Ethiopia

Mini Demographic and Health Survey

2019

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

ETHIOPIA

Mini Demographic and Health Survey 2019

Ethiopian Public Health Institute
Addis Ababa

Federal Ministry of Health
Addis Ababa

The DHS Program
ICF
Rockville, Maryland, USA

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The 2019 Ethiopia Mini Demographic and Health Survey (2019 EMDHS) was implemented by the Ethiopian Public Health Institute (EPHI), in partnership with the Central Statistical Agency (CSA) and the Federal Ministry of Health (FMoH), under the overall guidance of the Technical Working Group (TWG). Data collection lasted from March to June 2019. Funding for the 2019 EMDHS was provided by the World Bank, the United States Agency for International Development (USAID), and the United Nations Children's Fund (UNICEF). 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.

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FOREWORD

The 2019 Ethiopia Mini Demographic and Health Survey (EMDHS) is the second EMDHS and the fifth DHS implemented in Ethiopia. The Ethiopian Public Health Institute (EPHI) conducted the survey in collaboration with the Central Statistical Agency (CSA) and the Federal Ministry of Health (FMoH), with technical assistance from ICF and financial as well as technical support from development partners. The 2019 EMDHS generates data for measuring the progress of the health sector goals set under the Growth and Transformation Plan (GTP), which is closely aligned to the Sustainable Development Goals (SDG).

The survey was conducted from March 21, 2019, to June 28, 2019, based on a nationally representative sample that provided estimates at the national and regional levels and for urban and rural areas. The survey interviewed 8,855 women of reproductive age (age 15-49) from a nationally representative sample of 8,663 households. Detailed information was collected on respondents' background characteristics, fertility determinants, marriage, awareness and use of family planning methods, child feeding practices, nutritional status of children, childhood mortality, and height and weight of children age 0-59 months. This report presents comprehensive outcomes of the survey at the national level and for Ethiopia's nine regional states and two city administrations.

The success of the 2019 EMDHS was made possible through the active participation of government, nongovernmental, and international development partners. In this regard, EPHI is grateful for the commitment of the government of Ethiopia, the United States Agency for International Development (USAID), the World Bank, and the United Nations Children's Fund (UNICEF). Special thanks go to the Federal Ministry of Health and its allies. We would like to extend our gratitude to the Central Statistical Agency for providing technical support on survey design and for its involvement in the entire survey process. Also, we are grateful to the Survey Steering Committee and Technical Working Group members, who were instrumental in guiding the resource mobilisation process, the survey implementation, and technical aspects of the survey. Similarly, we wish to express appreciation to ICF for its technical assistance in all stages of the survey.

EPHI greatly acknowledges the principal survey coordinators and technical team members; the finance, procurement, human resources, and operation units; and others for their management of the technical, administrative, and logistical phases of the survey. We are also thankful to the EPHI staff, field staff, and data processing specialists. In particular, we thank the survey respondents, who generously provided data without which it would have been impossible to produce this report.

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We appreciate the contributions of members of the Steering Committee and Technical Committee, who were drawn from the following organizations: USAID, CSA, the World Bank, ICF, BMGF, DFID, the Ministry of Finance and Economic Cooperation, and UNICEF.

We extend sincere appreciation to all people not mentioned in this document but who provided suggestions at different stages during the process and conduct of the survey. We would like to especially thank the individual volunteers and households in the various regions of Ethiopia who provided valuable information.

ACRONYMS AND ABBREVIATIONS

AMIYCN	Adolescent, Maternal, Infant, and Young Child Nutrition
ANC	antenatal care
BCG	bacille Calmette-Guérin
BMGF	Bill and Melinda Gates Foundation
CAPI	computer-assisted personal interview
CBHI	community-based health insurance
CPR	contraceptive prevalence rate
CSA	Central Statistical Agency
CSPro	Census and Survey Processing
DHS	Demographic and Health Survey
DPT	diphtheria, pertussis, tetanus vaccine
EA	enumeration area
EDHS	Ethiopia Demographic and Health Survey
EMDHS	Ethiopia Mini Demographic and Health Survey
EPHC	Ethiopian Population and Housing Census
EPHI	Ethiopia Public Health Institute
EPI	Expanded Programme for Immunisation
ESPES	Enhancing Shared Prosperity through Equitable Services
FDRE	Federal Democratic Republic of Ethiopia
FMoH	Federal Ministry of Health
FP2020	Family Planning 2020
HepB	hepatitis B
HEW	health extension worker
Hib	*Haemophilus influenzae* type B
HSTP	Health Sector Transformation Plan
IFSS	internet file streaming system
IUD	intrauterine device
IYCF	infant and young child feeding
LAM	lactational amenorrhoea method
LPG	liquified petroleum gas
MCV	measles-containing vaccine
NNP	National Nutrition Programme
OPV	oral polio vaccine

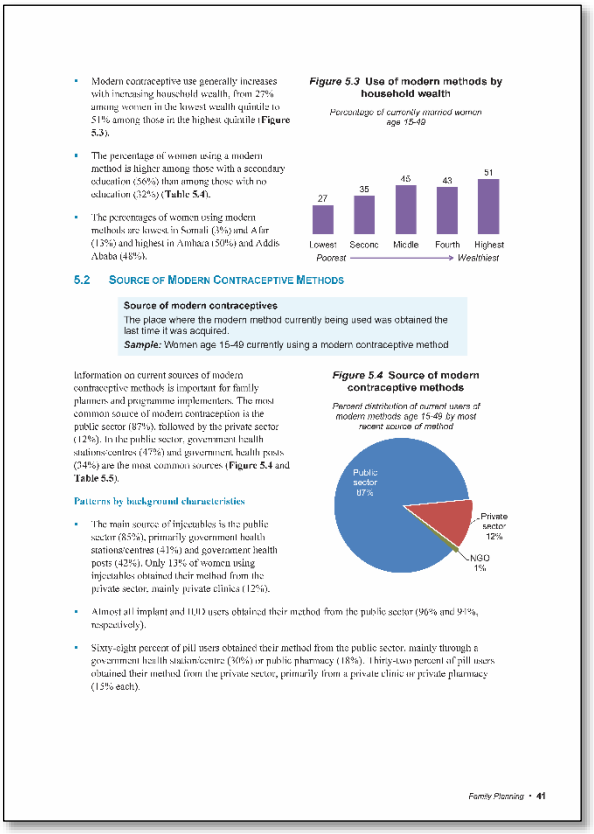
PBS	Promoting Basic Services
PCV	pneumococcal conjugate vaccine
PSNP	Productive Safety Net Programme
PSU	primary sampling unit
RV	rotavirus vaccine
SD	standard deviation
SDGs	Sustainable Development Goals
SDM	standard days method
SNNPR	Southern Nations, Nationalities, and Peoples' Region
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VAD	vitamin A deficiency
VIP	ventilated improved pit
WHO	World Health Organization

READING AND UNDERSTANDING TABLES FROM THE 2019 ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEY (EMDHS)

The 2019 Ethiopia Mini DHS final report is based on approximately 83 tables of data. For quick reference, they are located at the end of each chapter and can be accessed through links in the pertinent text (electronic version). Additionally, this more reader-friendly version features about 31 figures that clearly highlight trends, subnational patterns, and background characteristics. The text has been simplified to highlight key points in bullets and to clearly identify 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, EMDHS data users should be comfortable reading and interpreting tables.

The following pages provide an introduction to the organization of EMDHS 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 EMDHS tables.



- Modern contraceptive use generally increases with increasing household wealth, from 27% among women in the lowest wealth quintile to 51% among those in the highest quintile (**Figure 5.3**).
- The percentage of women using a modern method is higher among those with a secondary education (56%) than among those with no education (32%) (**Table 5.4**).
- The percentages of women using modern methods are lowest in Somali (3%) and Afar (13%) and highest in Amhara (50%) and Addis Ababa (48%).

***Figure 5.3* Use of modern methods by household wealth**

Percentage of currently married women age 15-49

5.2 SOURCE OF MODERN CONTRACEPTIVE METHODS

Source of modern contraceptives

The place where the modern method currently being used was obtained the last time it was acquired.

Sample: Women age 15-49 currently using a modern contraceptive method

Information on current sources of modern contraceptive methods is important for family planners and programme implementers. The most common source of modern contraception is the public sector (87%), followed by the private sector (12%). In the public sector, government health stations/centres (47%) and government health posts (34%) are the most common sources (**Figure 5.4** and **Table 5.5**).

***Figure 5.4* Source of modern contraceptive methods**

Percent distribution of current users of modern methods age 15-49 by most recent source of method

Patterns by background characteristics

- The main source of injectables is the public sector (85%), primarily government health stations/centres (41%) and government health posts (42%). Only 13% of women using injectables obtained their method from the private sector, mainly private clinics (12%).
- Almost all implant and IUD users obtained their method from the public sector (96% and 94%, respectively).
- Sixty-eight percent of pill users obtained their method from the public sector, mainly through a government health station/centre (30%) or public pharmacy (18%). Thirty-two percent of pill users obtained their method from the private sector, primarily from a private clinic or private pharmacy (15% each).

