, month, and year did (NAME) die?	On what day, month, and year did this pregnancy end?	How many months did this pregnancy last?	Did you or someone else do something to end this preg- nancy?	Were there any other pregnancies between the previous pregnancy and this pregnancy?
RECORD AGE IN COMPLETED YEARS	RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.			RECORD IN COMP- LETED MONTHS.		
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)
AGE IN YEARS [ ][ ] (SKIP TO 221)	DAYS 1 [ ][ ] MONTHS 2 [ ][ ] YEARS 3 [ ][ ]	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] (GO TO 221)	DAY [ ][ ] MONTH [ ][ ] [ ][ ][ ][ ] YEAR	MONTHS [ ][ ]	YES 1 NO 2	YES 1 (ADD PREGNANCY) NO 2 (NEXT PREGNANCY)

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
222	Have you had any pregnancies since the last pregnancy mentioned?	YES . . . . . 1 (RECORD PREGNANCY(IES) IN TABLE) NO 2	
223	COMPARE 208B WITH NUMBER OF PREGNANCIES IN PREGNANCY HISTORY NUMBERS ARE SAME ☐ NUMBERS ARE DIFFERENT ☐ (PROBE AND RECONCILE)		
224A	CHECK 220AB AND 220AD: ENTER THE NUMBER OF PREGNANCIES THAT RESPONDENT OR SOMEONE ELSE DID SOMETHING TO END (220AD = 1) IN 2012-2017 AND ENTER THE YEAR OF MOST RECENT ABORTION BETWEEN 2012-2017	NUMBER OF ABORTIONS IN 2012-2017 . . . . . ☐☐ NONE IN 2012-2017 . . . . . 0 YEAR OF MOST RECENT ABORTION . . . . . ☐☐☐☐ NONE IN 2012-2017 0	
224B	CHECK 220AB, 220AC, AND 220AD: ENTER THE NUMBER OF PREGNANCIES ENDED BEFORE FULL TERM THAT LASTED 6 MONTHS OR LESS (220AC <7), AND THAT RESPONDENT OR SOMEONE ELSE DID NOT DO SOMETHING TO END (220AD = 2) IN 2012-2017 AND ENTER THE YEAR OF MOST RECENT MISCARRIAGE BETWEEN 2012-2017	NUMBER OF MISCARRIAGES IN 2012-2017 . . . . . ☐☐ NONE IN 2012-2017 . . . . . 0 YEAR OF MOST RECENT MISCARRIAGE . . . . . ☐☐☐☐ NONE IN 2012-2017 0	
224C	CHECK 215: ENTER THE NUMBER OF BIRTHS IN 2012-2017	NUMBER OF BIRTHS . . . . . ☐☐ NONE 0	
224D	CHECK 220AB, 220AC, AND 220AD: ENTER THE NUMBER OF PREGNANCIES ENDED BEFORE FULL TERM THAT LASTED 7 MONTHS OR MORE (220AC >=7), AND THAT RESPONDENT OR SOMEONE ELSE DID NOT DO SOMETHING TO END (220AD = 2) IN 2012-2017	NUMBER OF STILLBIRTHS . . . . . ☐☐ NONE 0	
226	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 230
227	How many months pregnant are you? RECORD 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	CHECK 208A: TOTAL NUMBER OF BIRTHS ONE OR MORE ☐ / NONE ☐ a) Did you want to have a baby later on or did you not want any more children? b) Did you want to have a baby later on or did you not want any children?	LATER . . . . . 1 NO MORE/NONE 2	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
230	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	
231	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	→ 233
232	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	
233	After the birth of a child, can a woman become pregnant before her menstrual period has returned?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 3. CONTRACEPTION

301		
01	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)? 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 which can prevent pregnancy for one or more years.	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	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	Emergency Contraception. PROBE: As an emergency measure, within three to five days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . . 1 NO 2
10	Lactational Amenorrhea Method (LAM). PROBE: Up to six months after childbirth, before the menstrual period has returned, women use a method requiring frequent breastfeeding day and night.	YES . . . . . 1 NO 2
11	Rhythm 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
12	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES . . . . . 1 NO 2
13	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES, MODERN METHOD _____ A (SPECIFY) YES, TRADITIONAL METHOD _____ B (SPECIFY) NO . . . . . Y

SECTION 3. CONTRACEPTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
302	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 305
303	Are you or your partner currently doing something or using any method to delay or avoid getting pregnant?	YES . . . . . 1 NO 2	→ 305
304	Which method are you using? RECORD ALL MENTIONED.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B IUD . . . . . C INJECTABLES . . . . . D IMPLANTS . . . . . E PILL . . . . . F CONDOM . . . . . G FEMALE CONDOM . . . . . H DIAPHRAGM . . . . . I FOAM/JELLY . . . . . J EMERGENCY CONTRACEPTION . . . . . K LACTATIONAL AMENORRHEA METHOD . . . . . L RHYTHM METHOD . . . . . M WITHDRAWAL . . . . . N OTHER MODERN METHOD . . . . . X OTHER TRADITIONAL METHOD . . . . . Y	→ 401 → 401
305	Do you know of a place where you can obtain a method of family planning?	YES . . . . . 1 NO 2	→ 401
306	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). 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 . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC/OUTREACH . . . . . D FAMILY PLANNING CLINIC . . . . . E FIELDWORKER . . . . . F OTHER PUBLIC SECTOR G _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . H PRIVATE DOCTOR . . . . . I MOBILE CLINIC/OUTREACH . . . . . J PHARMACY/CHEMIST/ DRUG STORE . . . . . K FIELDWORKER . . . . . L FP/PPAG CLINIC . . . . . M MATERNITY HOME . . . . . N OTHER PRIVATE MED SECTOR O _____ (SPECIFY) **OTHER SOURCE** SHOP . . . . . P CHURCH . . . . . Q FRIEND/RELATIVE . . . . . R OTHER _____ X (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	CHECK 224C AND 224D: ONE OR MORE BIRTHS IN 2012-2017 ☐ ↓ ONE OR MORE STILLBIRTHS IN 2012-2017 ☐ ↓ NO BIRTHS OR STILLBIRTHS IN 2012-2017 ☐ →		500
402	CHECK 215, 220AB, 220AC, AND 220AD. RECORD THE PREGNANCY HISTORY NUMBER IN 403 AND THE NAME AND SURVIVAL STATUS IN 404 FOR THE MOST RECENT LIVE BIRTH OR STILLBIRTH IN 2012-2017. IF THERE WAS MORE THAN ONE BIRTH OR STILLBIRTH SINCE 2012, ASK ONLY ABOUT THE LAST (MOST RECENT) BIRTH OR STILLBIRTH.		
403	PREGNANCY HISTORY NUMBER FROM 212 IN PREGNANCY HISTORY.	MOST RECENT BIRTH OR STILLBIRTH PREGNANCY HISTORY NUMBER . . . . . ☐☐	
404	FROM 212, 212A, AND 216: USE 'BABY' IF NO NAME IS PROVIDED.	NAME _____ STILLBIRTH ☐ ↓ BIRTH (LIVING) ☐ ↓ BIRTH (DEAD) ☐ ↓	
405	Now I would like to ask some questions about the health care you received when you were pregnant with (NAME) and after the birth of (NAME). Did you see anyone for antenatal care for this pregnancy?	YES . . . . . 1 NO 2	→ 407
406	Why did you not see anyone? PROBE: Any other reason? RECORD ALL MENTIONED.	NOT NECESSARY . . . . . A NOT CUSTOMARY . . . . . B LACK OF MONEY . . . . . C TOO FAR . . . . . D TRANSPORTATION PROBLEM . . . . . E NO ONE TO ACCOMPANY . . . . . F GOOD SERVICE NOT AVAILABLE . . . . . G NOT PERMITTED BY FAMILY . . . . . H BETTER SERVICE AT HOME . . . . . I DID NOT KNOW WHERE TO GO . . . . . J NO FEMALE DOCTOR AVAILABLE . . . . . K INCONVENIENT SERVICE HOUR . . . . . L AFRAID TO GO . . . . . M LONG WAITING TIME . . . . . N RELIGIOUS REASON . . . . . O OTHER _____ X (SPECIFY)	→ 414
407	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** TRADITIONAL BIRTH ATTENDANT . . . . . D VILLAGE HEALTH VOLUNTEER . . . . . E TRADITIONAL HEALTH PRACTITIONER . . . . . F OTHER _____ X (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
408	Where did you receive antenatal care for this pregnancy? Anywhere else? 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** HER HOME . . . . . A OTHER HOME . . . . . B **PUBLIC SECTOR** GOVT HOSPITAL . . . . . C GOVT HEALTH CENTER/CLINIC . . . . . D GOVT HEALTH POST/CHPS . . . . . E MOBILE CLINIC/OUTREACH . . . . . F OTHER PUBLIC SECTOR G _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . H FP/PPAG CLINIC . . . . . I MOBILE CLINIC/OUTREACH . . . . . J MATERNITY HOME . . . . . K OTHER PRIVATE MED SECTOR L _____ (SPECIFY) OTHER _____ X (SPECIFY)	
409	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . . . [ ][ ] DON'T KNOW 98	
410	The very first time you went for antenatal care when you were pregnant with (NAME), did you go because of problems with the pregnancy or just for a checkup?	PROBLEM . . . . . 1 JUST CHECKUP 2	→ 412
411	What problems did you have when you first went for antenatal care when you were pregnant with (NAME)? PROBE: Anything else? CIRCLE ALL MENTIONED.	HEADACHE . . . . . A BLURRY VISION . . . . . B EDEMA/PRE-ECLAMPSIA . . . . . C VAGINAL BLEEDING . . . . . D CONVULSIONS/ECLAMPSIA . . . . . E TETANUS . . . . . F FOUL-SMELLING DISCHARGE . . . . . G LOWER ABDOMINAL PAIN . . . . . H FELL DOWN . . . . . I BABY MOVEMENT WAS LOW . . . . . J VARICOSE VEIN . . . . . K EXCESSIVE VOMITING . . . . . L OTHER _____ X (SPECIFY)	
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? d) Were you weighed?	YES NO a) BP . . . . . 1 2 b) URINE . . . . . 1 2 c) BLOOD . . . . . 1 2 d) WEIGHT 1 2	
413E	During (any of) your antenatal care visit(s), were you told about the signs of pregnancy complications?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 414

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
413F	Were you told where to go if you had any of these complications?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
414	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 DON'T KNOW 8	→ 417
415	During this pregnancy, how many times did you get a tetanus injection?	TIMES . . . . . ☐ DON'T KNOW 8	
416	CHECK 415:	2 OR MORE TIMES → (SKIP TO 420) OTHER	
417	At any time before this pregnancy, did you receive any tetanus injections?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 420
418	Before this pregnancy, how many times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	TIMES . . . . . ☐ DON'T KNOW 8	
419	CHECK 418: ONLY ONE → a) How many years ago did you receive that tetanus injection? MORE THAN ONE → b) How many years ago did you receive the last tetanus injection prior to this pregnancy?	YEARS AGO . . . . . ☐☐	
420	During this pregnancy, were you given or did you buy any iron tablets or iron syrup? SHOW TABLETS/SYRUP.	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 422
421	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	
422	During this pregnancy, did you take any drug for intestinal worms?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
423	During this pregnancy, did you take SP/Fansidar to keep you from getting malaria?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 426A
424	How many times did you take SP/Fansidar during this pregnancy?	TIMES . . . . . ☐☐	
425	Did you get the SP/Fansidar during any antenatal care visit, during another visit to a health facility or from another source? IF MORE THAN ONE SOURCE, RECORD THE HIGHEST SOURCE ON THE LIST.	ANTENATAL VISIT . . . . . 1 ANOTHER FACILITY VISIT . . . . . 2 OTHER SOURCE 6	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
426A	CHECK 404: LIVE BIRTH (WHETHER CURRENTLY ALIVE OR DEAD) ☐	STILLBIRTH ☐	→ 429
426B	When (NAME) was born, was (NAME) 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	
427	Was (NAME) weighed at birth?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 429
428	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 9998	
429	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** TRADITIONAL BIRTH ATTENDANT . . . . . D VILLAGE HEALTH VOLUNTEER . . . . . E TRADITIONAL HEALTH PRACTITIONER . . . . . F RELATIVE/FRIEND . . . . . G OTHER _____ (SPECIFY) X NO ONE ASSISTED . . . . . Y	
430	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** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ (SPECIFY) 96	→ 431B

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
431A	Why did you not deliver at a hospital or health centre? PROBE: Any other reason? CIRCLE ALL MENTIONED.	NOT NECESSARY . . . . . A NOT CUSTOMARY . . . . . B LACK OF MONEY . . . . . C TOO FAR . . . . . D TRANSPORTATION PROBLEM . . . . . E NO ONE TO ACCOMPANY . . . . . F GOOD SERVICE NOT AVAILABLE . . . . . G NOT PERMITTED BY FAMILY . . . . . H BETTER SERVICE AT HOME . . . . . I DID NOT KNOW WHERE TO GO . . . . . J NO FEMALE DOCTOR AVAILABLE . . . . . K INCONVENIENT SERVICE HOUR . . . . . L AFRAID TO GO . . . . . M LONG WAITING TIME . . . . . N RELIGIOUS REASON . . . . . O OTHER _____ X (SPECIFY)	→ 431C
431B	Were any of the following procedures performed at the time of delivery? a) Instruments were used to get the baby out (forceps or vacuum?) b) Received blood transfusion c) Received intravenous fluid (IV)	YES NO a) FORCEPS . . . . . 1 2 b) BLOOD TRANSFUSION . . . . . 1 2 c) INTRAVENOUS FLUID 1 2	
431C	At any time just before, during, or after the delivery of (NAME), did you suffer from any problems?	YES . . . . . 1 NO 2	→ 431N
431D	What problem did you have? PROBE: Anything else? CIRCLE ALL MENTIONED.	HEADACHE . . . . . A BLURRY VISION . . . . . B EDEMA/PRE-ECLAMPSIA . . . . . C EXCESSIVE BLEEDING . . . . . D CONVULSIONS/ECLAMPSIA . . . . . E TETANUS . . . . . F FOUL-SMELLING DISCHARGE . . . . . G BABY MOVEMENT WAS LOW . . . . . H BABY'S HANDS/FEET CAME OUT FIRST . . . . . I PROLONGED LABOUR . . . . . J OBSTRUCTED LABOUR . . . . . K TORN UTERUS . . . . . L PLACENTA PREVIA/RETAINED . . . . . M HIGH FEVER . . . . . N FISTULA . . . . . O OTHER _____ X (SPECIFY)	
431E	Did you see anyone about (this/these) problem(s)?	YES . . . . . 1 NO 2	→ 431G
431F	Why did you not see anyone? PROBE: Any other reason? RECORD ALL MENTIONED.	NOT NECESSARY . . . . . A NOT CUSTOMARY . . . . . B LACK OF MONEY . . . . . C TOO FAR . . . . . D TRANSPORTATION PROBLEM . . . . . E NO ONE TO ACCOMPANY . . . . . F GOOD SERVICE NOT AVAILABLE . . . . . G NOT PERMITTED BY FAMILY . . . . . H BETTER SERVICE AT HOME . . . . . I DID NOT KNOW WHERE TO GO . . . . . J NO FEMALE DOCTOR AVAILABLE . . . . . K INCONVENIENT SERVICE HOUR . . . . . L AFRAID TO GO . . . . . M LONG WAITING TIME . . . . . N RELIGIOUS REASON . . . . . O NOT LIFE THREATENING . . . . . P OTHER _____ X (SPECIFY)	→ 431N