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Example 1: Literacy: Women
A Question Asked of All Survey Respondents

Table 3.3 Literacy: Women 1

Percent distribution of women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic 3	Higher than secondary schooling	No schooling, primary or secondary school: Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language	Blind/visually impaired	Total	Percentage literate[1]	Number of women 2
Age									
15-24	7.4	42.7	18.3	28.8	2.8	0.1	100.0	68.4	3,691
15-19	3.1	49.1	19.7	25.0	3.0	0.1	100.0	71.9	2,210
20-24	13.9	33.2	16.2	34.4	2.4	0.0	100.0	63.2	1,481
25-29	7.8	28.0	11.9	50.4	1.9	0.0	100.0	47.6	1,667
30-34	5.1	14.1	11.1	67.8	1.9	0.0	100.0	30.3	1,160
35-39	2.3	9.1	11.1	76.0	1.5	0.0	100.0	22.5	1,065
40-44	1.7	13.6	10.2	73.8	0.6	0.1	100.0	25.5	739
45-49	1.6	12.2	10.1	75.1	0.5	0.5	100.0	23.9	563
Residence									
Urban	13.4	39.8	13.6	31.0	2.2	0.0	100.0	66.8	2,861
Rural	2.1	22.2	14.3	59.4	1.9	0.1	100.0	38.6	6,024
Region									
Tigray	12.6	36.8	10.2	40.3	0.0	0.1	100.0	59.6	629
Afar	2.5	7.9	9.4	78.7	1.5	0.0	100.0	19.8	85
Amhara	5.0	34.7	10.1	50.0	0.0	0.2	100.0	49.8	2,026
Oromia	3.2	28.8	15.2	52.8	0.1	0.0	100.0	47.1	3,347
Somali	1.9	5.3	5.0	58.3	29.4	0.0	100.0	12.3	420
Benishangul-Gumuz	9.6	18.8	17.2	52.6	1.8	0.0	100.0	45.5	98
SNNPR	3.6	17.1	21.4	56.1	1.7	0.0	100.0	42.2	1,705
Gambela	12.6	16.6	9.0	27.7	34.1	0.0	100.0	38.2	40
Harari	15.3	28.8	9.7	46.2	0.0	0.0	100.0	53.8	27
Addis Ababa	26.5	45.6	11.8	14.9	1.2	0.0	100.0	84.0	442
Dire Dawa	17.6	32.4	10.1	38.6	1.3	0.0	100.0	60.1	64
Wealth quintile									
Lowest	0.2	11.6	11.5	70.2	6.4	0.0	100.0	23.3	1,437
Second	0.5	17.1	12.6	68.1	1.6	0.2	100.0	30.1	1,615
Middle	1.5	24.2	16.5	56.8	1.0	0.0	100.0	42.2	1,671
Fourth	4.0	32.2	16.5	46.1	1.1	0.1	100.0	52.7	1,874
Highest	17.3	44.8	13.0	23.8	1.0	0.0	100.0	75.2	2,287
Total	5.7	27.8	14.1	50.3	2.0	0.1	100.0	47.6	8,885

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[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

Step 1: Read the title and subtitle, highlighted in orange in the table above. They tell you the topic and the specific population group being described. In this case, the table is about women age 15-49 by their level of education and level of literacy. All eligible female respondents age 15-49 were asked these questions.

Step 2: Scan the column headings—highlighted in green in Example 1. They describe how the information is categorized. In this table, the first column of data shows women with higher than secondary education. The second through sixth columns show women with no schooling, primary, or secondary school by their ability to read a sentence. The seventh column is the total or sum of the previous six columns totaling up to a 100% percent distribution. The eighth column shows the percentage of women age 15-49 who are literate (a sum of the first three columns). The last column lists the number of women age 15-49 interviewed in the survey.

Step 3: Scan the row headings—the first vertical column highlighted in blue in Example 1. These show the different ways the data are divided into categories based on population characteristics. In this case, the table presents women's literacy by age, urban-rural residence, region, and wealth quintile. Most of the tables in the EMDHS report will be divided into these same categories.

Step 4: Look at the row at the bottom of the table highlighted in red. These percentages represent the totals of all women age 15-49 and their level of schooling and level of literacy. In this case, 47.6%* of women age 15-49 are literate.

Step 5: To find out what percentage of women in the lowest wealth quintile are literate, draw two imaginary lines, as shown on the table. This shows that 23.3% of women age 15-49 in the lowest wealth quintile are literate.

By looking at patterns by background characteristics, we can see how literacy varies across Ethiopia. Knowing how literacy varies among different groups can help program planners and policy makers determine how to most effectively communicate health messages, for instance, and reach their target populations.

*For the purpose of this document 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) Which age group of women are most likely to be literate?
b) Compare women in urban areas to women in rural areas – which group is more likely to be literate?
c) What are the lowest and highest percentages (range) of women who are literate by region?
d) Is there a clear pattern in literacy by wealth quintile?

Answers:
a) Women age 15-19: 71.9% of women in this age group are literate.
b) Women in urban areas: 66.8% of women in urban areas are literate, compared to 38.6% of women in rural areas.
c) Literacy among women ranges from a low of 12.3% in Somali to a high of 84.0% in Addis Ababa.
d) Yes. Literacy increases as household wealth increases; 23.3% of women from the lowest wealth quintile are literate, compared to 75.2% of women from the highest wealth quintile.

Example 2: Observation of Vaccination History at Health Facilities
A Question Asked of a Subgroup of Survey Respondents

Table 8.4 Observation of vaccination history at health facilities: Children age 0-35 months 1

Percentage of children age 0-35 months who did not have a vaccination card seen during the home visit, and among children age 0-35 months without a vaccination card seen during the home visit, percentage who received at least one vaccination at a health facility, percentage with mother's consent for visiting health facilities, percentage with vaccination history searched at health facilities, and percentage with vaccination history found and seen by the interviewer at health facilities, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Percentage of children who did not have vaccination card during home visit[1]	Number of children	Among children who did not have vaccination card during home visit: Percentage who received at least one vaccination at a health facility	Percentage with mother's consent for visiting health facilities	Percentage with vaccination history searched at health facilities[1]	Percentage with vaccination history found and seen by interviewer	Number of children
Age in months							
<6	54.5	554	31.8	29.3	16.9	14.8	302
6-11	53.2	485	48.7	47.8	32.6	29.1	258
12-23	58.7	1,028	57.2	56.2	37.6	34.8	603
24-35	73.6	1,027	59.1	55.5	35.7	30.1	756
Sex							
Male	64.1	1,562	56.6	54.9	37.3	32.8	1,002
Female	59.9	1,532	48.7	45.8	28.2	25.0	918
Birth order							
1	55.6	707	60.9	59.7	36.5	31.3	393
2-3	57.2	996	54.4	51.6	33.9	31.2	570
4-5	61.8	683	50.3	49.0	33.4	29.5	422
6+	75.4	708	47.1	44.0	29.0	24.8	534
Residence							
Urban	45.5	802	49.9	44.9	28.6	25.1	365
Rural	67.8	2,292	53.5	51.9	34.0	30.0	1,554
Region							
Tigray	28.6	213	72.0	72.0	57.2	46.1	61
Afar	80.2	49	21.8	19.8	8.7	7.6	39
Amhara	51.8	614	69.3	69.3	37.1	37.1	318
Oromia	68.6	1,236	56.2	53.2	38.3	35.2	847
Somali	78.6	201	24.3	24.3	11.2	11.2	158
Benishangul-Gumuz	62.0	37	57.2	56.2	42.3	41.8	23
SNNPR	72.5	609	43.4	40.0	26.0	16.7	442
Gambela	48.6	14	53.1	53.1	18.0	18.0	7
Harari	53.5	9	45.9	43.7	15.9	9.4	5
Addis Ababa	12.6	95	*	*	*	*	12
Dire Dawa	42.5	17	84.3	83.6	40.0	40.0	7
Mother's education							
No education	72.0	1,533	46.2	43.6	27.4	24.9	1,104
Primary	56.2	1,161	58.6	57.2	39.0	34.1	652
Secondary	43.5	268	71.3	67.4	53.3	45.0	116
More than secondary	35.7	132	(81.2)	(79.8)	(27.4)	(18.5)	47
Wealth quintile							
Lowest	81.6	693	39.1	39.1	23.1	20.6	565
Second	69.3	662	56.6	53.8	36.2	31.7	458
Middle	66.2	598	59.3	57.0	41.4	37.6	396
Fourth	56.8	513	61.0	58.0	35.1	27.2	291
Highest	33.2	628	57.6	51.9	33.5	32.6	208
Total	62.0	3,094	52.8	50.6	32.9	29.1	1,919

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] Vaccination card, booklet, or other home-based record

2 a b 3 4

Step 1: Read the title and subtitle. In this case, the table is about two separate groups of children age 0-35 months: all children age 0-35 months (a) and children age 0-35 months who did not have a vaccination card during home visit (b).

Step 2: Identify the two panels. First, identify the columns that refer to all children age 0-35 months (a), and then isolate the columns that refer only to children who did not have a vaccination card during home visit (b).

Step 3: Look at the first panel. What percentage of children age 0-35 months did not have a vaccination card during home visit? It's 62.0%. Now look at the second panel. How many children are there who did not have a vaccination card during home visit? It's 1,919 children or 62.0% of the 3,094 children age 0-35 months. The second panel is a subset of the first panel.

Step 4: Sixty-two percent of children age 0-35 months did not have a vaccination card during home visit. Once these children are further divided into the background characteristic categories, there may be too few cases for the percentages to be reliable.

- What percentage of children who did not have a vaccination card during home visit whose mothers have more than a secondary education received at least one vaccination at a health facility? 81.2%. This percentage is in parentheses because there are between 25 and 49 children (unweighted) in this category. Readers should use this number with caution—it may not be reliable. (For more information on weighted and unweighted numbers, see Example 3.)
- What percentage of children who did not have a vaccination card during home visit in Addis Ababa received at least one vaccination at a health facility? There is no number in this cell—only an asterisk. This is because there are fewer than 25 unweighted cases. Results for this group are not reported. The subgroup is too small, and therefore the data are not reliable.

Note: When parentheses or asterisks 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 EMDHS Tables

A sample is a group of people who have been selected for a survey. In the EMDHS, 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 large enough sample size in each area. For the 2019 EMDHS, the survey sample is representative at the national and regional levels, and for urban and rural areas.

To generate statistics that are representative of the country as a whole and the 11 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 8,885 women and want to produce results that are representative of Ethiopia as a whole and its regions (as in modified Table 3.1). However, the total population of Ethiopia is not evenly distributed among the regions: some regions, such as Oromia, are heavily populated while others, such as Harari are not. Thus, Harari must be oversampled.

Table 3.1 Background characteristics of respondents

Percent distribution of women age 15-49 by selected background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	3 Weighted percent	Number of women: 2 Weighted number	1 Unweighted number
Region			
Tigray	7.1	629	733
Afar	1.0	85	641
Amhara	22.8	2,026	948
Oromia	37.7	3,347	1,052
Somali	4.7	420	640
Benishangul-Gumuz	1.1	98	747
SNNPR	19.2	1,705	1,008
Gambela	0.5	40	723
Harari	0.3	27	763
Addis Ababa	5.0	442	818
Dire Dawa	0.7	64	812
Total 15-49	100.0	8,885	8,885

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 right shows the actual number of women interviewed in each region. Within the regions, the number of women interviewed ranges from 640 in Somali to 1,052 in Oromia. 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 Oromia is about 37.7% of the population in Ethiopia, while Harari's population contributes only 0.3% of the population in Ethiopia. But as the blue column shows, the number of women interviewed in Oromia accounts for only about 11.9% of the total sample of women interviewed (1,052 / 8,885) and the number of women interviewed in Harari accounts for 8.6% of the total sample of women interviewed (763 / 8,885). This unweighted distribution of women does not accurately represent the population.

In order to get statistics that are representative of Ethiopia, 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 small region, like Harari, should only contribute a small amount to the national total. Women from a large region, like Oromia, 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 the regional level. The total national sample size of 8,885 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 Ethiopia, 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 Oromia and the proportion of women who live in Harari.

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

INTRODUCTION AND SURVEY METHODOLOGY 1

The 2019 Ethiopia Mini Demographic and Health Survey (EMDHS) is the second Mini Demographic and Health Survey conducted in Ethiopia. The Ethiopian Public Health Institute (EPHI) implemented the survey at the request of the Federal Ministry of Health (FMoH). Data collection took place from March 21, 2019, to June 28, 2019.

Financial support for the 2019 EMDHS was provided by the government of Ethiopia, the World Bank via the Ministry of Finance and Economic Development's Enhancing Shared Prosperity through Equitable Services (ESPES) and Promoting Basic Services (PBS) projects, the United Nations Children's Fund (UNICEF), and the United States Agency for International Development (USAID). ICF provided technical assistance through The DHS Program, which is funded by USAID and offers support and technical assistance for the implementation of population and health surveys in countries worldwide.

1.1 SURVEY OBJECTIVES

The primary objective of the 2019 EMDHS is to provide up-to-date estimates of key demographic and health indicators. Specifically, the main objectives of the survey are:

- To collect high-quality data on contraceptive use; maternal and child health; infant, child, and neonatal mortality levels; child nutrition; and other health issues relevant to achievement of the Sustainable Development Goals (SDGs)
- To collect information on health-related matters such as breastfeeding, maternal and child care (antenatal, delivery, and postnatal), children's immunisations, and childhood diseases
- To assess the nutritional status of children under age 5 by measuring weight and height

Four full-scale DHS surveys were conducted in 2000, 2005, 2011, and 2016. The first Ethiopia Mini-DHS, or EMDHS, was conducted in 2014. The 2019 EMDHS provides valuable information on trends in key demographic and health indicators over time. The information collected through the 2019 EMDHS is intended to assist policymakers and programme managers in evaluating and designing programmes and strategies for improving the health of the country's population.

The current survey included a health facility component that, combined with the household data obtained, helped facilitate collection of additional information on children's vaccinations.

1.2 SAMPLE DESIGN

The sampling frame used for the 2019 EMDHS is a frame of all census enumeration areas (EAs) created for the 2019 Ethiopia Population and Housing Census (EPHC) and conducted by the Central Statistical Agency (CSA). The census frame is a complete list of the 149,093 EAs created for the 2019 EPHC. An EA is a geographic area covering an average of 131 households. The sampling frame contains information about EA location, type of residence (urban or rural), and estimated number of residential households.

Administratively, Ethiopia is divided into nine geographical regions and two administrative cities. The sample for the 2019 EMDHS was designed to provide estimates of key indicators for the country as a whole, for urban and rural areas separately, and for each of the nine regions and the two administrative cities.

The 2019 EMDHS sample was stratified and selected in two stages. Each region was stratified into urban and rural areas, yielding 21 sampling strata. Samples of EAs were selected independently in each stratum in two stages. Implicit stratification and proportional allocation were achieved at each of the lower administrative levels by sorting the sampling frame within each sampling stratum before sample selection, according to administrative units in different levels, and by using a probability proportional to size selection at the first stage of sampling.

To ensure that survey precision was comparable across regions, sample allocation was done through an equal allocation wherein 25 EAs were selected from eight regions. However, 35 EAs were selected from each of the three larger regions: Amhara, Oromia, and the Southern Nations, Nationalities, and Peoples' Region (SNNPR).

In the first stage, a total of 305 EAs (93 in urban areas and 212 in rural areas) were selected with probability proportional to EA size (based on the 2019 EPHC frame) and with independent selection in each sampling stratum. A household listing operation was carried out in all selected EAs from January through April 2019. The resulting lists of households served as a sampling frame for the selection of households in the second stage. Some of the selected EAs for the 2019 EMDHS were large, with more than 300 households. To minimise the task of household listing, each large EA selected for the 2019 EMDHS 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; that is, a 2019 EMDHS cluster is either an EA or a segment of an EA.

In the second stage of selection, a fixed number of 30 households per cluster were selected with an equal probability systematic selection from the newly created household listing. All women age 15-49 who were either permanent residents of the selected households or visitors who slept in the household the night before the survey were eligible to be interviewed. In all selected households, height and weight measurements were collected from children age 0-59 months, and women age 15-49 were interviewed using the Woman's Questionnaire.

1.3 QUESTIONNAIRES

Five questionnaires were used for the 2019 EMDHS: (1) the Household Questionnaire, (2) the Woman's Questionnaire, (3) the Anthropometry Questionnaire, (4) the Health Facility Questionnaire, and (5) the Fieldworker's Questionnaire. These questionnaires, based on The DHS Program's standard questionnaires, were adapted to reflect the population and health issues relevant to Ethiopia. They were shortened substantially to collect data on indicators of particular relevance to Ethiopia and donors to child health programmes.

Input was solicited from various stakeholders representing government ministries and agencies, nongovernmental organisations, and international donors. After the questionnaires were finalised in English, they were translated into Amarigna, Tigrigna, and Afaan Oromo.

The Household Questionnaire was used to list all of the usual 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, 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 was also used to collect 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.

The Woman's Questionnaire was used to collect information from all eligible women age 15-49. These women were asked questions on the following main topics: background characteristics, reproduction, contraception, pregnancy and postnatal care, child nutrition, childhood immunisations, and health facility information.

In the Anthropometry Questionnaire, height and weight measurements were recorded for eligible children age 0-59 months in all interviewed households. The Health Facility Questionnaire was used to record vaccination information for all children without a vaccination card seen during the mother's interview. The Fieldworker's Questionnaire collected background information about interviewers and other fieldworkers who participated in the 2019 EMDHS data collection.

The 2019 EMDHS interviewers used tablet computers to record responses during the interviews. The tablets were equipped with Bluetooth technology to enable remote electronic transfer of files within the computer-assisted personal interviewing (CAPI) system, including transfer of assignments from supervisors to interviewers and transfer of completed questionnaires from interviewers to supervisors. The electronic data collection system deployed in the 2019 EMDHS was developed by The DHS Program using the mobile version of the Census and Survey Processing (CSPro) System. The CSPro software was developed jointly by the U.S. Census Bureau, The DHS Program, and CSPro.

1.4 ANTHROPOMETRY

In all households, height and weight measurements were recorded for children age 0-59 months. Weight measurements were obtained using lightweight, electronic SECA 874 scales with a digital screen and the mother and child function. Height measurements were performed using measuring boards donated by UNICEF. Children younger than age 24 months were measured lying down (recumbent) on the board, while standing height was measured for older children. In contrast with the data collection procedures for the household and individual interviews, anthropometry data were initially recorded on the paper-based Anthropometry Questionnaire and subsequently entered into interviewers' tablet computers.

1.5 TRAINING OF TRAINERS

The training of trainers for the 2019 EMDHS was conducted from February 11-20, 2019, in Adama. It consisted of paper- and CAPI-based in-class training, anthropometry training including standardisation, and field practice. The field practice was conducted in Adama in clusters that were not included in the 2019 EMDHS sample. A total of 17 trainees attended the training of trainers. Trainees all had some experience with household surveys, either involvement in previous Ethiopian DHS surveys or involvement in surveys with similar procedures. Following field practice, a debriefing session was held with the trainee field staff, and lessons learned from the exercise were incorporated into the questionnaires for the main training.

1.6 TRAINING OF FIELD STAFF

The EMDHS main training was conducted from February 27 to March 19, 2019, at Central Hotel in Hawassa. EPHI recruited and trained 151 health professional field staff for the main fieldwork to serve as female interviewers, female anthropometrists, female CAPI supervisors, field supervisors, regional coordinators, and their respective reserves. The objective of the training was to enable participants to administer both paper- and CAPI-based questionnaires and to take anthropometric measurements. The training course consisted of instructions regarding interviewing techniques and field procedures, a detailed review of questionnaire content, instructions on how to administer the paper and CAPI questionnaires, mock interviews between participants in the classroom, and practice interviews with real respondents in areas outside the survey sample. During the main training, all anthropometrists underwent a rigorous standardisation process to ensure the accuracy and precision of their anthropometric measurements. Practice standardisation exercises were conducted with children age 0-59 months.

The paper-based field practice was conducted for 3 days and included the anthropometry component. Debriefing sessions were held with the field staff, and modifications to the paper questionnaires were made based on lessons drawn from the exercise. Teams carried out CAPI field practice over 4 days, also including the anthropometry component. Furthermore, regional coordinators, field supervisors, and CAPI supervisors were trained in data quality control procedures and fieldwork coordination.

In addition, field supervisors were trained to administer the Health Facility Questionnaire and to perform as assistants to the anthropometrists. Both the anthropometrists and the field supervisors learned how to calibrate the digital scales and height boards and how to monitor the technical aspects of the anthropometry data collection using a system of checklists.

1.7 FIELDWORK

Twenty-five interviewing teams carried out data collection for the 2019 EMDHS. Each team consisted of one field supervisor, one female CAPI supervisor, two female interviewers, and one female anthropometrist. In addition to the field teams, 11 regional coordinators were assigned, one for each region. The regional coordinator regularly visited and remained with respective teams throughout the fieldwork period to supervise and monitor their work and progress. Moreover, 10 staff members from EPHI coordinated and supervised fieldwork activities. EPHI researchers, an ICF technical specialist, a consultant, and representatives from other organisations, including CSA, FMoH, the World Bank, and USAID, supported the fieldwork monitoring. Data collection took place over a 3-month period, from March 21, 2019, to June 28, 2019.