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
431G	Who did you see about (this/these) problem(s)? PROBE: Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED.	**HEALTH PERSONNEL** DOCTOR . . . . . A NURSE/MIDWIFE . . . . . B COM. HEALTH OFFICER/NURSE . . . . . C **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . D VILLAGE HEALTH VOLUNTEER . . . . . E TRADITIONAL HEALTH PRACTITIONER . . . . . F RELATIVE/FRIEND . . . . . G OTHER _____ X (SPECIFY)	
431H	Where were you treated for (this/these) problem(s)? 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** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	
431I	Did your condition improve after you were treated at this place?	NO CHANGE . . . . . 1 IMPROVED . . . . . 2 WORSENED . . . . . 3 DON'T KNOW 8	
431J	Were you referred or told to go to another place for treatment or advice?	YES . . . . . 1 NO 2	→ 431N

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
431K	Where were you referred or told to go for treatment or advice? IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	
431L	Did you go to the place you were referred to or told to go for treatment?	YES . . . . . 1 NO 2	→ 431N
431M	Why did you not go to the referred place or any other place for treatment? PROBE: Any other reason? CIRCLE ALL MENTIONED	NOT NECESSARY . . . . . A NOT CUSTOMARY . . . . . B LACK OF MONEY . . . . . C TOO FAR . . . . . D TRANSPORTATION PROBLEM . . . . . E NO ONE TO ACCOMPANY . . . . . F GOOD SERVICE NOT AVAILABLE . . . . . G NOT PERMITTED BY FAMILY . . . . . H BETTER SERVICE AT HOME . . . . . I DID NOT KNOW WHERE TO GO . . . . . J NO FEMALE DOCTOR AVAILABLE . . . . . K INCONVENIENT SERVICE HOUR . . . . . L AFRAID TO GO . . . . . M LONG WAITING TIME . . . . . N RELIGIOUS REASON . . . . . O NOT LIFE THREATENING . . . . . P OTHER _____ X (SPECIFY)	
431N	CHECK 430: ANY CODE 21 - 36 CIRCLED ☐ ↓ CODE 11, 12, OR 96 CIRCLED ☐		→ 433C
432	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	
433A	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby out?	YES . . . . . 1 NO 2	→ 433C
433B	When was the decision made to have the caesarean section? Was it before or after your labour pains started?	BEFORE . . . . . 1 AFTER 2	

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
433C	CHECK 404: LIVE BIRTH (WHETHER CURRENTLY ALIVE OR DEAD) ☐	STILLBIRTH ☐	→ 434B
434	Immediately after the birth, was (NAME) put directly on your chest?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 434B
434A	Was (NAME'S) bare skin touching your bare skin?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
434B	CHECK 430: PLACE OF DELIVERY	CODE 11, 12, OR 96 CIRCLED ☐ → (SKIP TO 449) OTHER ☐	
435	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 NO 2	→ 438A
436	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	
437	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
438A	CHECK 404: LIVE BIRTH (WHETHER CURRENTLY ALIVE OR DEAD) ☐	STILLBIRTH ☐	→ 441
438B	Now I would like to talk to you about checks on (NAME)'s health after delivery – for example, someone examining (NAME), checking the cord, or seeing if (NAME) is OK. Did anyone check on (NAME)'s health while you were still in the facility?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 441
439	How long after delivery was (NAME)'s health first checked? IF LESS THAN ONE DAY, RECORD HOURS; IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS . . . . . 1 ☐☐ DAYS . . . . . 2 ☐☐ WEEKS . . . . . 3 ☐☐ DON'T KNOW 998	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
440	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
441	Now I want to talk to you about what happened after you left the facility. Did anyone check on your health after you left the facility?	YES . . . . . 1 NO 2	→ 445A
442	How long after delivery did that 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	
443	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
444	Where did the check 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)	**HOME** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
445A	CHECK 404: LIVE BIRTH (WHETHER CURRENTLY ALIVE OR DEAD) ☐ ↓ STILLBIRTH ☐ →		500
445B	I would like to talk to you about checks on (NAME)'s health after you left (FACILITY IN 430). Did any health care provider or a traditional birth attendant check on (NAME)'s health in the two months after you left (FACILITY IN 430)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 457
446	How many hours, days or weeks after the birth of (NAME) did that 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	
447	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
448	Where did this check of (NAME) 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)	**HOME** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	→ 457
449	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	→ 453A