1.8 HEALTH FACILITY VISITS

In the 2019 EMDHS, data on vaccination coverage were obtained from health facility records in addition to information written on vaccination records, including the infant immunisation card and other health cards, and information gathered from mothers' verbal reports.

During the individual interview, mothers were asked to report vaccinations received by their children born in the last 3 years. For each child born in the 3 years before the survey, mothers were asked to show the interviewer the infant immunisation card or health card used to record the child's immunisations. If the infant immunisation card or other health card was available, the interviewer copied the dates of each vaccination received in the respective section of the Woman's Questionnaire. If a vaccination was not recorded on the infant immunisation card or the health card, the mother was asked to recall whether that particular vaccination had been administered. If the mother was not able to present the child's infant immunisation card, she was asked to recall whether the child had received the BCG, polio, DPT-HepB-Hib, measles, pneumococcal, and rotavirus vaccines. If she indicated that the child had received the polio, DPT-HepB-Hib, pneumococcal, measles, or rotavirus vaccine, she was asked the number of doses that the child received.

If the mother did not have the infant immunisation card or health card available and the child had visited a health facility, the field supervisor went to the health facility to collect the relevant vaccination records. The purpose of obtaining information at the health facility was to complement the immunisation information based on mothers' recall.

1.9 DATA PROCESSING

All electronic data files were transferred via the secure internet file streaming system (IFSS) to the EPHI central office in Addis Ababa, where they were stored on a password-protected computer. The data processing operation included secondary editing, which required resolution of computer-identified inconsistencies and coding of open-ended questions. The data were processed by EPHI staff members and an ICF consultant who took part in the main fieldwork training. They were supervised remotely by staff from The DHS Program. Data editing was accomplished using CSPro System software. During the fieldwork, field-check tables were generated to check various data quality parameters, and specific feedback was given to the teams to improve performance. Secondary editing, double data entry from both the anthropometry and health facility questionnaires, and data processing were initiated in April 2019 and completed in July 2019.

1.10 RESPONSE RATES

Table 1.1 shows response rates for the 2019 EMDHS. A total of 9,150 households were selected for the sample, of which 8,794 were occupied. Of the occupied households, 8,663 were successfully interviewed, yielding a response rate of 99%.

In the interviewed households, 9,012 eligible women were identified for individual interviews; interviews were completed with 8,885 women, yielding a response rate of 99%. Overall, there was little variation in response rates according to residence; however, rates were slightly higher in rural than in urban areas.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Ethiopia Mini-DHS 2019

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	2,790	6,360	9,150
Households occupied	2,698	6,096	8,794
Households interviewed	2,645	6,018	8,663
Household response rate[1]	98.0	98.7	98.5
Interviews with women age 15-49			
Number of eligible women	2,999	6,013	9,012
Number of eligible women interviewed	2,951	5,934	8,885
Eligible women response rate[2]	98.4	98.7	98.6

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

HOUSING CHARACTERISTICS AND HOUSEHOLD POPULATION 2

Key Findings

- ***Drinking water:*** In Ethiopia, 87% of urban households have access to an improved source of drinking water, as compared with 61% of rural households.
- ***Electricity:*** Eighty-three percent of urban households and 14% of rural households have access to electricity.
- ***Household population and composition:*** Forty-four percent of Ethiopians are under age 15, while 4% are age 65 and older.

Information on the socioeconomic characteristics of the household population in the 2019 EMDHS provides a 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 sources of drinking water, sanitation, wealth, household status and resiliency, household population and composition, and women's educational attainment.

2.1 DRINKING WATER SOURCES AND TREATMENT

Basic drinking water service

Drinking water from an improved source, provided either water is on the premises or round-trip collection time is 30 minutes or less.

Sample: De jure population

Limited drinking water service

Drinking water from an improved source, and round-trip collection time is more than 30 minutes.

Sample: De jure population

In Ethiopia, 69% of households have access to an improved source of drinking water, including 87% of urban households and 61% of rural households (**Table 2.1.1**). Urban and rural households rely on different sources of drinking water. The three most common sources of drinking water in urban households are water piped into the household's dwelling, yard, or plot (40%); water piped into a public tap/standpipe (30%); and water piped to a neighbour (9%). By contrast, rural households obtain their drinking water mainly from public taps/standpipes (31%) and protected springs (13%) (**Table 2.1.1** and **Figure 2.1**).

In urban areas, 53% of households have water on their premises, as compared with 7% of rural households. Fetching drinking water is a chore of great cost to household members depending on the time spent to obtain it. Twenty-eight percent of rural households travel 30 minutes or longer, round trip, to fetch drinking water.

Figure 2.1 **Household drinking water by residence**

Percent distribution of households by source of drinking water

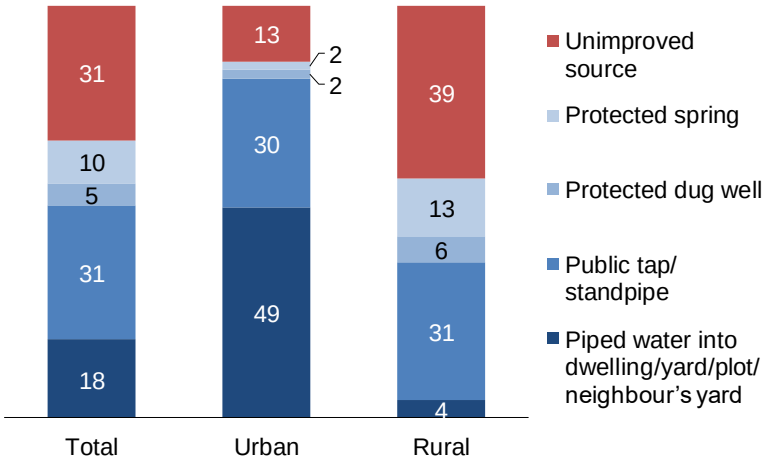


Table 2.1.2 presents information on drinking water according to region and wealth. By region, the percentage of the population with an improved source of drinking water ranges from 47% in Somali to 99% in Addis Ababa. Access to an improved source of drinking water increases with increasing wealth, from 37% among those in the lowest wealth quintile to 93% among those in the highest quintile. Similarly, the percentage of the population with basic drinking water service ranges from 26% in Somali to 94% in Addis Ababa. Basic drinking water service also increases with increasing wealth. Twenty-five percent of those in the lowest wealth quintile have basic drinking water service, as compared with 87% of those in the highest quintile.

2.2 SANITATION

Improved toilet facilities

Include any non-shared toilet of the following types: flush/pour flush toilets to a piped sewer system, septic tank, pit latrine, or unknown destination; ventilated improved pit (VIP) latrines; pit latrines with slabs; and composting toilets.

Sample: Households

Unimproved toilet facilities

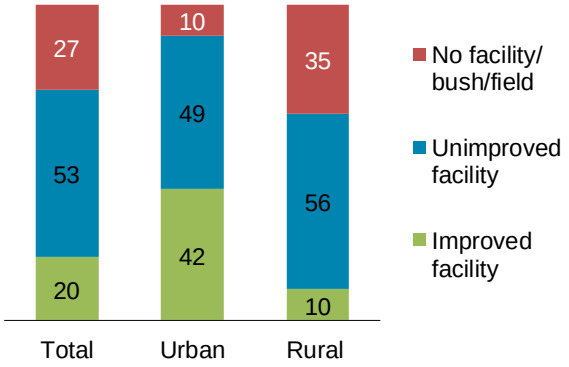
Include any toilet of the following types shared by two or more households: flush/pour flush not to a sewer/septic tank/pit latrine, pit latrines without slabs/open pits, buckets, hanging toilets/hanging latrines, and other.

Sample: Households

Overall, 20% of Ethiopian households use improved toilet facilities (42% in urban areas and 10% in rural areas) (**Table 2.2.1**). More than half (56%) of rural households use unimproved toilet facilities. More than one in four households (27%) in Ethiopia have no toilet facility (35% in rural areas and 10% in urban areas) (**Figure 2.2**).

Figure 2.2 **Household sanitation facilities by residence**

Percent distribution of households by type of toilet facilities



Patterns by background characteristics

- By region, the percentage of households with an improved sanitation facility ranges from a low of 10% in SNNPR to a high of 82% in Addis Ababa (**Table 2.2.2**). Access to an improved sanitation facility increases with increasing wealth, from 5% among households in the lowest wealth quintile to 54% among those in the highest quintile.
- Open defecation is most prevalent in Afar (70%) and least prevalent in Addis Ababa (2%).
- The percentage of households with basic sanitation service rises from 6% in Somali to 49% in Addis Ababa. Basic sanitation service also increases with increasing wealth, from 3% in the lowest wealth quintile to 30% in the highest quintile. Similarly, households in the highest wealth quintile are more likely to have limited sanitation service (24%) than those in the lowest and middle quintiles (2% each).

2.3 HOUSEHOLD WEALTH

Wealth index

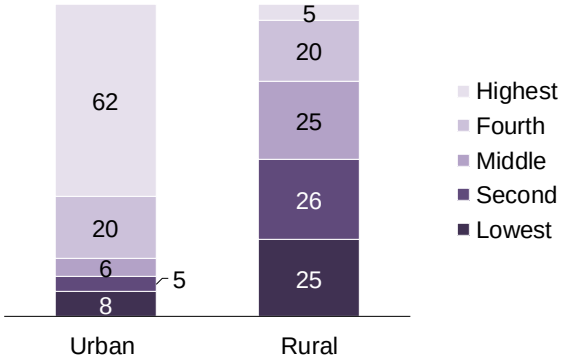
Households are given scores based on the number and kinds of consumer goods they own, ranging from a television to a bicycle or car, and housing characteristics such as source of drinking water, toilet facilities, and flooring materials. These scores are derived using principal component analysis. National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

Sample: Households

Table 2.3 presents wealth quintiles according to residence and region. Included in the table is the Gini coefficient, which indicates the level of concentration of wealth. The Gini coefficient ranges from 0-1, with 0 representing an equal distribution and 1 representing a totally unequal distribution. The wealthiest households are concentrated in urban areas (62%) (**Figure 2.3**). Approximately half of the rural population (51%) falls into the lowest two wealth quintiles. By region, the wealthiest households are concentrated in Addis Ababa (99%) and the poorest households in Somali (70%) and Afar (66%). In Ethiopia, the Gini coefficient is 0.27 (0.26 in urban areas and 0.22 in rural areas). Tigray has the highest Gini coefficient (0.46), while Addis Ababa has the lowest (0.13) (**Table 2.3**).

Figure 2.3 **Household wealth by residence**

Percent distribution of de jure population by wealth quintiles



2.3.1 Other Housing Characteristics

The 2019 EMDHS also collected data on access to electricity and flooring materials. Thirty-five percent of households in Ethiopia have access to electricity (83% in urban areas and 14% in rural areas) (**Table 2.4**).

Overall, the two most commonly used materials for flooring in Ethiopia are earth or sand (70%) and dung (10%). Flooring materials differ widely in urban and rural areas. Earth or sand (51%), cement (15%), carpet (14%), and vinyl or asphalt strips (11%) are most often used in urban households, whereas households in rural areas primarily use earth or sand (78%) and dung (14%).

2.3.2 Household Durable Goods

In addition, the survey collected information on household effects, means of transportation, and ownership of agricultural land and farm animals. In general, urban households are more likely than rural households to possess household effects. The most commonly found item in households is a mobile phone (68%); 87% of urban households and 59% of rural households own a mobile phone. As expected, rural households are more likely than urban households to own agricultural land and farm animals. For example, 31% of urban households own farm animals, as compared with 85% of rural households (**Table 2.5**).

2.4 Household Status and Resiliency

Table 2.6 presents information about household status and resiliency collected in the 2019 EMDHS. Questions on this topic included whether respondents have bank accounts, participate in government subsistence or health insurance programmes, and own or rent their homes.

2.4.1 Bank Account or Microfinance Account

Among the 8,663 households surveyed, 4 out of 10 (41%) reported having bank or microfinance accounts (67% of urban households and 29% of rural households).

At the population level, 39% of Ethiopians have a bank or microfinance account, and 62% do not.

2.4.2 Productive Safety Net Programme

The Productive Safety Net Programme (PSNP) is a social protection programme that was initiated in Africa. It provides food and cash transfers to chronically insecure households and builds community assets through labour-intensive public works that also provide employment for the poor, especially in food-insecure parts of rural Ethiopia.

The 2019 EMDHS included one question at the household level to obtain data on whether a household was participating in the PSNP at the time of the survey. The results indicated that only 14% of households were participating in the programme. Ninety-one percent of urban households and 85% of rural households were not participating in the PSNP. At the population level, 15% of Ethiopians were participating in the programme (16% of the rural population and 11% of the urban population).

2.4.3 Health Insurance Coverage

Ethiopia implemented the community-based health insurance (CBHI) scheme in 2011, aimed at reaching the very large rural agricultural sector and covering the small and informal sectors in urban settings. The overall objectives of insurance coverage are to promote equitable access to sustainable quality health care, increase financial protection, and enhance social inclusion for Ethiopian families via the health sector. The CBHI benefit package covers all outpatient and inpatient services at the health centre and hospital levels other than procedures related to dentures, eyeglasses, and cosmetics (USAID/HFG 2015).

The 2019 EMDHS results show that 28% of households are enrolled in the community-based health insurance scheme. Rural households (32%) are more likely to be enrolled than urban households (19%). At the population level, 3 out of 10 (28%) Ethiopians are enrolled, while 72% are not.

2.4.4 Household Ownership Status

The 2019 EMDHS also collected information on household ownership, whether free of charge, subsidised, or rented. Among the 8,663 households surveyed in Ethiopia, 80% are owned, 15% are rented, and 5% are free or subsidised. Thirty-nine percent of urban households are rented, as compared with just 4% of rural households.

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, regardless of where they stayed the night before the interview.

How data are calculated

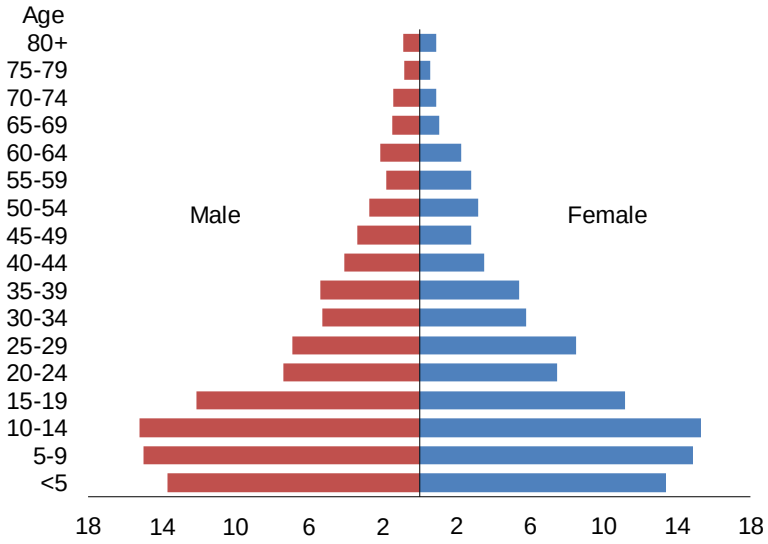
All tables are based on the de facto population, unless otherwise specified.

Household composition and population data provide information on age, sex, and residence. They also provide information on dependency (or non-working) groups in Ethiopia that affect household wealth due to the nation's age structure.

A total of 40,280 individuals stayed overnight in the 8,663 households interviewed in the 2019 EMDHS. About 50% of these individuals were female, and 50% were male (**Table 2.7**). Children under age 15 represent 44% of the population, while individuals age 15-64 represent 52%; 4% of Ethiopians are age 65 or older. The population pyramid in **Figure 2.4** shows the population distribution by 5-year age groups, separately for males and females. The broad base of the pyramid indicates that Ethiopia's population is young, which is typical of countries with low life expectancies and high fertility rates.

Figure 2.4 **Population pyramid**

Percent distribution of the household population



The average household size in Ethiopia is 4.7 persons (**Table 2.8**). Urban households are slightly smaller than rural households (4.1 persons versus 5.0 persons). Men head most Ethiopian households (78%), with 22% headed by women.

Trends: The age distribution of the household population differs from previous years. Children under age 15 represented 47% of the population in 2011 and 2016, as compared with 44% in 2019. No change occurred for individuals age 65 and older, who account for 4% of the population. Average household size remained nearly the same from 2000 to 2019 (4.8 persons versus 4.7 persons). The percentage of female-headed households decreased from 25% in 2016 to 22% in 2019.

2.6 EDUCATION

Education is one of the most important aspects of social and economic development. Education improves capabilities and is strongly associated with various socioeconomic variables such as lifestyle, income, and fertility for both individuals and societies.

Median educational attainment

Half of the population has completed less than the median number of years of schooling, and half of the population has completed more than the median number of years of schooling.

Sample: De facto female household population age 6 and older

Overall, 43% of females age 6 and older have never attended school (**Table 2.9**). Among most of the female population, primary school is the highest level of schooling attended or completed; 43% of females age 6 or older have completed some primary schooling, and 4% have completed their primary education. Only 1% of women have completed secondary school, and 3% have more than a secondary education. The median number of years of education for Ethiopian women is 0.6 years.

Trends: Female educational attainment has improved since the first Ethiopia DHS in 2000. The percentage of females age 6 and older with no education decreased from 77% in 2000 to 43% in 2019.

Patterns by background characteristics

- Urban residents are much more likely than rural residents to be educated. Thirty percent of females age 6 and older in urban areas have no education, as compared with 48% of females in rural areas.
- Addis Ababa has the lowest proportion of females with no education (19%), while Somali has the highest proportion (65%).
- Women in the highest wealth quintile (12%) are more likely than women in the lowest wealth quintile (<1%) to have more than a secondary education. Women with no education are more likely to live in poverty. Fifty-nine percent of women in the lowest wealth quintile have no education, compared with 24% of women in the highest quintile.

LIST OF TABLES

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

- **Table 2.1.1 Household drinking water**
- **Table 2.1.2 Drinking water according to region and wealth**
- **Table 2.2.1 Household sanitation facilities**
- **Table 2.2.2 Sanitation facility type according to region and wealth**
- **Table 2.3 Wealth quintiles**
- **Table 2.4 Household characteristics**
- **Table 2.5 Household possessions**
- **Table 2.6 Household status and resiliency**
- **Table 2.7 Household population by age, sex, and residence**
- **Table 2.8 Household composition**
- **Table 2.9 Educational attainment of the female household population**

Table 2.1.1 Household drinking water

Percent distribution of households and de jure population by source of drinking water and by time to obtain drinking water, percentage of households and de jure population with basic drinking water service, and percentage with limited drinking water service, according to residence, Ethiopia Mini-DHS 2019

	Households			Population		
Characteristic	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	**87.3**	**60.5**	**68.7**	**85.2**	**60.7**	**67.3**
Piped into dwelling/yard/plot	40.0	2.3	13.9	36.7	2.2	11.5
Piped to neighbour	8.5	1.7	3.8	6.9	1.4	2.9
Public tap/standpipe	30.4	30.8	30.7	32.9	30.8	31.4
Tube well or borehole	0.7	5.4	3.9	0.6	4.9	3.7
Protected dug well	1.5	6.4	4.9	1.9	6.6	5.3
Protected spring	2.1	13.2	9.8	2.0	14.0	10.8
Rainwater	0.2	0.5	0.4	0.2	0.6	0.5
Tanker truck/cart with small tank	1.1	0.2	0.5	1.7	0.2	0.6
Bottled water	2.8	0.0	0.9	2.2	0.0	0.6
Unimproved source	**12.7**	**39.1**	**31.0**	**14.8**	**39.1**	**32.5**
Unprotected dug well	1.9	5.9	4.6	2.8	6.0	5.2
Unprotected spring	3.9	18.0	13.7	4.6	17.3	13.9
Surface water	6.8	15.2	12.7	7.4	15.8	13.5
Other	0.0	0.4	0.3	0.0	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Time to obtain drinking water (round trip)						
Water on premises[1]	52.8	6.6	20.8	47.3	6.2	17.3
30 minutes or less	31.7	64.7	54.6	34.8	63.3	55.6
More than 30 minutes	15.4	28.3	24.4	17.9	30.3	26.9
Don't know/missing	0.0	0.3	0.2	0.0	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage with basic drinking water service[2]	78.7	47.3	56.9	75.3	46.4	54.2
Percentage with limited drinking water service[3]	8.6	13.1	11.7	9.8	14.3	13.0
Number of households/ population	2,664	5,999	8,663	11,051	29,878	40,929

[1] Includes water piped to a neighbour and those reporting a round-trip collection time of zero minutes
[2] Defined as drinking water from an improved source, provided either water is on the premises or round-trip collection time is 30 minutes or less. Includes safely managed drinking water, which is not shown separately.
[3] Drinking water from an improved source, and round-trip collection time is more than 30 minutes.