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
450	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	
451	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
452	Where did this first check 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)	**HOME** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	
453A	CHECK 404: LIVE BIRTH (WHETHER CURRENTLY ALIVE OR DEAD) ☐ ↓	STILLBIRTH ☐ →	500
453B	I would like to talk to you about checks on (NAME)'s health after delivery – for example, someone examining (NAME), checking the cord, or seeing if (NAME) is OK. In the two months after (NAME) was born, did any health care provider or a traditional birth attendant check on (NAME)'s health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 457
454	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.	HOURS . . . . . 1 ☐☐ DAYS . . . . . 2 ☐☐ WEEKS . . . . . 3 ☐☐ DON'T KNOW 998	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	MOST RECENT BIRTH OR STILLBIRTH NAME _____	
455	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** TRADITIONAL BIRTH ATTENDANT . . . . . 21 VILLAGE HEALTH VOLUNTEER . . . . . 22 TRADITIONAL HEALTH PRACTITIONER . . . . . 23 OTHER _____ 96 (SPECIFY)	
456	Where did this first check of (NAME) 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)	**HOME** HER HOME . . . . . 11 OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVT HOSPITAL . . . . . 21 GOVT HEALTH CENTER/CLINIC . . . . . 22 GOVT HEALTH POST/CHPS . . . . . 23 MOBILE CLINIC/OUTREACH . . . . . 24 OTHER PUBLIC SECTOR 26 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 31 FP/PPAG CLINIC . . . . . 32 MOBILE CLINIC/OUTREACH . . . . . 33 MATERNITY HOME . . . . . 34 OTHER PRIVATE MED SECTOR 36 _____ (SPECIFY) OTHER _____ 96 (SPECIFY)	
457	During the first two days after (NAME)'s birth, did any health care provider do the following: a) Examine the cord? b) Measure (NAME)'s temperature? c) Counsel you on danger signs for newborns? d) Counsel you on breastfeeding? e) Observe (NAME) breastfeeding?	YES NO DK a) CORD . . . . . 1 2 8 b) TEMPERATURE . . . . . 1 2 8 c) SIGNS . . . . . 1 2 8 d) COUNSEL BREASTFEEDING . . . . . 1 2 8 e) OBSERVE BREASTFEEDING 1 2 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
500	CHECK 224A: ONE OR MORE ABORTIONS IN 2012-2017 ☐ ↓ NO ABORTIONS IN 2012-2017 ☐ → 576		
501	CHECK 224A: YEAR OF MOST RECENT ABORTION BETWEEN 2012-2017: ☐☐☐☐		
502A	You said your last abortion was in (YEAR FROM Q.501). Now I would like to ask you some questions about this pregnancy that ended in an abortion. What was the main reason you decided to have this abortion?	HEALTH OF MOTHER . . . . . 01 RISK OF BIRTH DEFECT . . . . . 02 FETUS NOT VIABLE . . . . . 03 NO MONEY TO TAKE CARE OF BABY . . . . . 04 TOO YOUNG TO HAVE CHILD . . . . . 05 NOT READY TO BE A MOTHER . . . . . 06 NO ONE TO HELP ME LOOK AFTER THE CHILD . . . . . 07 WANTED TO DELAY CHILDBEARING . . . . . 08 WANTED TO SPACE CHILD . . . . . 09 WANTED TO CONTINUE SCHOOLING . . . . . 10 WANTED TO CONTINUE WORKING . . . . . 11 WANTED NO MORE CHILDREN . . . . . 12 DID NOT LOVE THE FATHER . . . . . 13 DID NOT WANT TO STAY WITH THE FATHER . . . . . 14 PARTNER DID NOT WANT CHILD/DENIED THE PREGNANCY . . . . . 15 FATHER OF CHILD DIED . . . . . 16 CHILD'S SEX . . . . . 17 BECAUSE OF RAPE . . . . . 18 TO AVOID SHAME . . . . . 19 AFRAID OF PARENTS . . . . . 20 PARENTS INSISTED . . . . . 21 OTHER _____ 96 (SPECIFY)	
502B	Were there any other reasons?	YES . . . . . 1 NO . . . . . 2 → 503	
502C	What other reasons did you have? CIRCLE ALL MENTIONED	HEALTH OF MOTHER . . . . . A RISK OF BIRTH DEFECT . . . . . B FETUS NOT VIABLE . . . . . C NO MONEY TO TAKE CARE OF BABY . . . . . D TOO YOUNG TO HAVE CHILD . . . . . E NOT READY TO BE A MOTHER . . . . . F NO ONE TO HELP ME LOOK AFTER THE CHILD . . . . . G WANTED TO DELAY CHILDBEARING . . . . . H WANTED TO SPACE CHILD . . . . . I WANTED TO CONTINUE SCHOOLING . . . . . J WANTED TO CONTINUE WORKING . . . . . K WANTED NO MORE CHILDREN . . . . . L DID NOT LOVE THE FATHER . . . . . M DID NOT WANT TO STAY WITH THE FATHER . . . . . N PARTNER DID NOT WANT CHILD/DENIED THE PREGNANCY . . . . . O FATHER OF CHILD DIED . . . . . P CHILD'S SEX . . . . . Q BECAUSE OF RAPE . . . . . R TO AVOID SHAME . . . . . S AFRAID OF PARENTS . . . . . T PARENTS INSISTED . . . . . U OTHER _____ X (SPECIFY)	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
503	What was the attitude of your partner toward you having the abortion?	FAVORED . . . . . 1 OPPOSED . . . . . 2 NEUTRAL . . . . . 3 HE DID NOT KNOW . . . . . 4 DON'T KNOW/DON'T REMEMBER 5	
504	Women sometimes take many steps to stop a pregnancy. Did you do more than one thing to end this pregnancy?	YES . . . . . 1 NO 2	→ 533b)
505	How many days or weeks was it between your first attempt to end this pregnancy and when you actually succeeded in stopping it? RECORD ANSWER IN UNITS GIVEN.	DAYS . . . . . 1 [ ][ ] WEEKS . . . . . 2 [ ][ ] DON'T KNOW 998	
506	What did you first do to end this pregnancy?	DRANK MILK/COFFEE/ALCOHOL/OTHER LIQUID WITH LOTS OF SUGAR . . . . . 11 DRANK HERBAL CONCOCTION . . . . . 12 DRANK OTHER HOME REMEDIES . . . . . 13 USED ANY HERBAL ENEMA . . . . . 14 INSERTED HERB/OBJECT/OTHER SUBSTANCE IN THE VAGINA . . . . . 15 HEAVY MASSAGE . . . . . 16 EXCESSIVE PHYSICAL ACTIVITY . . . . . 17 TABLETS (EXACT KIND UNKNOWN) . . . . . 18 CYTOTEC TABLETS (MISOPROSTOL) . . . . . 21 MIFEPRISTONE + MISOPROSTOL (MEDABON, ETC) . . . . . 22 IV / OXYTOCIN . . . . . 23 D&C / D&E . . . . . 31 VACUUM ASPIRATION . . . . . 32 INJECTION IN ABDOMEN (SALINE INSTILLATION) . . . . . 33 CATHETER . . . . . 34 OTHER INJECTION . . . . . 35 OTHER _____ 96 (SPECIFY)	
507	Who did you see to get this first step done? IF MORE THAN ONE PERSON WAS SEEN, CIRCLE THE HIGHEST OPTION IN LIST.	**HEALTH PERSONNEL** DOCTOR . . . . . 01 NURSE/MIDWIFE . . . . . 02 COM. HEALTH OFFICER/NURSE . . . . . 03 **OTHER PERSON** PHARMACIST/CHEMICAL SELLER . . . . . 04 TRADITIONAL BIRTH ATTENDANT . . . . . 05 COMMUNITY HEALTH VOLUNTEER . . . . . 06 RELATIVE/FRIEND . . . . . 07 TRADITIONAL PRACTITIONER . . . . . 08 NO ONE . . . . . 09 OTHER _____ 96 (SPECIFY)	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
508	Where did you go to get this first step done? 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 GOVT HEALTH POST/CHPS . . . . . 13 MOBILE CLINIC/OUTREACH . . . . . 14 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 21 FP/PPAG CLINIC . . . . . 22 MOBILE CLINIC/OUTREACH . . . . . 23 MATERNITY HOME . . . . . 24 PHARMACY/CHEMIST/DRUG STORE . . . . . 25 OTHER PRIVATE MEDICAL SECTOR _____ 26 (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . 31 OTHER HOME . . . . . 32 TBA'S HOME . . . . . 33 OTHER _____ 96 (SPECIFY)	
509A	Was anything paid to get this procedure done?	YES . . . . . 1 NO 2	→ 510
509B	Who paid to get this procedure done? PROBE: Anyone else? CIRCLE ALL MENTIONED.	RESPONDENT . . . . . A PARTNER . . . . . B MOTHER . . . . . C FATHER . . . . . D OTHER FAMILY MEMBER . . . . . E FRIEND . . . . . F OTHER _____ X (SPECIFY)	
510	Now I would like to talk about any problems that you may have had when you had this first thing done to stop the pregnancy. Did you have any bleeding?	YES . . . . . 1 NO 2	→ 512
511	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
512	Did you have any pain?	YES . . . . . 1 NO 2	→ 514
513	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
514	Did you have any fever?	YES . . . . . 1 NO 2	→ 516
515	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
516	Did you suffer any injury or perforation?	YES . . . . . 1 NO 2	→ 518
517	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
518	Did you have any foul-smelling vaginal discharge?	YES . . . . . 1 NO 2	→ 520
519	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
520	Did you have any other problems?	YES . . . . . 1 NO 2	→ 532
521	What problem did you have?	_____	
522	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
523	Did you have any other problem?	YES . . . . . 1 NO 2	→ 532
524	What problem did you have?	_____	
525	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
526	Did you have any other problem?	YES . . . . . 1 NO 2	→ 532
527	What problem did you have?	_____	
528	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
529	Did you have any other problem?	YES . . . . . 1 NO 2	→ 532
530	What problem did you have?	_____	
531	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
532	Did you take any pain relievers?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
533	CHECK 504: MORE THAN ONE EFFORT TO END PREGNANCY YES → a) What was the last thing you did to end this pregnancy? NO → b) What did you do to end this pregnancy?	DRANK MILK/COFFEE/ALCOHOL/OTHER LIQUID WITH LOTS OF SUGAR . . . . . 11 DRANK HERBAL CONCOCTION . . . . . 12 DRANK OTHER HOME REMEDIES . . . . . 13 USED ANY HERBAL ENEMA . . . . . 14 INSERTED HERB/OBJECT/OTHER SUBSTANCE IN THE VAGINA . . . . . 15 HEAVY MASSAGE . . . . . 16 EXCESSIVE PHYSICAL ACTIVITY . . . . . 17 TABLETS (EXACT KIND UNKNOWN) . . . . . 18 CYTOTEC TABLETS (MISOPROSTOL) . . . . . 21 MIFEPRISTONE + MISOPROSTOL (MEDABON, ETC) . . . . . 22 IV / OXYTOCIN . . . . . 23 D&C / D&E . . . . . 31 VACUUM ASPIRATION . . . . . 32 INJECTION IN ABDOMEN (SALINE INSTILLATION) . . . . . 33 CATHETER . . . . . 34 OTHER INJECTION . . . . . 35 OTHER _____ 96 (SPECIFY)	
534	Who did you see to get this (last step) done?	**HEALTH PERSONNEL** DOCTOR . . . . . 01 NURSE/MIDWIFE . . . . . 02 COM. HEALTH OFFICER/NURSE . . . . . 03 **OTHER PERSON** PHARMACIST/CHEMICAL SELLER . . . . . 04 TRADITIONAL BIRTH ATTENDANT . . . . . 05 COMMUNITY HEALTH VOLUNTEER . . . . . 06 RELATIVE/FRIEND . . . . . 07 TRADITIONAL PRACTITIONER . . . . . 08 NO ONE . . . . . 09 OTHER _____ 96 (SPECIFY)	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
535	Where did you go to get this (last step) done? 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 GOVT HEALTH POST/CHPS . . . . . 13 MOBILE CLINIC/OUTREACH . . . . . 14 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 21 FP/PPAG CLINIC . . . . . 22 MOBILE CLINIC/OUTREACH . . . . . 23 MATERNITY HOME . . . . . 24 PHARMACY/CHEMIST/DRUG STORE . . . . . 25 OTHER PRIVATE MEDICAL SECTOR _____ 26 (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . 31 OTHER HOME . . . . . 32 TBA'S HOME . . . . . 33 OTHER _____ 96 (SPECIFY)	
536A	Was anything paid to get this procedure done?	YES . . . . . 1 NO 2	→ 537
536B	Who paid to get this procedure done? PROBE: Anyone else? CIRCLE ALL MENTIONED.	RESPONDENT . . . . . A PARTNER . . . . . B MOTHER . . . . . C FATHER . . . . . D OTHER FAMILY MEMBER . . . . . E FRIEND . . . . . F OTHER _____ X (SPECIFY)	
537	Did you take any antibiotics after this abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
538	Did you take any pain relievers?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
539A	CHECK 533: CODE 31, 32, 33, OR 34 CIRCLED: ↓ BLANK OR ANY OTHER CODE CIRCLED: →		540
539B	Did you have any local or general (intravenous) anaethesia for this abortion? By local I mean an injection in the vagina opening?	LOCAL . . . . . 1 GENERAL . . . . . 2 NEITHER . . . . . 3 DON'T KNOW 8	
540	In the first one month after the abortion, did you have any health problems because of the abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 563A
541	Did you have any bleeding?	YES . . . . . 1 NO 2	→ 543
542	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
543	Did you have any pain?	YES . . . . . 1 NO 2	→ 545
544	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
545	Did you have any fever?	YES . . . . . 1 NO 2	→ 547
546	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
547	Did you suffer any injury or perforation?	YES . . . . . 1 NO 2	→ 549
548	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
549	Did you have any foul-smelling vaginal discharge?	YES . . . . . 1 NO 2	→ 551
550	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
551	Did you have any other problems?	YES . . . . . 1 NO 2	→ 563B
552	What problem did you have?	_____	
553	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
554	Did you have any other problem?	YES . . . . . 1 NO 2	→ 563B
555	What problem did you have?	_____	
556	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
557	Did you have any other problem?	YES . . . . . 1 NO 2	→ 563B
558	What problem did you have?	_____	
559	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
560	Did you have any other problem?	YES . . . . . 1 NO 2	→ 563B
561	What problem did you have?	_____	
562	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	→ 563B
563A	CHECK 510, 512, 514, 516, 518, 520: ANY 'YES' TO ANY OF THOSE QUESTIONS ↓	'NO', 'DON'T KNOW', OR BLANK/NOT ASKED TO ALL OF THOSE QUESTIONS →	567
563B	Did you get any treatment for the health problems you had because of the abortion?	YES . . . . . 1 NO 2	→ 567
564	What kind of treatment did you receive? CIRCLE ALL MENTIONED.	OPERATION . . . . . A BLOOD TRANSFUSION . . . . . B ANTIBIOTICS . . . . . C OTHER _____ X (SPECIFY)	
565	Where did you go to get this treatment? CIRCLE ALL SOURCES MENTIONED IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC/OUTREACH . . . . . D OTHER PUBLIC SECTOR _____ E (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . F FP/PPAG CLINIC . . . . . G MOBILE CLINIC/OUTREACH . . . . . H MATERNITY HOME . . . . . I PHARMACY/CHEMIST/DRUG STORE . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . L OTHER HOME . . . . . M TBA'S HOME . . . . . N OTHER _____ X (SPECIFY)	
566A	In the first one month after this abortion, did you spend any nights in a health facility?	YES . . . . . 1 NO 2	→ 567
566B	In the first one month after this abortion, how many nights did you spend in a health facility (including readmissions)?	NIGHTS . . . . . 1 ☐☐ WEEKS . . . . . 2 ☐☐ DON'T KNOW 998	
567	Either before or after the abortion, did a doctor or other health worker visit you?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
568	After six months, did you have any health problems as a result of this abortion?	YES . . . . . 1 NO . . . . . 2 NOT YET 6 MONTHS . . . . . 3 DON'T KNOW 8	→ 570
569	What health problems did you have? PROBE: Any other? CIRCLE ALL MENTIONED.	ABDOMINAL PAIN . . . . . A STERILITY . . . . . B INFECTION . . . . . C LACK OF PERIOD . . . . . D IRREGULAR PERIOD . . . . . E MORE PAINFUL PERIOD . . . . . F OTHER _____ X (SPECIFY)	
570	At the time you got pregnant, were you using any method of contraception?	YES . . . . . 1 NO 2	→ 572
571	What method of contraception were you using? IF MORE THAN ONE METHOD IS MENTIONED, CIRCLE THE HIGHEST METHOD ON THE 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 AMENORRHEA METHOD . . . . . 11 RHYTHM METHOD . . . . . 12 WITHDRAWAL . . . . . 13 OTHER _____ 96 (SPECIFY)	
572	Either before or after the abortion, did a doctor or other health professional talk to you about contraception?	YES . . . . . 1 NO 2	→ 574
573	Was it before the abortion, after the abortion, or both before and after the abortion?	BEFORE THE ABORTION . . . . . 1 AFTER THE ABORTION . . . . . 2 BOTH BEFORE AND AFTER THE ABORTION . . . . . 3 DON'T KNOW 8	
574	After this abortion, did a doctor or health worker give you a method of contraception, prescribe a method of contraception, or refer you to a family planning clinic?	YES . . . . . 1 NO 2	→ 581
575	Did they give you the method of contraception, give you a prescription, or give you a referral?	GAVE METHOD . . . . . 1 PRESCRIBED A METHOD . . . . . 2 GAVE REFERRAL . . . . . 3 DON'T KNOW 8	→ 581

SECTION 5. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
576	CHECK 220AD: ALL NO OR BLANK = NO ABORTIONS ANY YES = ONE OR MORE ABORTIONS → 581		
577	Have you heard of abortion? IF NO, PROBE: That is a woman can deliberately end a pregnancy that she does not want. Have you heard about this?	YES . . . . . 1 NO 2	→ 600
578	If you wanted to could you decide on your own to get an abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
579	Do you know where to go to get an abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 581
580	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC/OUTREACH . . . . . D FAMILY PLANNING CLINIC . . . . . E FIELDWORKER . . . . . F OTHER PUBLIC SECTOR G _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . H PRIVATE DOCTOR . . . . . I MOBILE CLINIC/OUTREACH . . . . . J PHARMACY/CHEMIST/ DRUG STORE . . . . . K FIELDWORKER . . . . . L FP/PPAG CLINIC . . . . . M MATERNITY HOME . . . . . N OTHER PRIVATE MED SECTOR O _____ (SPECIFY) **OTHER SOURCE** SHOP . . . . . P CHURCH . . . . . Q FRIEND/RELATIVE . . . . . R OTHER _____ X (SPECIFY)	
581	Is abortion legal in Ghana?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 600
582	Under what conditions is abortion legal in Ghana? PROBE: Anything else? CIRCLE ALL MENTIONED.	RAPE/DEFILEMENT . . . . . A INCEST . . . . . B LIFE OF MOTHER IN DANGER . . . . . C RISK TO PHYSICAL HEALTH OF MOTHER . . . . . D RISK TO MENTAL HEALTH OF MOTHER . . . . . E FOETAL ABNORMALITY . . . . . F DURING FIRST TRIMESTER ONLY . . . . . G UP TO THE SECOND TRIMESTER . . . . . H MOTHER MENTALLY NOT SOUND . . . . . I OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	

SECTION 6. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
600	CHECK 224B: ONE OR MORE MISCARRIAGES IN 2012-2017 ☐ ↓ NO MISCARRIAGES IN 2012-2017 ☐ → 701		
601	CHECK 224B: YEAR OF MOST RECENT MISCARRIAGE BETWEEN 2012-2017: ☐☐☐☐		
602	You said you had a miscarriage in YEAR FROM Q.601. Now I would like to ask you some questions about this pregnancy that ended in a miscarriage. What caused this miscarriage to happen?	ACCIDENT . . . . . 1 ATE SOMETHING . . . . . 2 SOMEONE HURT ME . . . . . 3 SPONTANEOUS . . . . . 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
603	Where did this miscarriage start or take place? 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 GOVT HEALTH POST/CHPS . . . . . 13 MOBILE CLINIC/OUTREACH . . . . . 14 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 21 FP/PPAG CLINIC . . . . . 22 MOBILE CLINIC/OUTREACH . . . . . 23 MATERNITY HOME . . . . . 24 PHARMACY/CHEMIST/DRUG STORE . . . . . 25 OTHER PRIVATE MEDICAL SECTOR _____ 26 (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . 31 OTHER HOME . . . . . 32 TBA'S HOME . . . . . 33 WORKPLACE . . . . . 41 PUBLIC PLACE . . . . . 51 OTHER _____ 96 (SPECIFY)	
604A	Did you seek help from anyone for this miscarriage?	YES . . . . . 1 NO . . . . . 2 → 605	
604B	Who did you see? PROBE: Anyone else? CIRCLE ALL MENTIONED.	**HEALTH PERSONNEL** DOCTOR . . . . . A NURSE/MIDWIFE . . . . . B COM. HEALTH OFFICER/NURSE . . . . . C **OTHER PERSON** PHARMACIST/CHEMICAL SELLER . . . . . D TRADITIONAL BIRTH ATTENDANT . . . . . E COMMUNITY HEALTH VOLUNTEER . . . . . F RELATIVE/FRIEND . . . . . G TRADITIONAL PRACTITIONER . . . . . H OTHER _____ X (SPECIFY)	