Table 2.1.2 Drinking water according to region and wealth

Percent distribution of de jure population by drinking water source, percentage of de jure population with basic drinking water service, and percentage with limited drinking water service, according to region and wealth quintile, Ethiopia Mini-DHS 2019

Background characteristic	Improved source of drinking water[1]	Unimproved source of drinking water[2]	Other/missing	Total	Percentage with basic drinking water service[3]	Percentage with limited drinking water service[4]	Number of persons
Region							
Tigray	75.4	24.6	0.0	100.0	65.5	10.0	2,509
Afar	54.5	45.3	0.2	100.0	38.7	15.2	418
Amhara	65.0	35.0	0.1	100.0	57.0	7.9	8,358
Oromia	65.2	34.4	0.3	100.0	51.5	13.7	16,575
Somali	47.1	52.7	0.1	100.0	25.6	21.0	2,531
Benishangul-Gumuz	82.9	17.1	0.0	100.0	73.8	9.0	439
SNNPR	71.4	28.6	0.0	100.0	54.2	17.2	8,243
Gambela	69.2	30.8	0.0	100.0	63.7	4.7	157
Harari	85.3	14.7	0.0	100.0	65.4	20.0	111
Addis Ababa	98.7	1.2	0.1	100.0	93.7	5.0	1,349
Dire Dawa	85.1	14.9	0.0	100.0	80.1	4.9	239
Wealth quintile							
Lowest	37.2	62.7	0.0	100.0	24.9	12.2	8,185
Second	58.1	41.9	0.0	100.0	42.9	15.1	8,187
Middle	69.7	30.3	0.0	100.0	54.5	15.2	8,188
Fourth	78.9	20.4	0.7	100.0	62.0	16.9	8,169
Highest	92.5	7.4	0.1	100.0	86.6	5.9	8,200
Total	67.3	32.5	0.2	100.0	54.2	13.0	40,929

[1] See Table 2.1.1 for definition of an improved source.
[2] See Table 2.1.1 for definition of an unimproved source.
[3] Defined as drinking water from an improved source, provided either water is on the premises or round-trip collection time is 30 minutes or less. Includes safely managed drinking water, which is not shown separately.
[4] Drinking water from an improved source, and round-trip collection time is more than 30 minutes.

Table 2.2.1 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, percent distribution of households and de jure population with a toilet/latrine facility by location of the facility, percentage of households and de jure population with basic sanitation services, and percentage with limited sanitation services, according to residence, Ethiopia Mini-DHS 2019

Type and location of toilet/latrine facility	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Improved sanitation facility	**41.6**	**9.7**	**19.5**	**41.0**	**9.1**	**17.7**
Flush/pour flush to piped sewer system	1.5	0.0	0.4	1.6	0.0	0.4
Flush/pour flush to septic tank	4.7	0.0	1.5	4.3	0.0	1.2
Flush/pour flush to pit latrine	5.2	3.7	4.1	4.2	3.4	3.6
Flush/pour flush, don't know where	0.0	0.1	0.1	0.1	0.0	0.1
Ventilated improved pit (VIP) latrine	2.6	0.5	1.1	2.7	0.4	1.0
Pit latrine with slab	27.3	4.4	11.4	27.8	4.1	10.5
Composting toilet	0.3	1.1	0.9	0.3	1.1	0.9
Unimproved facility						
Unimproved sanitation facility	**48.7**	**55.5**	**53.4**	**48.9**	**55.6**	**53.8**
Flush/pour flush not to sewer/ septic tank/pit latrine	0.8	0.0	0.3	0.9	0.0	0.3
Pit latrine without slab/open pit	47.2	55.1	52.7	47.0	55.2	53.0
Bucket	0.1	0.0	0.0	0.1	0.0	0.0
Hanging toilet/hanging latrine	0.0	0.0	0.0	0.1	0.0	0.0
Other	0.7	0.3	0.4	0.9	0.3	0.5
Open defecation (no facility/ bush/field)	9.7	34.8	27.1	10.1	35.4	28.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/population	2,664	5,999	8,663	11,051	29,878	40,929
Location of toilet facility						
In own dwelling	7.9	0.4	3.2	7.7	0.5	2.9
In own yard/plot	85.3	87.2	86.5	84.9	87.6	86.7
Elsewhere	6.8	12.4	10.3	7.4	11.9	10.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/population with a toilet/latrine facility	2,406	3,910	6,316	9,932	19,313	29,245
Percentage with basic sanitation service[1]	18.7	6.5	10.2	21.7	6.7	10.8
Percentage with limited sanitation service[2]	22.8	3.1	9.2	19.1	2.3	6.9
Number of households/population	2,664	5,999	8,663	11,051	29,878	40,929

[1] Defined as use of improved facilities that are not shared with other households. Includes safely managed sanitation service, which is not shown separately.
[2] Defined as use of improved facilities shared by 2 or more households

Table 2.2.2 Sanitation facility type according to region and wealth

Percent distribution of de jure population by type of sanitation, percentage of de jure population with basic sanitation service, and percentage with limited sanitation service, according to region and wealth quintile, Ethiopia Mini-DHS 2019

Background characteristic	Type of sanitation			Total	Percentage with basic sanitation service[3]	Percentage with limited sanitation service[4]	Number of persons
	Improved sanitation facility[1]	Unimproved sanitation facility[2]	Open defecation				
Region							
Tigray	29.5	19.8	50.7	100.0	15.4	14.1	2,509
Afar	16.3	14.0	69.7	100.0	6.8	9.4	418
Amhara	17.7	48.0	34.3	100.0	12.4	5.2	8,358
Oromia	12.6	61.5	25.9	100.0	7.9	4.8	16,575
Somali	26.4	8.8	64.9	100.0	5.8	19.9	2,531
Benishangul-Gumuz	12.7	71.1	16.2	100.0	10.8	1.9	439
SNNPR	9.7	77.2	13.2	100.0	8.2	1.5	8,243
Gambela	14.6	40.1	45.3	100.0	6.8	7.7	157
Harari	41.1	36.9	22.1	100.0	22.7	17.9	111
Addis Ababa	82.1	15.9	2.1	100.0	49.1	33.0	1,349
Dire Dawa	70.5	11.1	18.4	100.0	37.3	33.1	239
Wealth quintile							
Lowest	5.2	26.7	68.1	100.0	3.2	1.9	8,185
Second	8.7	54.8	36.5	100.0	6.1	2.6	8,187
Middle	9.0	67.4	23.6	100.0	7.2	1.8	8,188
Fourth	11.9	77.6	10.5	100.0	7.4	4.4	8,169
Highest	53.7	42.2	4.1	100.0	29.9	23.6	8,200
Total	17.7	53.8	28.5	100.0	10.8	6.9	40,929

[1] See Table 2.2.1 for definition of an improved facility.
[2] See Table 2.2.1 for definition of an unimproved facility.
[3] Defined as use of improved facilities that are not shared with other households. Includes safely managed sanitation service, which is not shown separately.
[4] Defined as use of improved facilities shared by 2 or more households

Table 2.3 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, and the Gini coefficient, according to residence and region, Ethiopia Mini-DHS 2019

Residence/region	Wealth quintile					Total	Number of persons	Gini coefficient
	Lowest	Second	Middle	Fourth	Highest			
Residence								
Urban	7.5	4.8	5.7	20.3	61.7	100.0	11,051	0.26
Rural	24.6	25.6	25.3	19.8	4.6	100.0	29,878	0.22
Region								
Tigray	18.8	15.9	14.8	14.3	36.1	100.0	2,509	0.46
Afar	66.1	4.4	4.7	5.7	19.0	100.0	418	0.40
Amhara	13.9	24.1	25.0	18.7	18.3	100.0	8,358	0.42
Oromia	18.2	22.4	21.1	19.8	18.4	100.0	16,575	0.35
Somali	69.6	9.9	4.0	6.3	10.1	100.0	2,531	0.31
Benishangul-Gumuz	28.5	22.9	21.2	16.4	10.8	100.0	439	0.35
SNNPR	15.7	19.8	24.0	31.9	8.6	100.0	8,243	0.19
Gambela	21.8	16.0	12.2	19.6	30.4	100.0	157	0.44
Harari	5.2	11.4	11.2	15.7	56.5	100.0	111	0.42
Addis Ababa	0.0	0.0	0.0	1.0	99.0	100.0	1,349	0.13
Dire Dawa	16.2	7.6	2.1	3.9	70.2	100.0	239	0.29
Total	20.0	20.0	20.0	20.0	20.0	100.0	40,929	0.27

Table 2.4 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, Ethiopia Mini-DHS 2019

	Households			Population		
Housing characteristic	Urban	Rural	Total	Urban	Rural	Total
Electricity						
Yes	82.9	13.7	35.0	81.2	12.4	31.0
No	17.1	86.3	65.0	18.8	87.6	69.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Flooring material						
Earth, sand	51.3	77.6	69.5	52.2	78.7	71.6
Dung	2.7	13.9	10.4	1.9	12.8	9.9
Wood/planks	0.1	0.1	0.1	0.1	0.1	0.1
Palm/bamboo	1.4	1.1	1.2	1.7	1.3	1.4
Parquet or polished wood	0.9	0.0	0.3	0.9	0.0	0.2
Vinyl or asphalt strips	10.7	2.2	4.8	11.1	1.8	4.3
Ceramic tiles	4.1	0.1	1.4	4.2	0.1	1.2
Cement	15.0	3.3	6.9	14.6	3.4	6.5
Carpet	13.8	1.5	5.3	13.3	1.6	4.8
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	66.3	71.2	69.7	55.2	66.4	63.4
Two	26.3	22.9	23.9	33.5	25.9	28.0
Three or more	7.4	5.9	6.3	11.3	7.6	8.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Place for cooking						
In the house	28.8	36.2	33.9	24.8	35.5	32.6
In a separate building	49.9	47.8	48.4	56.9	48.5	50.8
Outdoors	18.6	15.4	16.4	17.2	15.9	16.2
No food cooked in household	2.6	0.6	1.2	1.1	0.1	0.4
Other	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
Cooking fuel						
Electricity	19.7	0.9	6.7	18.1	0.6	5.3
LPG/natural gas/biogas	0.6	0.1	0.3	0.3	0.1	0.1
Kerosene	0.6	0.2	0.3	0.4	0.1	0.1
Charcoal	23.0	2.0	8.5	19.9	1.4	6.4
Wood	53.1	91.1	79.4	59.9	92.9	84.0
Straw/shrubs/grass	0.0	0.6	0.4	0.0	0.6	0.5
Agricultural crop	0.0	0.8	0.5	0.0	0.8	0.6
Animal dung	0.3	3.6	2.6	0.2	3.4	2.6
Other	0.1	0.0	0.0	0.0	0.0	0.0
No food cooked in household	2.6	0.6	1.2	1.1	0.1	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	76.4	98.1	91.4	80.0	99.1	94.0
Percentage using clean fuel for cooking[2]	20.3	1.0	7.0	18.5	0.7	5.5
Number of households/ population	2,664	5,999	8,663	11,051	29,878	40,929

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

Table 2.5 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land, and livestock/farm animals, by residence, Ethiopia Mini-DHS 2019

Possession	Residence		Total
	Urban	Rural	
Household effects			
Radio	36.2	24.1	27.8
Television	47.3	3.3	16.8
Mobile phone	87.4	59.1	67.8
Computer	8.7	0.4	2.9
Non-mobile telephone	5.7	0.1	1.8
Refrigerator	20.5	0.9	7.0
Watch	38.0	18.0	24.1
Table	66.4	35.8	45.2
Chair	72.5	48.8	56.1
Bed with cotton/sponge/spring mattress	62.8	24.3	36.1
Electric mitad	19.1	1.4	6.9
Kerosene lamp/pressure lamp	6.2	7.8	7.3
Means of transport			
Bicycle	7.1	1.3	3.1
Animal-drawn cart	3.2	2.3	2.6
Motorcycle/scooter	2.9	1.6	2.0
Car/truck	4.1	0.4	1.5
Bajaj	2.3	0.4	1.0
Ownership of agricultural land	**29.9**	**76.9**	**62.5**
Ownership of farm animals[1]	**31.0**	**84.6**	**68.1**
Number	**2,664**	**5,999**	**8,663**

[1] Cows, bulls, other cattle, horses, donkeys, mules, camels, goats, sheep, chickens or other poultry, and beehives

Table 2.6 Household status and resiliency

Percent distribution of households and de jure population with a bank account or microfinance savings account, and percent distribution of households and de jure population by Safety Net Programme participation, community-based health insurance scheme enrolment, and household ownership status, Ethiopia Mini-DHS 2019

Household status/resiliency	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Bank account or microfinance account						
Yes	67.1	29.0	40.7	67.8	27.7	38.5
No	32.9	71.0	59.3	32.2	72.3	61.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Safety Net Programme participation						
Yes	9.1	15.4	13.5	10.5	16.4	14.8
No	90.9	84.6	86.5	89.5	83.6	85.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Community-based health insurance scheme enrolment						
Yes	19.4	32.0	28.1	19.5	31.7	28.4
No	80.6	68.0	71.9	80.5	68.3	71.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Household ownership status						
Owned	55.7	91.2	80.3	65.2	94.1	86.3
Free of charge or subsidised	5.4	5.0	5.1	4.3	3.4	3.7
Rented	38.9	3.8	14.6	30.5	2.4	10.0
Other	0.0	0.1	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/ population	2,664	5,999	8,663	11,051	29,878	40,929

Table 2.7 Household population by age, sex, and residence

Percent distribution of the de facto household population by various age groups, according to sex and residence, Ethiopia Mini-DHS 2019

	Urban			Rural					
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	13.0	12.3	12.7	13.9	13.8	13.9	13.7	13.4	13.6
5-9	13.4	11.1	12.2	15.5	16.4	15.9	15.0	14.9	14.9
10-14	12.3	13.3	12.8	16.2	16.0	16.1	15.2	15.3	15.2
15-19	12.8	13.6	13.2	11.9	10.3	11.1	12.1	11.2	11.7
20-24	9.4	9.9	9.6	6.7	6.6	6.6	7.4	7.5	7.4
25-29	8.6	10.2	9.4	6.3	7.8	7.1	6.9	8.5	7.7
30-34	6.3	6.7	6.5	4.9	5.4	5.2	5.3	5.8	5.5
35-39	6.6	5.4	6.0	5.0	5.4	5.2	5.4	5.4	5.4
40-44	3.7	3.2	3.4	4.3	3.6	4.0	4.1	3.5	3.8
45-49	4.0	3.0	3.5	3.2	2.7	2.9	3.4	2.8	3.1
50-54	2.8	2.6	2.7	2.7	3.4	3.0	2.7	3.2	2.9
55-59	1.4	3.2	2.3	2.0	2.7	2.3	1.8	2.8	2.3
60-64	2.0	2.0	2.0	2.1	2.5	2.3	2.1	2.3	2.2
65-69	1.4	0.6	1.0	1.5	1.2	1.4	1.5	1.1	1.3
70-74	0.8	1.0	0.9	1.7	0.8	1.3	1.4	0.9	1.2
75-79	0.7	0.7	0.7	0.8	0.6	0.7	0.8	0.6	0.7
80+	0.5	1.1	0.8	1.0	0.7	0.9	0.9	0.9	0.9
Don't know/missing	0.2	0.2	0.2	0.4	0.1	0.2	0.3	0.1	0.2
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	36.7	37.7	45.6	46.2	45.9	43.8	43.6	43.7
15-64	57.6	59.7	58.7	49.0	50.3	49.6	51.2	52.9	52.1
65+	3.5	3.4	3.4	5.0	3.4	4.2	4.6	3.4	4.0
Don't know/missing	0.2	0.2	0.2	0.4	0.1	0.2	0.3	0.1	0.2
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	46.3	44.2	45.3	53.3	52.6	53.0	51.5	50.3	50.9
18+	53.5	55.6	54.6	46.3	47.3	46.8	48.2	49.6	48.9
Don't know/missing	0.2	0.2	0.2	0.4	0.1	0.2	0.3	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Adolescents 10-19	25.1	27.0	26.1	28.0	26.3	27.2	27.3	26.5	26.9
Number of persons	5,306	5,538	10,844	14,971	14,466	29,437	20,276	20,004	40,280

Table 2.8 Household composition

Percent distribution of households by sex of head of household and by household size, and mean household size, according to residence, Ethiopia Mini-DHS 2019

	Residence		
Characteristic	Urban	Rural	Total
Household headship			
Male	68.9	82.0	77.9
Female	31.1	18.0	22.1
Total	100.0	100.0	100.0
Number of usual members			
0	0.0	0.1	0.1
1	10.4	4.6	6.4
2	16.8	9.8	12.0
3	17.6	14.2	15.3
4	16.3	16.7	16.6
5	14.5	14.9	14.7
6	9.7	14.7	13.2
7	6.2	10.8	9.4
8	3.4	7.6	6.3
9+	5.1	6.6	6.2
Total	100.0	100.0	100.0
Mean size of households	4.1	5.0	4.7
Number of households	2,664	5,999	8,663

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

Table 2.9 Educational attainment of the female household population

Percent distribution of the de facto female household population age 6 and over by highest level of schooling attended or completed and median years completed, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	No education	Some primary	Completed primary[1]	Some secondary	Completed secondary[2]	More than secondary	Don't know/ missing	Total	Number	Median years completed
Age										
6-9	53.7	46.3	0.0	0.0	0.0	0.0	0.0	100.0	2,540	0.0
10-14	12.1	85.7	1.0	1.1	0.0	0.1	0.0	100.0	3,057	2.3
15-19	9.6	57.9	9.2	19.8	0.3	3.2	0.0	100.0	2,243	5.5
20-24	18.7	38.1	11.2	16.4	1.8	13.8	0.0	100.0	1,497	6.0
25-29	37.9	34.0	6.7	13.0	0.8	7.7	0.0	100.0	1,694	2.9
30-34	61.1	24.1	3.7	4.8	1.5	4.8	0.0	100.0	1,153	0.0
35-39	67.1	24.1	2.2	2.8	1.1	2.7	0.0	100.0	1,076	0.0
40-44	67.8	25.0	2.9	2.0	0.8	1.5	0.0	100.0	704	0.0
45-49	69.7	24.4	1.1	1.1	1.9	1.6	0.2	100.0	554	0.0
50-54	84.0	9.9	1.6	2.7	0.9	0.7	0.1	100.0	630	0.0
55-59	84.7	11.0	1.9	0.0	0.4	1.9	0.0	100.0	566	0.0
60-64	93.6	4.2	0.0	1.4	0.4	0.3	0.0	100.0	470	0.0
65+	95.2	3.3	0.1	0.2	0.2	1.0	0.0	100.0	678	0.0
Don't know/ missing	*	*	*	*	*	*	*	100.0	18	*
Residence										
Urban	29.5	42.4	6.0	11.9	1.7	8.6	0.0	100.0	4,748	3.0
Rural	48.4	43.2	2.9	4.2	0.2	1.1	0.0	100.0	12,132	0.0
Region										
Tigray	38.9	35.6	4.7	11.9	1.4	7.4	0.1	100.0	1,062	1.8
Afar	57.6	36.2	1.1	2.7	0.4	1.9	0.1	100.0	152	0.0
Amhara	46.9	39.5	4.7	5.9	0.1	2.9	0.0	100.0	3,619	0.1
Oromia	41.2	47.0	3.7	6.0	0.3	1.7	0.0	100.0	6,695	0.7
Somali	65.4	27.8	2.3	3.3	0.4	0.8	0.0	100.0	970	0.0
Benishangul-Gumuz	40.5	46.3	2.9	4.9	0.1	5.3	0.0	100.0	183	0.6
SNNPR	42.5	47.5	2.6	5.1	0.4	1.8	0.0	100.0	3,340	0.5
Gambela	27.6	49.3	5.2	9.3	0.2	8.3	0.0	100.0	66	2.9
Harari	35.4	42.3	4.2	7.9	1.2	8.7	0.2	100.0	48	1.8
Addis Ababa	18.6	33.0	6.0	14.8	6.1	21.3	0.1	100.0	644	6.7
Dire Dawa	31.8	37.9	5.5	10.9	2.3	11.6	0.0	100.0	100	3.0
Wealth quintile										
Lowest	59.3	37.3	1.3	1.9	0.0	0.2	0.0	100.0	3,183	0.0
Second	50.9	44.4	2.4	2.0	0.0	0.2	0.0	100.0	3,310	0.0
Middle	46.7	44.9	2.8	4.5	0.2	0.8	0.0	100.0	3,336	0.1
Fourth	37.7	46.8	4.5	8.4	0.4	2.2	0.0	100.0	3,449	1.2
Highest	23.5	41.2	7.3	14.0	2.2	11.8	0.0	100.0	3,601	4.6
Total	43.1	43.0	3.8	6.4	0.6	3.2	0.0	100.0	16,879	0.6