SECTION 6. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
604C	Where did you go to get this help? CIRCLE ALL MENTIONED. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC/OUTREACH . . . . . D OTHER PUBLIC SECTOR _____ E (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . F FP/PPAG CLINIC . . . . . G MOBILE CLINIC/OUTREACH . . . . . H MATERNITY HOME . . . . . I PHARMACY/CHEMIST/DRUG STORE . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . L OTHER HOME . . . . . M TBA'S HOME . . . . . N OTHER _____ X (SPECIFY)	
605	Did you have your uterus cleaned after the miscarriage?	YES . . . . . 1 NO 2	→ 607
606	What method was used to clean your uterus following the miscarriage?	D&C . . . . . 01 VACUUM ASPIRATION . . . . . 02 OXYTOCIN . . . . . 03 CYTOTEC TABLETS (MISOPROSTOL) . . . . . 04 MIFEPRISTONE + MISOPROSTO . . . . . 05 CATHETER . . . . . 06 TABLETS FOR INSERTION . . . . . 07 HERBAL MIXTURE INSERTION . . . . . 08 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
607	Did you take any antibiotics after this miscarriage?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
608	Were you given any pain relievers?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
609A	CHECK 606: CODE 01, 02, OR 06 CIRCLED: ↓ BLANK OR CODE 03, 04, 05, 07, 08, 96, OR 98 CIRCLED: →		610
609B	Did you have any local or general (intravenous) anaethesia for this miscarriage? By local I mean an injection in the vagina opening?	LOCAL . . . . . 1 GENERAL . . . . . 2 NEITHER . . . . . 3 DON'T KNOW 8	
610	In the first one month after the miscarriage, did you have any health problems because of the miscarriage?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 637
611	Did you have any bleeding?	YES . . . . . 1 NO 2	→ 613

SECTION 6. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
612	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
613	Did you have any pain?	YES . . . . . 1 NO 2	→ 615
614	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
615	Did you have any fever?	YES . . . . . 1 NO 2	→ 617
616	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
617	Did you suffer any injury or perforation?	YES . . . . . 1 NO 2	→ 619
618	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
619	Did you have any foul-smelling vaginal discharge?	YES . . . . . 1 NO 2	→ 621
620	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
621	Did you have any other problems?	YES . . . . . 1 NO 2	→ 633
622	What problem did you have?	_____	
623	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
624	Did you have any other problem?	YES . . . . . 1 NO 2	→ 633
625	What problem did you have?	_____	
626	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
627	Did you have any other problem?	YES . . . . . 1 NO 2	→ 633
628	What problem did you have?	_____	

SECTION 6. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
629	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
630	Did you have any other problem?	YES . . . . . 1 NO 2	→ 633
631	What problem did you have?	_____	
632	Was it mild, moderate or severe?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE . . . . . 3 DON'T KNOW 8	
633	Did you get any treatment for the health problems you had because of the miscarriage?	YES . . . . . 1 NO 2	→ 637
634	What kind of treatment did you receive? CIRCLE ALL MENTIONED.	OPERATION . . . . . A BLOOD TRANSFUSION . . . . . B ANTIBIOTICS . . . . . C OTHER _____ X (SPECIFY)	
635	Where did you go to get this treatment? CIRCLE ALL SOURCES MENTIONED	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC/OUTREACH . . . . . D OTHER PUBLIC SECTOR _____ E (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . F FP/PPAG CLINIC . . . . . G MOBILE CLINIC/OUTREACH . . . . . H MATERNITY HOME . . . . . I PHARMACY/CHEMIST/DRUG STORE . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) **HOME** RESPONDENT'S HOME . . . . . L OTHER HOME . . . . . M TBA'S HOME . . . . . N OTHER _____ X (SPECIFY)	
636A	In the first one month after this miscarriage, did you spend any nights in a health facility?	YES . . . . . 1 NO 2	→ 637
636B	In the first one month after this miscarriage, how many nights did you spend in a health facility (including readmissions)?	NIGHTS . . . . . 1 WEEKS . . . . . 2 DON'T KNOW 998	
637	Either before or after the miscarriage, did a doctor or other health worker visit you?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 6. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
638	After six months, did you have any health problems as a result of this miscarriage?	YES . . . 1 NO . . . 2 NOT YET 6 MONTHS . . . 3 DON'T KNOW . . . 8	→ 640
639	What health problems did you have? PROBE: Any other? CIRCLE ALL MENTIONED.	ABDOMINAL PAIN . . . A STERILITY . . . B INFECTION . . . C LACK OF PERIOD . . . D IRREGULAR PERIOD . . . E MORE PAINFUL PERIOD . . . F OTHER _____ X (SPECIFY)	
640	At the time you got pregnant, were you using any method of contraception?	YES . . . 1 NO . . . 2	→ 642
641	What method of contraception were you using? IF MORE THAN ONE METHOD IS MENTIONED, CIRCLE THE HIGHEST METHOD ON THE 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 AMENORRHEA METHOD . . . 11 RHYTHM METHOD . . . 12 WITHDRAWAL . . . 13 OTHER _____ 96 (SPECIFY)	
642	Either before or after the miscarriage, did a doctor or other health professional talk to you about contraception?	YES . . . 1 NO . . . 2	→ 644
643	Was it before the miscarriage, after the miscarriage, or both before and after the miscarriage?	BEFORE THE MISCARRIAGE . . . 1 AFTER THE MISCARRIAGE . . . 2 BOTH BEFORE AND AFTER THE MISCARRIAGE . . . 3 DON'T KNOW . . . 8	
644	After this miscarriage, did a doctor or health worker give you a method of contraception, prescribe a method of contraception, or refer you to a family planning clinic?	YES . . . 1 NO . . . 2	→ 701
645	Did they give you the method of contraception, give you a prescription, or give you a referral?	GAVE METHOD . . . 1 PRESCRIBED A METHOD . . . 2 GAVE REFERRAL . . . 3 DON'T KNOW . . . 8	

SECTION 7. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	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	→ 704
702	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	→ 712
703	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . . 1 DIVORCED . . . . . 2 SEPARATED 3	→ 709
704	Is your (husband/partner) living with you now or is he staying elsewhere?	LIVING WITH HER . . . . . 1 STAYING ELSEWHERE 2	
705	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.	
706	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	→ 709
707	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	
708	Are you the first, second, … wife?	RANK	
709	Have you been married or lived with a man only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	
710	CHECK 709: MARRIED/ LIVED WITH A MAN ONLY ONCE → a) In what month and year did you start living with your (husband/partner)? MARRIED/ LIVED WITH A MAN MORE THAN ONCE → 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	→ 712
711	How old were you when you first started living with him?	AGE	

SECTION 7. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
712	**CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.**		
713	Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues. 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. How old were you when you had sexual intercourse for the very first time? IF 7 YEARS OR BELOW, PUT '07'.	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS . . . . . [ ][ ] REFUSED 97	→ 801
714	I would like to ask you about your recent sexual activity. 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	

SECTION 8. ADULT AND MATERNAL MORTALITY MODULE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Now I would like to ask you some questions about your brothers and sisters born to your natural mother, including those who are living with you, those living elsewhere and those who have died. From our experience in prior surveys, we know it may sometimes be difficult to establish a complete list of all the children born to your natural mother. We will work together to draw the most complete list and work to recall all your siblings. Could you please now give me the names of all of your brothers and sisters born to your natural mother. DO NOT FILL IN THE ORDER NUMBER YET.		
802	CHECK 801: ONE OR MORE BROTHERS OR SISTERS LISTED ☐ ↓ NO BROTHERS OR SISTERS LISTED ☐ → 804		
803	READ THE NAMES OF THE BROTHERS AND SISTERS TO THE RESPONDENT AND AFTER THE LAST ONE ASK: Are there any other brothers and sisters from the same mother that you have not mentioned? NO ☐ ↓ YES ☐ → LIST ADDITIONAL BROTHERS AND SISTERS IN 801.		
804	Sometimes people forget to mention children born to their natural mother because they do not live with them or they do not see them very often. Are there any brothers or sisters who do not live with you that you have not mentioned? NO ☐ ↓ YES ☐ → LIST ADDITIONAL BROTHERS AND SISTERS IN 801.		
805	Sometimes people forget to mention children born to their natural mother because they have died. Are there any brothers or sisters who died that you have not mentioned? NO ☐ ↓ YES ☐ → LIST ADDITIONAL BROTHERS AND SISTERS IN 801.		
806	Some people have brothers or sisters from the same mother but a different father. Are there any brothers or sisters born to your natural mother, but who have a different natural father, that you have not mentioned? NO ☐ ↓ YES ☐ → LIST ADDITIONAL BROTHERS AND SISTERS IN 801.		
807	COUNT THE NUMBER OF BROTHERS AND SISTERS RECORDED IN 801.	TOTAL BROTHERS AND SISTERS . . ☐☐	

NAME	ORDER NUMBER	NAME	ORDER NUMBER
a _____	☐☐	k _____	☐☐
b _____	☐☐	l _____	☐☐
c _____	☐☐	m _____	☐☐
d _____	☐☐	n _____	☐☐
e _____	☐☐	o _____	☐☐
f _____	☐☐	p _____	☐☐
g _____	☐☐	q _____	☐☐
h _____	☐☐	r _____	☐☐
i _____	☐☐	s _____	☐☐
j _____	☐☐	t _____	☐☐

SECTION 8. ADULT AND MATERNAL MORTALITY MODULE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
808	CHECK 807: Just to make sure that I have this right: Your mother had in TOTAL _____ births, excluding you, during her lifetime. Is that correct? YES ☐ NO ☐ → PROBE AND CORRECT 801 AND/OR 807.		
809	CHECK 807: ONE OR MORE BROTHERS/SISTERS ☐ NO BROTHER OR SISTER ☐ → 901		
810	Please tell me, which brother or sister was born first? And which was born next? RECORD '01' FOR THE ORDER NUMBER IN 801 FOR THE FIRST BROTHER OR SISTER, '02' FOR THE SECOND, AND SO ON UNTIL YOU HAVE RECORDED THE ORDER NUMBER FOR ALL BROTHERS AND SISTERS.		
811	How many births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS . . ☐☐	

812	IN 813, LIST THE BROTHERS AND SISTERS ACCORDING TO THE ORDER NUMBER IN 801. ASK 814 TO 824 FOR ONE BROTHER OR SISTER BEFORE ASKING ABOUT THE NEXT BROTHER OR SISTER. IF THERE ARE MORE THAN 12 BROTHERS AND SISTERS, USE AN ADDITIONAL QUESTIONNAIRE. USE AN 'X' TO MARK THE RESPONDENT'S PLACE BETWEEN SIBLINGS.						
813	NAME OF BROTHER OR SISTER.	(01) ________	(02) ________	(03) ________	(04) ________	(05) ________	(06) ________
814	Is (NAME) male or female?	MALE .... 1 FEMALE . 2	MALE .... 1 FEMALE . 2	MALE .... 1 FEMALE . 2	MALE .... 1 FEMALE . 2	MALE .... 1 FEMALE . 2	MALE .... 1 FEMALE . 2
815	Is (NAME) still alive?	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (02)	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (03)	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (04)	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (05)	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (06)	YES ...... 1 NO ...... 2 GO TO 817 DK ...... 8 GO TO (07)
816	How old is (NAME)?	[ ][ ] GO TO (02)	[ ][ ] GO TO (03)	[ ][ ] GO TO (04)	[ ][ ] GO TO (05)	[ ][ ] GO TO (06)	[ ][ ] GO TO (07)
817	How many years ago did (NAME) die?	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
818	How old was (NAME) when (he/she) died? IF DON'T KNOW, PROBE AND ASK ADDITIONAL QUESTIONS TO GET AN ESTIMATE.	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	[ ][ ] IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823
819	Was (NAME) pregnant when she died?	YES ...... 1 GO TO 823 NO 2	YES ...... 1 GO TO 823 NO 2	YES ...... 1 GO TO 823 NO 2	YES ...... 1 GO TO 823 NO 2	YES ...... 1 GO TO 823 NO 2	YES ...... 1 GO TO 823 NO 2
820	Did (NAME) die during childbirth?	YES ...... 1 GO TO (02) NO 2	YES ...... 1 GO TO (03) NO 2	YES ...... 1 GO TO (04) NO 2	YES ...... 1 GO TO (05) NO 2	YES ...... 1 GO TO (06) NO 2	YES ...... 1 GO TO (07) NO 2
821	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES ...... 1 NO ...... 2 GO TO 823	YES ...... 1 NO ...... 2 GO TO 823	YES ...... 1 NO ...... 2 GO TO 823	YES ...... 1 NO ...... 2 GO TO 823	YES ...... 1 NO ...... 2 GO TO 823	YES ...... 1 NO ...... 2 GO TO 823
822	How many days after the end of the pregnancy or childbirth did (NAME) die?	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
823	Was (NAME)'s death due to an act of violence?	YES ...... 1 GO TO (02) NO 2	YES ...... 1 GO TO (03) NO 2	YES ...... 1 GO TO (04) NO 2	YES ...... 1 GO TO (05) NO 2	YES ...... 1 GO TO (06) NO 2	YES ...... 1 GO TO (07) NO 2
824	Was (NAME)'s death due to an accident?	YES ...... 1 NO ...... 2 GO TO (02)	YES ...... 1 NO ...... 2 GO TO (03)	YES ...... 1 NO ...... 2 GO TO (04)	YES ...... 1 NO ...... 2 GO TO (05)	YES ...... 1 NO ...... 2 GO TO (06)	YES ...... 1 NO ...... 2 GO TO (07)
IF NO MORE BROTHERS OR SISTERS, GO TO 901.							

812	IN 813, LIST THE BROTHERS AND SISTERS ACCORDING TO THE ORDER NUMBER IN 801. ASK 814 TO 824 FOR ONE BROTHER OR SISTER BEFORE ASKING ABOUT THE NEXT BROTHER OR SISTER. IF THERE ARE MORE THAN 12 BROTHERS AND SISTERS, USE AN ADDITIONAL QUESTIONNAIRE. USE AN 'X' TO MARK THE RESPONDENT'S PLACE BETWEEN SIBLINGS.						
813	NAME OF BROTHER OR SISTER.	(07)	(08)	(09)	(10)	(11)	(12)
814	Is (NAME) male or female?	MALE . . . . 1 FEMALE . 2	MALE . . . . 1 FEMALE . 2	MALE . . . . 1 FEMALE . 2	MALE . . . . 1 FEMALE . 2	MALE . . . . 1 FEMALE . 2	MALE . . . . 1 FEMALE . 2
815	Is (NAME) still alive?	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (08)	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (09)	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (10)	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (11)	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (12)	YES . . . . . . 1 NO . . . . . . 2 GO TO 817 DK . . . . . . 8 GO TO (13)
816	How old is (NAME)?	GO TO (08)	GO TO (09)	GO TO (10)	GO TO (11)	GO TO (12)	GO TO (13)
817	How many years ago did (NAME) die?						
818	How old was (NAME) when (he/she) died? IF DON'T KNOW, PROBE AND ASK ADDITIONAL QUESTIONS TO GET AN ESTIMATE.	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823	IF FEMALE DIED BEFORE 12 YEARS OF AGE, OR MALE DIED AT ANY AGE, GO TO 823
819	Was (NAME) pregnant when she died?	YES . . . . . . 1 GO TO 823 NO 2	YES . . . . . . 1 GO TO 823 NO 2	YES . . . . . . 1 GO TO 823 NO 2	YES . . . . . . 1 GO TO 823 NO 2	YES . . . . . . 1 GO TO 823 NO 2	YES . . . . . . 1 GO TO 823 NO 2
820	Did (NAME) die during childbirth?	YES . . . . . . 1 GO TO (08) NO 2	YES . . . . . . 1 GO TO (09) NO 2	YES . . . . . . 1 GO TO (10) NO 2	YES . . . . . . 1 GO TO (11) NO 2	YES . . . . . . 1 GO TO (12) NO 2	YES . . . . . . 1 GO TO (13) NO 2
821	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES . . . . . . 1 NO . . . . . . 2 GO TO 823	YES . . . . . . 1 NO . . . . . . 2 GO TO 823	YES . . . . . . 1 NO . . . . . . 2 GO TO 823	YES . . . . . . 1 NO . . . . . . 2 GO TO 823	YES . . . . . . 1 NO . . . . . . 2 GO TO 823	YES . . . . . . 1 NO . . . . . . 2 GO TO 823
822	How many days after the end of the pregnancy or childbirth did (NAME) die?						
823	Was (NAME)'s death due to an act of violence?	YES . . . . . . 1 GO TO (08) NO 2	YES . . . . . . 1 GO TO (09) NO 2	YES . . . . . . 1 GO TO (10) NO 2	YES . . . . . . 1 GO TO (11) NO 2	YES . . . . . . 1 GO TO (12) NO 2	YES . . . . . . 1 GO TO (13) NO 2
824	Was (NAME)'s death due to an accident?	YES . . . . . . 1 NO . . . . . . 2 GO TO (08)	YES . . . . . . 1 NO . . . . . . 2 GO TO (09)	YES . . . . . . 1 NO . . . . . . 2 GO TO (10)	YES . . . . . . 1 NO . . . . . . 2 GO TO (11)	YES . . . . . . 1 NO . . . . . . 2 GO TO (12)	YES . . . . . . 1 NO . . . . . . 2 GO TO (13)
IF NO MORE BROTHERS OR SISTERS, GO TO 901.							

SECTION 9. HEALTH CARE ACCESS, INSURANCE, AND DISABILITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	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 big problem: 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 PROB-LEM / NOT A BIG PROB-LEM PERMISSION TO GO 1 2 GETTING MONEY 1 2 DISTANCE 1 2 GO ALONE 1 2	
902	Are you registered with any health insurance?	YES . . . . . 1 NO 2	→ 907
903	Are you covered by any health insurance?	YES . . . . . 1 NO 2	
904	What type of heatlh 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 INS. . . . . C OTHER PRIVATELY PURCHASED/ COMMERCIAL HEALTH INSURANCE . . . . . D OTHER _____ X (SPECIFY)	
905	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 maternity benefits?	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)	
906	Do you have to pay out of pocket for drugs and services?	YES, ALWAYS . . . . . 1 YES, SOMETIMES . . . . . 2 NO, NEVER . . . . . 3 DON'T KNOW 8	
907	CHECK 408: ANY CODE C, D, E, F, G CIRCLED ↓ BLANK/NO RESPONSE OR OTHER CODE CIRCLED →		→ 910
908	When you went for ANC during your pregnancy with (NAME FROM 404), were you asked to make any payments?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 910
909	When you went for ANC during your pregnancy with (NAME FROM 404), were you asked to pay: a) To see the doctor or nurse? b) For drugs? c) For laboratory tests? d) For other supplies? e) For anything else?	YES NO DK SERVICES . . . . . 1 2 8 DRUGS . . . . . 1 2 8 LAB TESTS . . . . . 1 2 8 SUPPLIES . . . . . 1 2 8 OTHER 1 2 8 _____ (SPECIFY)	

SECTION 9. HEALTH CARE ACCESS, INSURANCE, AND DISABILITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
910	CHECK 430: ANY CODE 21-26 CIRCLED ☐	BLANK/NO RESPONSE ☐ → 917 OTHER CODE CIRCLED ☐ → 913	
911	When you went to deliver (NAME FROM 404), were you asked to make any payments?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 913
912	When you went to deliver (NAME FROM 404), were you asked to pay: a) To see the doctor or nurse? b) For drugs? c) For laboratory tests? d) For other supplies? e) For anything else?	YES NO DK SERVICES . . . . . 1 2 8 DRUGS . . . . . 1 2 8 LAB TESTS . . . . . 1 2 8 SUPPLIES . . . . . 1 2 8 OTHER 1 2 8 _____ (SPECIFY)	
913	CHECK 435 OR 449: CODE 1 CIRCLED ☐	BLANK/NO RESPONSE OR OTHER CODE CIRCLED ☐ → 915	
914	After you had given birth to (NAME FROM 404), were you asked to make any payments for checks on your health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
915	CHECK 438B OR 453B: CODE 1 CIRCLED ☐	BLANK/NO RESPONSE OR OTHER CODE CIRCLED ☐ → 917	
916	After you had given birth to (NAME FROM 404), were you asked to make any payments for checks on (NAME FROM 404)'s health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
917	The next questions ask about difficulties you may have doing certain activities. Do you wear glasses or contact lenses to help you see?	YES . . . . . 1 NO 2	→ 919
918	I would like to know if you have difficulty seeing even when wearing glasses or contact lenses. Would you say that you have no difficulty seeing, some difficulty, a lot of difficulty, or cannot see at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	→ 920
919	I would like to know if you have difficulty seeing. Would you say that you have no difficulty seeing, some difficulty, a lot of difficulty, or cannot see at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	
920	I would like to know if you have difficulty hearing. Would you say that you have no difficulty hearing, some difficulty, a lot of difficulty, or cannot hear at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	

SECTION 9. HEALTH CARE ACCESS, INSURANCE, AND DISABILITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
921	I would like to know if you have difficulty communicating when using your usual language. Would you say that you have no difficulty understanding or being understood, some difficulty, a lot of difficulty, or cannot communicate at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	
922	I would like to know if you have difficulty remembering or concentrating. Would you say that you have no difficulty remembering or concentrating, some difficulty, a lot of difficulty, or cannot remember or concentrate at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	
923	I would like to know if you have difficulty walking or climbing steps. Would you say that you have no difficulty walking or climbing steps, some difficulty, a lot of difficulty, or cannot walk or climb steps at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	
924	I would like to know if you have difficulty washing all over or dressing. Would you say that you have no difficulty washing all over or dressing, some difficulty, a lot of difficulty, or cannot wash all over or dress at all?	NO DIFFICULTY . . . . . 1 SOME DIFFICULTY . . . . . 2 A LOT OF DIFFICULTY . . . . . 3 CANNOT AT ALL . . . . . 4 DON'T KNOW 8	
925	RECORD THE TIME INTERVIEW ENDED.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT INTERVIEW:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

FORMATTING DATE: 7 June 2017
ENGLISH LANGUAGE: 7 June 2017

2017 GHANA MATERNAL HEALTH SURVEY
PHASE 2 VERBAL AUTOPSY QUESTIONNAIRE

GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

REGION . . . . . [ ][ ]

DISTRICT . . . . . [ ][ ]

CLUSTER NUMBER . . . . . [0][ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ][ ]

DECEASED WOMAN'S NAME AND LINE NUMBER FROM HH LISTING _____ [ ][ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY [ ][ ]
				MONTH [ ][ ]
				YEAR [2][0][1][7]
INTERVIEWER'S NAME	_____	_____	_____	INT. NO. [ ][ ][ ][ ]
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)

LANGUAGE OF QUESTIONNAIRE** [0][0] LANGUAGE OF INTERVIEW** [ ][ ] NATIVE LANGUAGE OF RESPONDENT** [ ][ ] TRANSLATOR USED (YES = 1, NO = 2) [ ]

LANGUAGE OF QUESTIONNAIRE** **ENGLISH**

**LANGUAGE CODES:

00 ENGLISH	05 MOLE-DAGBANI
01 AKAN	06 GRUSI
02 GA	07 GURMA
03 EWE	08 MANDE
04 GUAN	96 OTHER _____ (SPECIFY)

SUPERVISOR

_____ NAME [ ][ ][ ][ ] NUMBER

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INTRODUCTION AND CONSENT

Hello. My name is _____ and I am working with the Ghana Statistical Service. We are conducting a national survey that asks about women's health issues. We would very much appreciate your participation in this survey. A few months ago when we visited your house, we were informed about the death of (NAME). I am here now to ask you about the circumstances that led to her death. This information will help the government to improve women's health services. The survey will take between 30 and 60 minutes to complete. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team.

Participation in this survey is voluntary, and if we should come to any question you don't want to answer, just let me know and I will go to the next question; or you can stop the interview at any time. However, we hope that you will participate in this survey since your views are important.

In case you need more information about the survey, you may contact the person listed on this card.

GIVE CARD WITH CONTACT INFORMATION

At this time, do you want to ask me anything about the survey?
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

100	RECORD THE TIME.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	

SECTION 1. DECEASED WOMAN'S BACKGROUND AND RESPONDENT'S RELATIONSHIP

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	In what day, month, and year was (NAME) born?	DAY . . . . . ☐☐ DON'T KNOW DAY . . . . . 98 MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐	
102	In what day, month, and year did (NAME) die?	DAY . . . . . ☐☐ DON'T KNOW DAY . . . . . 98 MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐	
103	CHECK 102: DIED IN 2012, 2013, 2014, 2015, 2016, OR 2017 ☐ ↓ DIED BEFORE 2012 ☐ →		END

SECTION 1. DECEASED WOMAN'S BACKGROUND AND RESPONDENT'S RELATIONSHIP

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
104	How old was (NAME) when she died? RECORD AGE IN COMPLETED YEARS COMPARE AND CORRECT 101, 102, AND/OR 104 IF INCONSISTENT	AGE AT DEATH . . . . . ☐☐	
105	CHECK 104: AGE AT DEATH BETWEEN 12 AND 49 YEARS ☐	AGE AT DEATH 11 YEARS OR YOUNGER ☐ → AGE AT DEATH 50 YEARS OR OLDER ☐ →	END
106	Was (NAME) pregnant when she died?	YES . . . . . 1 NO 2	→ 108C
107	Did (NAME) die during childbirth?	YES . . . . . 1 NO 2	→ 109
108A	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES . . . . . 1 NO 2	→ 108C
108B	How many days after the end of the pregnancy or childbirth did (NAME) die?	DAYS . . . . . ☐☐	
108C	Was (NAME)'s death due to an act of violence?	YES . . . . . 1 NO 2	→ 109
108D	Was (NAME)'s death due to an accident?	YES . . . . . 1 NO 2	
109	What was (NAME)'s marital status?	NEVER MARRIED . . . . . 1 MARRIED . . . . . 2 LIVING WITH A PARTNER . . . . . 3 SEPARATED . . . . . 4 DIVORCED . . . . . 5 WIDOWED 6	
110	What is the highest level of school (NAME) had attended: primary, middle, JSS/JHS, secondary, SSS/SHS, higher, or had (NAME) never attended school?	PRIMARY . . . . . 1 MIDDLE . . . . . 2 JSS/JHS . . . . . 3 SECONDARY . . . . . 4 SSS/SHS . . . . . 5 HIGHER . . . . . 6 NEVER ATTENDED SCHOOL . . . . . 7 DON'T KNOW 8	
111	Did (NAME) do any work in the 12 months before her death?	YES . . . . . 1 NO 2	→ 113
112	What was her occupation? That is, what kind of work did (NAME) mainly do?	_____ _____ _____ _____ BOXES FOR OFFICE USE ONLY ☐☐	

SECTION 1. DECEASED WOMAN'S BACKGROUND AND RESPONDENT'S RELATIONSHIP

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
113	What was (NAME)'s 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) DON'T KNOW 98	
114	What ethnic group did (NAME) belong to?	AKAN . . . . . 01 GA/DANGME . . . . . 02 EWE . . . . . 03 GUAN . . . . . 04 MOLE-DAGBANI . . . . . 05 GRUSI . . . . . 06 GURMA . . . . . 07 MANDE . . . . . 08 OTHER _____ 96 (SPECIFY)	
115	Where did (NAME) die?	HER HOME . . . . . 1 OTHER HOME . . . . . 2 HEALTH FACILITY . . . . . 3 EN ROUTE TO HEALTH FACILITY . . . . . 4 SHRINE/PRAYER CAMP . . . . . 5 OTHER _____ 6 (SPECIFY)	
116	Where was (NAME)'s usual place of residence?	IN THIS HOUSE . . . . . 1 IN THIS LOCALITY . . . . . 2 IN A DIFFERENT VILLAGE/TOWN . . . . . 3 OTHER _____ 6 (SPECIFY)	
117	Where did the burial take place?	IN THIS HOUSE . . . . . 1 IN THIS LOCALITY . . . . . 2 IN A DIFFERENT VILLAGE/TOWN . . . . . 3 BURIAL NOT YET PERFORMED . . . . . 4 OTHER _____ 6 (SPECIFY)	
118	During which season did (NAME) die?	WET SEASON . . . . . 1 DRY SEASON . . . . . 2 OTHER _____ 6 (SPECIFY)	
119	What was your relationship with (NAME)?	HUSBAND/PARTNER . . . . . 1 PARENT . . . . . 2 CHILD . . . . . 3 SIBLING . . . . . 4 OTHER FAMILY MEMBER . . . . . 5 FRIEND . . . . . 6 ANOTHER RELATIONSHIP 7	
120	Did you live with (NAME) in the period leading to her death?	YES . . . . . 1 NO 2	

SECTION 2. NARRATIVE

NO.	QUESTION
201	Now could you please tell me about the illnesses and events leading to (NAME)'s death? **IMPORTANT: READ YOUR NOTES BACK TO THE RESPONDENT SO HE OR SHE CAN CORRECT OR CLARIFY** **ALSO IMPORTANT: MAKE SURE YOUR HANDWRITING CAN BE READ BY SOMEONE ELSE**

SECTION 2. NARRATIVE

NO.	QUESTION

SECTION 2. NARRATIVE

NO.	QUESTION

SECTION 3. HISTORY OF INJURIES/ACCIDENTS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	Just to confirm, did (NAME) suffer from any injury or accident that led to her death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 401A
302A	Was it a road traffic accident?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 303
302B	What was her role in the road traffic accident?	PEDESTRIAN . . . . . 1 DRIVER OR PASSENGER IN CAR OR LIGHT VEHICLE . . . . . 2 DRIVER OR PASSENGER IN BUS OR HEAVY VEHICLE . . . . . 3 DRIVER OR PASSENGER ON MOTORCYCLE . . . . . 4 DRIVER OR PASSENGER ON PEDAL CYCLE . . . . . 5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
302C	What was the counterpart during the road traffic accident?	PEDESTRIAN . . . . . A STATIONARY OBJECT . . . . . B CAR OR LIGHT VEHICLE . . . . . C BUS OR HEAVY VEHICLE . . . . . D MOTORCYCLE . . . . . E PEDAL CYCLE . . . . . F DITCH/VERGE/SIDE OF ROAD . . . . . H ROAD SURFACE . . . . . I OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Y	
303	Was (NAME) injured in a non-road transport accident?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
304	Was (NAME) injured in a fall?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
305	Was there any poisoning?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
306	Did (NAME) die of drowning?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
307A	Was (NAME) injured by a bite or sting of venomous animal?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 307C
307B	Was (NAME) injured by an animal or insect (non-venomous)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 308
307C	What was the animal or insect?	DOG . . . . . 1 SNAKE . . . . . 2 INSECT . . . . . 3 SCORPION . . . . . 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

SECTION 3. HISTORY OF INJURIES/ACCIDENTS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
308	Was (NAME) injured by burns or fire?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
309	Was (NAME) subject to violence (suicide, homicide, or abuse?)	YES, SUICIDE . . . . . 1 YES, HOMICIDE . . . . . 2 YES, ABUSE . . . . . 3 NO . . . . . 4 DON'T KNOW 8	
310	Was (NAME) injured by a firearm?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
311	Was (NAME) stabbed, cut, or pierced?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
312	Was (NAME) strangled?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
313	Was (NAME) injured by a blunt force?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
314	Was (NAME) injured by a force of nature?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
315	Was (NAME) electrocuted?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
316	Was (NAME) injured by some other injury?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
317	Was the injury accidental?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
318	Was the accident or injury self-inflicted?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
319	Was the accident or injury intentionally inflicted by someone else?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401A	For how long was (NAME) ill before (NAME) died? RECORD ANSWER IN UNITS GIVEN IF LESS THAN ONE DAY, RECORD '00' IN DAYS	DAYS . . . . . 1 ☐☐ WEEKS . . . . . 2 ☐☐ MONTHS . . . . . 3 ☐☐ YEARS . . . . . 4 ☐☐	
401B	CHECK 401A: ANSWER IN UNIT OTHER THAN DAYS, OR IN DAYS AND MORE THAN 00 ☐	DAYS = 00 ☐ →	403
402	Did (NAME) die suddenly?	YES . . . . . 1 NO 2	
403	Was there any diagnosis by a physician or health worker of tuberculosis or TB?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 405A
404	For how many months or years prior to death was (NAME) diagnosed with tuberculosis or TB? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
405A	Was (NAME) ever tested for HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 409
405B	How many days, weeks, or months prior to death was (NAME) tested for HIV?	DAYS . . . . . 1 ☐☐ WEEKS . . . . . 2 ☐☐ MONTHS . . . . . 3 ☐☐ DON'T KNOW 998	
406	What was the result of that test?	POSITIVE . . . . . 1 NEGATIVE . . . . . 2 DON'T KNOW 8	→ 409
407	Was there any diagnosis by a physician or health worker of AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 409

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
408	For how many months or years prior to death was (NAME) diagnosed with AIDS? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
409	Did (NAME) have a recent test by a physician or health worker for malaria?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 413
410A	What was the result of that test?	POSITIVE . . . . . 1 NEGATIVE . . . . . 2 DON'T KNOW 8	
410B	For how many days, weeks, or months prior to death was (NAME) tested for malaria?	DAYS . . . . . 1 ☐☐ WEEKS . . . . . 2 ☐☐ MONTHS . . . . . 3 ☐☐ DON'T KNOW 998	
413	Was there any diagnosis by a physician or health worker of measles?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 415
414	For how many months or years prior to death was (NAME) diagnosed with measles? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
415	Was there any diagnosis by a physician or health worker of high blood pressure?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 417
416	For how many months or years prior to death was (NAME) diagnosed with high blood pressure? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
417	Was there any diagnosis by a physician or health worker of heart disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 419

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
418	For how many months or years prior to death was (NAME) diagnosed with heart disease? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
419	Was there any diagnosis by a physician or health worker of diabetes?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 421
420	For how many months or years prior to death was (NAME) diagnosed with diabetes? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
421	Was there any diagnosis by a physician or health worker of asthma?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 423
422	For how many months or years prior to death was (NAME) diagnosed with asthma? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
423	Was there any diagnosis by a physician or health worker of epilepsy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 425
424	For how many months or years prior to death was (NAME) diagnosed with epilepsy? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
425	Was there any diagnosis by a physician or health worker of cancer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 428
426	What kind of cancer?	LUNG . . . . . 11 BREAST . . . . . 12 CERVIX . . . . . 13 LIVER . . . . . 14 THROAT . . . . . 15 COLON . . . . . 16 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
427	For how many months or years prior to death was (NAME) diagnosed with cancer? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
428	Was there any diagnosis by a physician or health worker of chronic obstructive pulmonary disease (COPD)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 430
429	For how many months or years prior to death was (NAME) diagnosed with chronic obstructive pulmonary disease (COPD)? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
430	Was there any diagnosis by a physician or health worker of dementia?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 432
431	For how many months or years prior to death was (NAME) diagnosed with dementia? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
432	Was there any diagnosis by a physician or health worker of depression?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 434
433	For how many months or years prior to death was (NAME) diagnosed with depression? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
434	Was there any diagnosis by a physician or health worker of other mental disorder?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 437
435	What was the mental disorder?	BIPOLAR DISORDER . . . . . 1 SCHIZOPHRENIA . . . . . 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
436	For how many months or years prior to death was (NAME) diagnosed with other mental disorder? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
437	Was there any diagnosis by a physician or health worker of stroke?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 439
438	For how many months or years prior to death was (NAME) diagnosed with stroke? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
439	Was there any diagnosis by a physician or health worker of sickle cell disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 441
440	For how many months or years prior to death was (NAME) diagnosed with sickle cell disease? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
441	Was there any diagnosis by a physician or health worker of kidney disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 443
442	For how many months or years prior to death was (NAME) diagnosed with kidney disease? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
443	Was there any diagnosis by a physician or health worker of liver disease?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 445
444	For how many months or years prior to death was (NAME) diagnosed with liver disease? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	

SECTION 4. MEDICAL HISTORY ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
445	Was there any diagnosis by a physician or health worker of other chronic illness?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 448
446	What was the illness?	LUPUS . . . . . 1 RHEUMATOID ARTHRITIS . . . . . 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
447	For how many months or years prior to death was (NAME) diagnosed with (other chronic illness)? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS.	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
448	What do you think was the cause of death? WRITE EXACTLY AS THE RESPONDENT TELLS YOU IMPORTANT: READ YOUR NOTES BACK TO THE RESPONDENT SO HE OR SHE CAN CORRECT OR CLARIFY		

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501A	At this time I would like to ask you some questions concerning symptoms that (NAME) had or showed when (NAME) was ill. Some of these questions may not appear directly related to her health. Please bear with me and answer all the questions. Your answers will help us get a clear picture of all possible symptoms that (NAME) may have had. Did (NAME) have a fever?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 501F
501B	For how many days did the fever last? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
501C	Did the fever continue until death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
501D	How severe was the fever?	MILD . . . . . 1 MODERATE . . . . . 2 SEVERE 3	
501E	What was the pattern of the fever? PROBE: Continuous, off and on, only at night?	CONTINUOUS . . . . . 1 ON AND OFF . . . . . 2 ONLY AT NIGHT . . . . . 3 ONLY DURING DAY . . . . . 4 DON'T KNOW 8	
501F	Did (NAME) have night sweats?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
502A	Did (NAME) have a cough?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 503A
502B	For how many days did (NAME) have a cough? IF LESS THAN 1 MONTH, RECORD IN DAYS. IF LESS THAN 1 YEAR, RECORD IN MONTHS.	DAYS . . . . . 1 ☐☐ MONTHS . . . . . 2 ☐☐ YEARS . . . . . 3 ☐☐ DON'T KNOW 998	
502C	Was the cough productive, with sputum?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
502D	Was the cough very severe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
502E	Did (NAME) cough up blood? PROBE TO MAKE SURE BLOOD WAS COUGHED, NOT VOMITED	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
503A	Did (NAME) have any difficulty breathing?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 504A
503B	For how long did the difficulty breathing last? IF LESS THAN 1 MONTH, RECORD IN DAYS. IF LESS THAN 1 YEAR, RECORD IN MONTHS.	DAYS . . . . . 1 ☐☐ MONTHS . . . . . 2 ☐☐ YEARS . . . . . 3 ☐☐ DON'T KNOW 998	
503C	Was the difficulty continuous or on and off?	CONTINUOUS . . . . . 1 ON AND OFF . . . . . 2 DON'T KNOW 8	
504A	During the (illness/events/circumstances) that led to death, did (NAME) have fast breathing?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 505A
504B	For how many days did the fast breathing last? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
505A	Did (NAME) have breathlessness?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 506
505B	For how many days did (NAME) have breathlessness? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
505C	Was (NAME) unable to carry out daily routines due to breathlessness?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
505D	Was (NAME) breathless while lying flat?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
506	During the (illness/events/circumstances) that led to death did her breathing sound like wheezing?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
507A	Did (NAME) have chest pain?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 508A
507B	Was the chest pain severe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
507C	How many days before death did (NAME) have chest pain? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
507D	How many minutes or hours did the pain last? IF LESS THAN 1 HOUR, RECORD IN MINUTES. IF 95 HOURS OR MORE, RECORD '95' IN HOURS.	MINUTES . . . . . 1 ☐☐ HOURS . . . . . 2 ☐☐ DON'T KNOW 998	
508A	Did (NAME) have more frequent loose or liquid stools than usual?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 508C
508B	For how many days did (NAME) have frequent loose or liquid stools? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
508C	At any time during the final (illness/events/circumstances) was there blood in the stools?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 509A
508D	Was there blood in the stool up until death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
509A	Did (NAME) vomit?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 510
509B	Did (NAME) vomit in the week preceding death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 510
509C	For how many days before death did (NAME) vomit? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
509D	Did (NAME) vomit blood? PROBE TO MAKE SURE BLOOD WAS VOMITED, NOT COUGHED	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
509E	Was the vomit black?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
510	Did (NAME) have any belly (abdominal) problems?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 514
511A	Did (NAME) have any belly (abdominal) pain?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 512A
511B	Was the belly (abdominal) pain severe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
511C	For how long before death did (NAME) have abdominal pain? IF LESS THAN 1 HOUR, RECORD '00' IN HOURS. IF LESS THAN 1 DAY, RECORD IN HOURS. IF LESS THAN 1 WEEK, RECORD IN DAYS. IF LESS THAN 1 MONTH, RECORD IN WEEKS. IF 95 OR MORE MONTHS, RECORD '95' IN MONTHS.	HOURS . . . . . 1 ☐☐ DAYS . . . . . 2 ☐☐ WEEKS . . . . . 3 ☐☐ MONTHS . . . . . 4 ☐☐ DON'T KNOW 998	
511D	Was the pain in the upper or lower abdomen?	UPPER ABDOMEN . . . . . 1 LOWER ABDOMEN . . . . . 2 UPPER AND LOWER ABDOMEN . . . . . 3 DON'T KNOW 8	
512A	Did (NAME) have a more than usually protruding abdomen?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 513A
512B	For how long did (NAME) have a more than usually protruding abdomen? IF LESS THAN 1 DAY, RECORD '00' IN DAYS. IF LESS THAN 1 MONTH, RECORD IN DAYS. IF 95 OR MORE MONTHS, RECORD '95' IN MONTHS.	DAYS . . . . . 1 ☐☐ MONTHS . . . . . 2 ☐☐ DON'T KNOW 998	
512C	How rapidly did (NAME) develop the protruding abdomen?	RAPIDLY . . . . . 1 SLOWLY . . . . . 2 DON'T KNOW 8	
513A	Did (NAME) have any mass in the abdomen?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 514
513B	For how long before death did (NAME) have a mass in the abdomen? IF LESS THAN 1 DAY, RECORD '00' IN DAYS. IF LESS THAN 1 MONTH, RECORD IN DAYS. IF 95 OR MORE MONTHS, RECORD '95' IN MONTHS.	DAYS . . . . . 1 ☐☐ MONTHS . . . . . 2 ☐☐ DON'T KNOW 998	
514	Did (NAME) have a severe headache?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
515A	Did (NAME) have a stiff neck during the (illness/events/circumstances) that led to death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 516A
515B	For how many days before death did (NAME) have a stiff neck? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
516A	Did (NAME) have a painful neck during the (illness/events/circumstances) that led to death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 517A
516B	For how many days before death did (NAME) have a painful neck? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
517A	Did (NAME) have mental confusion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 518A
517B	For how long did (NAME) have mental confusion? IF LESS THAN 1 MONTH, RECORD '00' IN MONTHS	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ DON'T KNOW 998	
518A	Was (NAME) unconscious during the (illness/events/circumstances) that led to death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 519A
518B	Was (NAME) unconscious for more than 24 hours before death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 519A
518C	Did the unconsciousness start suddenly or quickly, at least within a single day?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
518D	Did the unconsciousness continue until death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
519A	Did (NAME) have convulsions?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 520A
519B	For how many minutes did the convulsions last? IF LESS THAN 1 MINUTE, RECORD '00'. IF 95 MINUTES OR MORE, RECORD '95'.	MINUTES . . . . . ☐☐ DON'T KNOW 98	
519C	Did (NAME) become unconscious immediately after the convulsion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
520A	Did (NAME) have any urine problems?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 522A
520B	Did (NAME) stop urinating?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
520C	Did (NAME) go to urinate more often than usual?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
520D	During the final (illness/events/circumstances) did (NAME) ever pass blood in the urine?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
522A	Did (NAME) have sores?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 523A
522B	Did the sores have clear fluid or pus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
523A	Did (NAME) have an ulcer or pit on the foot?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 524A
523B	Did the ulcer on the foot ooze pus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 524A
523C	For how many days did the ulcer on the foot ooze pus? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
524A	During the (illness/events/circumstances) that led to death, did (NAME) have any skin rash?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 525
524B	For how many days did (NAME) have the skin rash? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
524C	Where was the rash?	FACE/HEAD . . . . . A TRUNK OR ABDOMEN . . . . . B EXTREMITIES . . . . . C EVERYWHERE . . . . . D DON'T KNOW . . . . . Y	
525	Did (NAME) ever have shingles or herpes zoster?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
526	During the (illness/events/circumstances) that led to death, did her skin flake off in patches?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
527A	During the (illness/events/circumstances) that led to death, did (NAME) bleed from anywhere?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 528
527B	Did (NAME) bleed from the mouth, nose, or anus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
528	Did (NAME) have noticeable weight loss?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
529	Was (NAME) severely thin or wasted?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
530	During the (illness/events/circumstances) that led to death, did (NAME) have a whitish rash inside the mouth or on the tongue?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
531	Did (NAME) have stiffness of the whole body or was unable to open the mouth?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
532A	Did (NAME) have puffiness of the face?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 533A
532B	For how many days did (NAME) have puffiness of the face? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
533A	During the (illness/events/circumstances) that led to death, did (NAME) have swollen legs or feet?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 534
533B	How many days did the swelling last? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . ☐☐ DON'T KNOW 98	
533C	Did (NAME) have both feet swollen?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
534	Did (NAME) have general puffiness all over her body?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
535A	Did (NAME) have any lumps?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 536A
535B	Did (NAME) have any lumps or lesions in the mouth?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
535C	Did (NAME) have any lumps on the neck?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
535D	Did (NAME) have any lumps on the armpit?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
535E	Did (NAME) have any lumps on the groin?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 5. GENERAL SIGNS AND SYMPTOMS ASSOCIATED WITH FINAL ILLNESS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
536A	Was (NAME) in any way paralysed?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 537A
536B	Did (NAME) have paralysis of only one side of the body?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
536C	Which were the limbs or body parts paralysed?	RIGHT SIDE OF BODY . . . . . 01 LEFT SIDE OF BODY . . . . . 02 LOWER PART OF BODY . . . . . 03 UPPER PART OF BODY . . . . . 04 ONE LEG ONLY . . . . . 05 ONE ARM ONLY . . . . . 06 WHOLE BODY . . . . . 07 OTHER _____ 08 (SPECIFY) DON'T KNOW 98	
537A	Did (NAME) have difficulty swallowing?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 538
537B	For how many days before death did (NAME) have difficulty swallowing? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . [ ][ ] DON'T KNOW 98	
537C	Was the difficulty with swallowing with solids, liquids, or both?	SOLIDS . . . . . 1 LIQUIDS . . . . . 2 BOTH . . . . . 3 DON'T KNOW 8	
538	Did (NAME) have pain upon swallowing?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
539A	Did (NAME) have yellow discoloration of the eyes?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 540
539B	For how many days did (NAME) have the yellow discoloration? IF LESS THAN 1 DAY, RECORD '00'. IF 95 OR MORE DAYS, RECORD '95'.	DAYS . . . . . [ ][ ] DON'T KNOW 98	
540	Did her hair change in colour to a reddish or yellowish colour?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
541	Did (NAME) look pale (thinning/lack of blood) or have pale palms, eyes, or nail beds?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
542	Did (NAME) drink a lot more water than usual?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 6. SIGNS AND SYMPTOMS ASSOCIATED WITH PREGNANCY AND WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Did (NAME) have any swelling or lump in the breast?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
602	Did (NAME) have any ulcers (pits) in the breast?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
603A	Did (NAME) ever have a period or menstruate?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 604
603B	Did (NAME) have vaginal bleeding in between menstrual periods?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 603D
603C	Was the bleeding excessive?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
603D	CHECK 104: AGE AT DEATH 41-49 ↓ AGE AT DEATH 12-40 →		603G
603E	Did her menstrual period stop naturally because of menopause?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 603G
603F	Did (NAME) have vaginal bleeding after cessation of menstruation?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 701
603G	Was there excessive vaginal bleeding in the week prior to death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
603I	At the time of death was her period overdue?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 604
603J	For how many weeks had her period been overdue? IF LESS THAN 1 WEEK, RECORD '00'. IF 95 WEEKS OR MORE, RECORD '95'.	WEEKS . . . . . ☐☐ DON'T KNOW 98	
604	Did (NAME) have a sharp pain in her abdomen shortly before death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
605	Was (NAME) pregnant at the time of death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 609
606	Did (NAME) die during or within 6 weeks of labour, delivery, abortion, or miscarriage?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 609
608	Did (NAME) die less than 1 year after being pregnant or delivering a baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 609

SECTION 6. SIGNS AND SYMPTOMS ASSOCIATED WITH PREGNANCY AND WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
608A	Please confirm: you said (NAME) was not pregnant and had not been pregnant or delivered in the 12 months before (NAME) died, is that right? NO OR DON'T KNOW ☐ → PROBE 605-606 AND CORRECT 605-609 AS NECESSARY.	YES ☐ → (RESPONDENT CONFIRMS NO PREGNANCY IN 12 MONTHS BEFORE DEATH)	→ 701
609	For how many months was (NAME) pregnant? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS . . . . . ☐☐ DON'T KNOW 98	
611	Did she die during labour or delivery?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 614
612A	Did (NAME) die after delivering a baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 613
612B	Did (NAME) die within 24 hours after delivery?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 614
613	Did (NAME) die within 6 weeks of childbirth?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
614	CHECK 611: NO OR DON'T KNOW ☐ → a) Did (NAME) give birth to a live baby within 6 weeks before death? YES ☐ → b) Did (NAME) give birth to a live baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
615	Did (NAME) die during or after a multiple pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
616A	CHECK IF MOTHER LIVED MORE THAN 24 HOURS AFTER BIRTH TO A LIVE BABY (ABLE TO BREASTFEED) IF 611 = NO AND 612B = NO AND 614 = YES, MOTHER SURVIVED MORE THAN 24 HOURS & BABY WAS BORN ALIVE ☐	IF MOTHER DIED DURING DELIVERY (611 = YES) OR WITHIN 24 HOURS OF DELIVERY (612B = YES) OR BABY WAS NOT BORN ALIVE (614 = NO OR DON'T KNOW) ☐	→ 617A

SECTION 6. SIGNS AND SYMPTOMS ASSOCIATED WITH PREGNANCY AND WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
616B	Was (NAME) breastfeeding the child in the days before death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
617A	How many births, including stillbirths, did (NAME) have before this (baby/pregnancy)?	BIRTHS . . . . . ☐☐ DON'T KNOW 98	
617B	CHECK 617A: NO. OF BIRTHS GREATER THAN ZERO ☐ ↓ NO. OF BIRTHS EQUAL TO ZERO ☐ →		618
617C	Had (NAME) had any previous caesarean section?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
618	During this pregnancy, did (NAME) suffer from high blood pressure?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
619	Did (NAME) have foul smelling vaginal discharge during pregnancy or after delivery?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
620	Did bleeding occur while (NAME) was pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 622A
621	Was there vaginal bleeding during the first 6 months of pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
622A	CHECK 609: DON'T KNOW, OR >= 6 MONTHS ☐ ↓ 5 MONTHS OR LESS ☐ →		624
622B	During the last 3 months of pregnancy, did (NAME) suffer from convulsions?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
622C	During the last 3 months of pregnancy, did (NAME) suffer from blurred vision?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
622D	Was there vaginal bleeding during the last 3 months of pregnancy but before labour started?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
623A	Did (NAME) have excessive bleeding during labour or delivery?	YES . . . . . 1 NO . . . . . 2 NA - LABOUR NEVER STARTED . . . . . 3 DON'T KNOW 8	
623B	Did (NAME)'s water break before labour started or during labour?	BEFORE LABOUR STARTED . . . . . 1 DURING LABOUR . . . . . 2 NA - WATER NEVER BROKE . . . . . 3 DON'T KNOW 8	→ 624
623C	Was the baby delivered less than 24 hours after (NAME)'s water broke?	LESS THAN 24 HOURS . . . . . 1 MORE THAN 24 HOURS . . . . . 2 NA - BABY NEVER DELIVERED . . . . . 3 DON'T KNOW 8	

SECTION 6. SIGNS AND SYMPTOMS ASSOCIATED WITH PREGNANCY AND WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
623D	When (NAME)'s water broke, did the water smell foul?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
624	Did (NAME) have excessive bleeding after (delivery/miscarriage/abortion)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
625	Did (NAME) attempt to terminate the pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
626	Did (NAME) recently have a pregnancy that ended in a miscarriage or abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 629A
627	Did (NAME) die during a miscarriage or abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
628	Did (NAME) die within 6 weeks of having a miscarriage or abortion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
629A	CHECK 611 NO OR DON'T KNOW ↓	YES →	630
629B	CHECK 612A YES ↓	NO OR DON'T KNOW →	701
630	Where did (NAME) give birth?	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . 11 GOVT HEALTH CENTER/CLINIC . . . . . 12 GOVT HEALTH POST/CHPS . . . . . 13 MOBILE CLINIC/OUTREACH . . . . . 14 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 21 FP/PPAG CLINIC . . . . . 22 MOBILE CLINIC/OUTREACH . . . . . 23 MATERNITY HOME . . . . . 24 OTHER PRIVATE MEDICAL SECTOR _____ 26 (SPECIFY) **HOME** DECEASED WOMAN'S HOME . . . . . 31 OTHER HOME . . . . . 32 TBA'S HOME . . . . . 33 OTHER _____ 96 (SPECIFY)	
631	Did (NAME) receive professional assistance during the delivery?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 6. SIGNS AND SYMPTOMS ASSOCIATED WITH PREGNANCY AND WOMEN

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
632	Who delivered the baby? CIRCLE ALL MENTIONED.	**HEALTH PERSONNEL** DOCTOR . . . . . A NURSE/MIDWIFE . . . . . B COM. HEALTH OFFICER/NURSE . . . . . C **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . D VILLAGE HEALTH VOLUNTEER . . . . . E TRADITIONAL HEALTH PRACTITIONER . . . . . F RELATIVE/FRIEND . . . . . G OTHER _____ (SPECIFY) X NO ONE ASSISTED . . . . . Y	
633	Did (NAME) have an operation to remove her uterus shortly before death because of problems with labour/delivery?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
634	Was the delivery normal vaginal, without forceps or vacuum?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 637
635	Was it a vaginal delivery with forceps or vacuum?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 637
636	Was the delivery a caesarean section?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
637	Was the baby born more than one month early?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
638	Was the placenta completely delivered?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
639	Did (NAME) deliver or try to deliver an abnormally positioned baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
640	For how many hours was (NAME) in labour? IF LESS THAN 1 HOUR, RECORD '00'. IF 95 OR MORE HOURS, RECORD '95'.	HOURS . . . . . ☐☐ NEVER IN LABOUR . . . . . 96 DON'T KNOW 98	

SECTION 7. RISK FACTORS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Did (NAME) drink alcohol at least once a week?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
702A	Did (NAME) use tobacco? (Cigarette, cigar, pipe, etc.)	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 801
702B	What kind of tobacco did (NAME) use? FOLLOW SKIP FOR HIGHEST CODE CIRCLED.	CIGARETTES . . . . . A PIPE . . . . . B CHEWING TOBACCO . . . . . C SNUFF . . . . . D DON'T KNOW . . . . . Y	→ 801
702C	How many cigarettes did (NAME) smoke daily? IF LESS THAN ONCE PER DAY, RECORD '00'.	NUMBER . . . . . ☐☐ DON'T KNOW 98	

SECTION 8. TREATMENT RECEIVED AND HEALTH SERVICE UTILISATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Did (NAME) receive any treatment for the (illness/events/circumstances) that led to her death?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	→ 810A
802	Did (NAME) receive oral rehydration salts?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
803	Did (NAME) receive (or need) intravenous fluids (drip) treatment?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
804	Did (NAME) receive (or need) a blood transfusion?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
805	Did (NAME) receive (or need) treatment/food through a tube passed through the nose?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
806	Did (NAME) receive (or need) injectable antibiotics?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
807	Did (NAME) receive (or need) antiretroviral therapy (ART)?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
808A	Did (NAME) have (or need) an operation for the (illness/events/circumstances)?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	→ 809
808B	Did (NAME) have the operation within 1 month before death?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
809	Was (NAME) discharged from hospital very ill?	YES . . . 1 NO . . . 2 NEVER ADMITTED . . . 3 NEVER DISCHARGED . . . 4 DON'T KNOW . . . 8	
810A	Was care sought outside the home while (NAME) had this (illness/events/circumstances)?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	→ 811A

SECTION 8. TREATMENT RECEIVED AND HEALTH SERVICE UTILISATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
810B	Where was care sought? PROBE: Any others? CIRCLE ALL MENTIONED.	**PUBLIC SECTOR** GOVT HOSPITAL . . . . . A GOVT HEALTH CENTER/CLINIC . . . . . B GOVT HEALTH POST/CHPS . . . . . C MOBILE CLINIC . . . . . D OTHER PUBLIC SECTOR _____ E (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . F FP/PPAG CLINIC . . . . . G MOBILE CLINIC . . . . . H MATERNITY HOME . . . . . I PHARMACY/CHEMIST/DRUG STORE . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) **HOME** DECEASED WOMAN'S HOME . . . . . L OTHER HOME . . . . . M TBA'S HOME . . . . . N **OTHER PLACE** PRAYER CAMP/SHRINE . . . . . O OTHER _____ X (SPECIFY)	
810C	IF NOT MENTIONED IN 810B, PROBE TO DETERMINE THE NAME OF THE MAIN SOURCE OF CARE. RECORD NAME OR ADDRESS OF THE MAIN SOURCE OF CARE.	_____ _____ _____ _____ _____	
811A	Did a health care worker tell you the cause of death?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 812A
811B	What did the health care worker say? WRITE EXACTLY AS THE RESPONDENT TELLS YOU. IMPORTANT: READ YOUR NOTES BACK TO THE RESPONDENT SO HE OR SHE CAN CORRECT OR CLARIFY _____ _____ _____ _____ _____ _____		
812A	Do you have any health records that belonged to (NAME)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 901A
812B	Can I see the health records?	YES . . . . . 1 NO 2	→ 901A

SECTION 8. TREATMENT RECEIVED AND HEALTH SERVICE UTILISATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
812C	RECORD THE KIND OF HEALTH RECORDS PROVIDED.	MATERNAL HEALTH BOOK . . . . . A PRESCRIPTION FORM . . . . . B TREATMENT CARDS . . . . . C DISCHARGE FORM . . . . . D LABORATORY RESULTS . . . . . E PATIENT FOLDER . . . . . F IMAGING/SCAN . . . . . G INSURANCE FORM . . . . . H OTHER _____ X (SPECIFY)	
813A	RECORD THE DATE OF THE MOST RECENT (LAST) VISIT.	DAY . . . . . [ ][ ] DAY NOT RECORDED . . . . . 98 MONTH . . . . . [ ][ ] MONTH NOT RECORDED . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] YEAR NOT RECORDED 9998	
813B	RECORD THE WEIGHT WRITTEN AT THE MOST RECENT (LAST) VISIT.	KILOS . . . . . [ ][ ][ ] . [ ][ ] WEIGHT NOT RECORDED 99998	
814A	RECORD THE DATE OF THE LAST BUT ONE (SECOND LAST) VISIT.	NO SECOND LAST VISIT . . . . . 96 DAY . . . . . [ ][ ] DAY NOT RECORDED . . . . . 98 MONTH . . . . . [ ][ ] MONTH NOT RECORDED . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] YEAR NOT RECORDED 9998	→ 815A
814B	RECORD THE WEIGHT WRITTEN AT THE LAST BUT ONE (SECOND LAST) VISIT.	KILOS . . . . . [ ][ ][ ] . [ ][ ] WEIGHT NOT RECORDED 99998	

SECTION 8. TREATMENT RECEIVED AND HEALTH SERVICE UTILISATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
815A	RECORD THE DATE OF THE MOST RECENT (LAST) NOTE.	NO NOTE . . . . . 96 DAY . . . . . ☐☐ DAY NOT RECORDED . . . . . 98 MONTH . . . . . ☐☐ MONTH NOT RECORDED . . . . . 98 YEAR . . . . . ☐☐☐☐ YEAR NOT RECORDED 9998	→ 901A
815B	TRANSCRIBE THE LAST NOTE ON THE HEALTH RECORDS. WRITE EXACTLY WHAT IS WRITTEN ON THE HEALTH RECORD.		

SECTION 9. BACKGROUND AND CONTEXT, ACCESS AND QUALITY OF SERVICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901A	In the final days before death, did (NAME) travel to a hospital or health facility?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	→ 906
901B	What is the name of the health facility?	NAME _____ (SPECIFY) 1 DON'T KNOW . . . 8	
902A	Did (NAME) use motorised transport to get to the hospital or health facility?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	→ 903
902B	What was the main means of transport (NAME) used to get to the health facility?	SHARED TAXI . . . 11 INDIVIDUAL TAXI . . . 12 TROTRO . . . 13 BUS (METRO MASS) . . . 14 PRIVATE CAR . . . 15 TRAIN . . . 16 MOTORCYCLE . . . 17 CANOE/BOAT/FERRY WITH MOTOR . . . 18 AMBULANCE . . . 19 CANOE/BOAT/FERRY, NO MOTOR . . . 20 BICYCLE . . . 21 ON FOOT . . . 22 OTHER _____ (SPECIFY) 96 DON'T KNOW . . . 98	→ 903
902C	How long did it take to get to the health facility? CONVERT TIME GIVEN INTO MINUTES IF 995 MINUTES OR MORE, RECORD '995'	MINUTES . . . ☐☐☐ DON'T KNOW . . . 998	
903	Were there any problems in being received at the hospital or health facility?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
904	Were there any problems with the way (NAME) was treated in the hospital or health facility? PROBE: Problems with the medical treatment, procedures, interpersonal attitudes, respect, dignity?	YES . . . 1 NO . . . 2 DON'T KNOW . . . 8	
905	Were there any problems getting medications or diagnostic tests in the hospital or health facility?	YES . . . 1 NO . . . 2 N/A - DEAD ON ARRIVAL . . . 3 DON'T KNOW . . . 8	
906	How long does it take to get to the nearest 24-hour health facililty from (NAME)'s household? CONVERT TIME GIVEN INTO MINUTES IF 995 MINUTES OR MORE, RECORD '995'	MINUTES . . . ☐☐☐ DON'T KNOW . . . 998	

SECTION 9. BACKGROUND AND CONTEXT, ACCESS AND QUALITY OF SERVICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
907	In the final days before death, were there any doubts about whether medical care was needed? PROBE IF NO: Why not?	YES, THERE WERE DOUBTS . . . . . 1 NO DOUBTS - ILLNESS NOT SERIOUS . . . . . 2 NO DOUBTS - DEATH INEVITABLE . . . . . 3 NO DOUBTS - WENT TO FACILITY . . . . . 4 NO DOUBTS - NOT SICK BEFORE DEATH . . . . . 5 DON'T KNOW 8	
908	In the final days before death, was traditional/herbal or spiritual medicine used?	YES, TRADITIONAL/HERBAL ONLY . . . . . 1 YES, SPIRITUAL ONLY . . . . . 2 YES, BOTH . . . . . 3 NO . . . . . 4 DON'T KNOW 8	
909	In the final days before death, did anyone use a telephone or cell phone to call for help?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
910	Over the course of (illness/events/circumstances), did the total costs of care and treatment prohibit other household payments?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 10. DEATH CERTIFICATE AND BURIAL PERMIT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001A	Do you have a death certificate for (NAME)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 1004A
1001B	Can I see the death certificate?	YES . . . . . 1 NO 2	→ 1004A
1002A	COPY DAY, MONTH, AND YEAR OF DEATH FROM THE DEATH CERTIFICATE.	DAY . . . . . [ ][ ] DAY NOT RECORDED . . . . . 98 MONTH . . . . . [ ][ ] MONTH NOT RECORDED . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] YEAR NOT RECORDED 9998	
1002B	COPY DAY, MONTH, AND YEAR OF ISSUE OF DEATH CERTIFICATE.	DAY . . . . . [ ][ ] DAY NOT RECORDED . . . . . 98 MONTH . . . . . [ ][ ] MONTH NOT RECORDED . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] YEAR NOT RECORDED 9998	
1003A	RECORD THE CAUSE OF DEATH FROM THE FIRST (TOP) LINE OF THE DEATH CERTIFICATE: _____		
1003B	RECORD THE CAUSE OF DEATH FROM THE SECOND LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1003C	RECORD THE CAUSE OF DEATH FROM THE THIRD LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1003D	RECORD THE CAUSE OF DEATH FROM THE FOURTH LINE OF THE DEATH CERTIFICATE (IF ANY): _____		

SECTION 10. DEATH CERTIFICATE AND BURIAL PERMIT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1004A	Do you have a burial permit for (NAME)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 1007
1004B	Can I see the burial permit?	YES . . . . . 1 NO 2	→ 1007
1005	COPY DAY, MONTH, AND YEAR OF ISSUE OF BURIAL PERMIT.	DAY . . . . . [ ][ ] DAY NOT RECORDED . . . . . 98 MONTH . . . . . [ ][ ] MONTH NOT RECORDED . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] YEAR NOT RECORDED 9998	
1006	RECORD THE CAUSE OF DEATH FROM THE BURIAL PERMIT: _____		
1007	RECORD THE TIME.	HOURS . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT INTERVIEW:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

2017 GHANA MATERNAL HEALTH SURVEY
FIELDWORKER QUESTIONNAIRE

GHANA STATISTICAL SERVICES

LANGUAGE OF QUESTIONNAIRE ENGLISH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
100	What is your name?	NAME _____	
101	RECORD FIELDWORKER NUMBER	NUMBER . . . . . [ ][ ][ ][ ]	

INSTRUCTIONS

We are collecting information on the 2017 GMHS field staff. Please fill in the information below. The information will be part of the survey data files. Your name will not be in the data files; your information will remain anonymous. If there is any question you do not want to answer you may skip it and go to the next question.

102	In what Region do you live?	WESTERN . . . . . 01 CENTRAL . . . . . 02 GREATER ACCRA . . . . . 03 VOLTA . . . . . 04 EASTERN . . . . . 05 ASHANTI . . . . . 06 BRONG AHAFO . . . . . 07 NOTHERN . . . . . 08 UPPER EAST . . . . . 09 UPPER WEST 10	
103	Do you live in a city, town, or rural area?	CITY . . . . . 1 TOWN . . . . . 2 RURAL 3	
104	How old are you? RECORD AGE IN COMPLETED YEARS.	AGE . . . . . [ ][ ]	
105	Are you male or female?	MALE . . . . . 1 FEMALE 2	
106	What is your current marital status?	CURRENTLY MARRIED . . . . . 1 LIVING WITH A MAN/WOMAN . . . . . 2 WIDOWED . . . . . 3 DIVORCED . . . . . 4 SEPARATED . . . . . 5 NEVER MARRIED OR LIVED WITH A MAN/WOMAN 6	
107	How many living children do you have? INCLUDE ONLY CHILDREN WHO ARE YOUR BIOLOGICAL CHILDREN.	LIVING CHILDREN . . . . . [ ][ ]	
108	Have you ever had a child who died?	YES . . . . . 1 NO 2	
109	What is the highest level of school you attended: primary, middle, JSS/JHS, SSS/SHS, secondary, or higher?	PRIMARY . . . . . 1 MIDDLE . . . . . 2 JSS/JHS . . . . . 3 SECONDARY . . . . . 4 SSS/SHS . . . . . 5 HIGHER 6	
110	What is the highest GRADE you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE . . . . . [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
111	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 . . . . . 95 OTHER _____ 96 (SPECIFY)	
112	What is your ethnicity?	AKAN . . . . . 01 GA/DANGME . . . . . 02 EWE . . . . . 03 GUAN . . . . . 04 MOLE-DAGBANI . . . . . 05 GRUSI . . . . . 06 GURMA . . . . . 07 MANDE . . . . . 08 OTHER _____ (SPECIFY) 96	
113	What languages can you speak? RECORD ALL LANGUAGES YOU CAN SPEAK.	AKAN . . . . . A GA . . . . . B EWE . . . . . C ENGLISH . . . . . D OTHER _____ X (SPECIFY)	
114	What is your mother tongue/native language (language spoken at home growing up)?	AKAN . . . . . A GA . . . . . B EWE . . . . . C OTHER _____ X (SPECIFY)	
115	Have you ever worked on a DHS survey prior to this one?	YES . . . . . 1 NO 2	
116	Have you ever worked on any other survey prior to this one (not a DHS)?	YES . . . . . 1 NO 2	
117	Were you already working for the Ghana Health Service (GHS) or the Ghana Statistical Service (GSS) at the time you were employed to work on this MHS?	YES, GHS . . . . . 1 YES, GSS . . . . . 2 NO 3	→ 119
118	Are you a permanent or temporary employee of the Ghana Health Service (GHS) or the Ghana Statistical Service (GSS)?	PERMANENT . . . . . 1 TEMPORARY 2	
119	If you have comments, please write them here.		

ADDITIONAL DHS PROGRAM RESOURCES

The DHS Program Website – Download free DHS reports, standard documentation, key indicator data, and training tools, and view announcements.	DHSprogram.com	
STATcompiler – Build custom tables, graphs, and maps with data from 90 countries and thousands of indicators.	Statcompiler.com	
DHS Program Mobile App – Access key DHS indicators for 90 countries on your mobile device (Apple, Android, or Windows).	Search DHS Program in your iTunes or Google Play store	
DHS Program User Forum – Post questions about DHS data, and search our archive of FAQs.	userforum.DHSprogram.com	
Tutorial Videos – Watch interviews with experts and learn DHS basics, such as sampling and weighting, downloading datasets, and how to read DHS tables.	www.youtube.com/DHSProgram	
Datasets – Download DHS datasets for analysis.	DHSprogram.com/Data	
Spatial Data Repository – Download geographically-linked health and demographic data for mapping in a geographic information system (GIS).	spatialdata.DHSprogram.com	

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YouTube www.youtube.com/DHSprogram		**Blog** Blog.DHSprogram.com	
Twitter www.twitter.com/DHSprogram			