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
[1] Completed 8th grade at the primary level
[2] Completed 4th year at the secondary level

CHARACTERISTICS OF RESPONDENTS 3

Key Findings

- ***Education:*** The percentage of women age 15-49 with no education has decreased since 2000, from 75% to 40%.
- ***Educational attainment:*** The percentage of women with some primary education increased from 14% in 2000 to 35% in 2019. Six percent of women have completed primary school, 11% have some secondary schooling, and 7% have completed secondary school or have more than a secondary education.
- ***Literacy:*** One in two (48%) women are literate, an increase from one in four (24%) women in 2000.
- ***Marital status:*** In Ethiopia, two in three (66%) women are currently in union (married or living together with a partner).

This chapter presents information on demographic and socioeconomic characteristics of the survey respondents such as age, religion, marital status, education, and wealth status. This information is useful in understanding the factors that affect use of reproductive health services, contraceptive use, and other health behaviours.

3.1 BASIC BACKGROUND CHARACTERISTICS OF SURVEY RESPONDENTS

The 2019 EMDHS interviewed 8,885 women age 15-49. **Table 3.1** shows the percent distribution of women by background characteristics. The majority of women are under age 30 (60%). In general, the percentage of women in the various age groups decreases as age increases; this pattern reflects the comparatively young age structure in Ethiopia, which is a result of high fertility in past decades.

The main religions in Ethiopia are Orthodox Christianity (42% of women) and Muslim (30%). Twenty-seven percent of women are Protestant.

Sixty-six percent of women are currently married or living together with a partner. Twenty-six percent of women have never been married, while 6% are divorced or separated and 2% are widowed.

A person's place of residence determines her or his access to services and information about health and other aspects of life. Two-thirds of women live in rural areas (68%), and one-third live in urban areas.

Eighty percent of women live in three major regions: Amhara, Oromia, and the Southern Nations, Nationalities, and Peoples' Region (SNNPR). Four in 10 women (40%) age 15-49 have no formal education, a decrease of eight percentage points from the figure reported in 2016 (48%).

3.2 EDUCATION AND LITERACY

Literacy

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

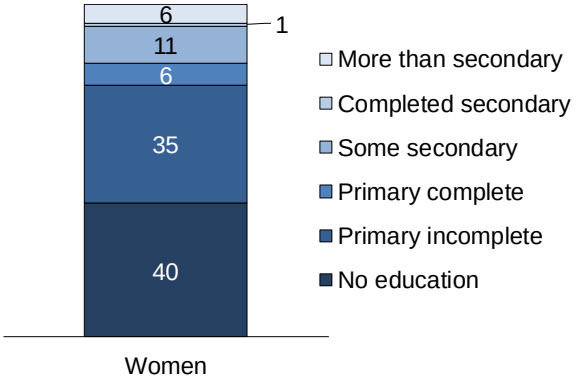
Sample: Women age 15-49

Education is an important factor influencing an individual's attitudes and opportunities. **Table 3.2** shows the distribution of women by highest level of schooling attended or completed, and median years completed, according to background characteristics. As noted, 40% of women have no formal education (**Figure 3.1**). Six percent of women have completed primary school, while 1% have completed a secondary education. Six percent of women have more than a secondary education.

Trends: The percentage of women with no education has decreased over the years, from 75% in 2000 and 66% in 2005 to 51% in 2011, 48% in 2016, and 40% in 2019.

Figure 3.1 **Education of survey respondents**

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



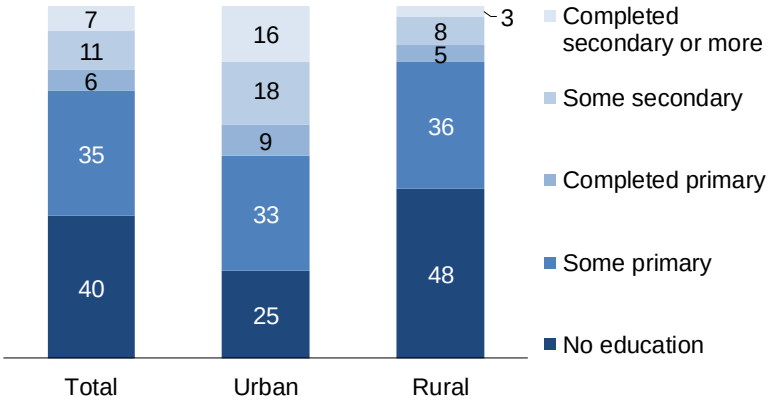
Patterns by background characteristics

- Younger respondents are more likely to have attended school and reached higher levels of education than older respondents. The percentage of women with no education increases steadily by age group, from 11% among those age 15-19 to 74% among those age 45-49, suggesting an improvement in women's education over time (**Table 3.2**).

- Urban women are better educated than rural women. Almost half (48%) of women in rural areas have never attended school, as compared with 25% of urban women. The urban-rural difference is more pronounced at the secondary and higher levels of education. Only 3% of women in rural areas have completed secondary schooling or higher, compared with 16% of women in urban areas (**Figure 3.1**).

Figure 3.2 **Education of survey respondents by residence**

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



Figures do not = 100 due to rounding.

- Educational attainment increases with increasing household wealth. About 6 in 10 (62%) women in the lowest wealth quintile have no education, as compared with 18% of women in the highest wealth quintile. Similarly, less than 1% of women in the lowest wealth quintile have completed secondary schooling or higher, compared with 20% of women in the highest quintile.

- Educational attainment varies across regions. Somali and Afar have the highest proportions of women with no education (72% and 64%, respectively), while Addis Ababa (13%) has the lowest proportion.
- Literacy among women decreases sharply with age, from 72% among those age 15-19 to 24% among those age 45-49 (**Table 3.3**).
- By region, the percentage of women who are literate is highest in Addis Ababa (84%) and lowest in Somali (12%).
- Literacy increases with increasing wealth, from 23% among women in the lowest wealth quintile to 75% among women in the highest quintile.

3.3 MARITAL STATUS

Currently married

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

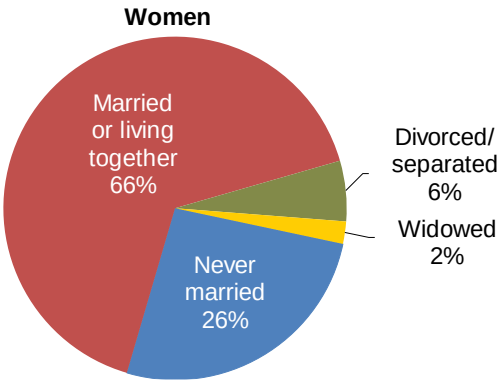
Sample: Women age 15-49

Marriage helps determine the extent to which women are exposed to the risk of pregnancy and is an important determinant of fertility levels. In Ethiopia, two in three (66%) women are currently married or living together with a partner (**Table 3.4** and **Figure 3.2**). One in four women (26%) have never been married, 6% are divorced or separated, and 2% are widowed.

Trends: The percentage of women who are currently in a union (married or living together) has remained relatively constant over time (64% in 2016 and 66% in 2019).

Figure 3.3 **Marital status**

Percent distribution of women age 15-49



Patterns by background characteristics

- There are marked differences in marital status by age. The percentage of women who have never been married generally decreases as age increases, from 75% among those age 15-19 to 2% among those age 45-49.
- The percentage of women currently in a union peaks at 89% among those age 30-34 and falls to 81% among those age 45-49.
- In general, the proportion of women who are divorced, separated, or widowed increases with age. Four percent of women age 15-19 are divorced or separated, as compared with 8% of women age 45-49. Similarly, less than 1% of women age 15-19 are widowed, compared with 9% of women age 45-49.

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For more information on the characteristics of survey respondents, see the following tables:

- **Table 3.1 Background characteristics of respondents**
- **Table 3.2 Educational attainment: Women**
- **Table 3.3 Literacy: Women**
- **Table 3.4 Current marital status**

Table 3.1 Background characteristics of respondents

Percent distribution of women age 15-49 by selected background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Number of women		
	Weighted percent	Weighted number	Unweighted number
Age			
15-19	24.9	2,210	2,100
20-24	16.7	1,481	1,578
25-29	18.8	1,667	1,752
30-34	13.1	1,160	1,166
35-39	12.0	1,065	1,037
40-44	8.3	739	714
45-49	6.3	563	538
Religion			
Orthodox	41.5	3,685	3,374
Catholic	0.5	47	78
Protestant	27.4	2,435	1,711
Muslim	29.5	2,619	3,635
Traditional	0.9	83	60
Other	0.2	15	27
Marital status			
Never married	26.2	2,325	2,300
Married	64.6	5,743	5,613
Living together	1.4	121	129
Divorced/separated	5.7	510	616
Widowed	2.1	185	227
Residence			
Urban	32.2	2,861	2,951
Rural	67.8	6,024	5,934
Region			
Tigray	7.1	629	733
Afar	1.0	85	641
Amhara	22.8	2,026	948
Oromia	37.7	3,347	1,052
Somali	4.7	420	640
Benishangul-Gumuz	1.1	98	747
SNNPR	19.2	1,705	1,008
Gambela	0.5	40	723
Harari	0.3	27	763
Addis Ababa	5.0	442	818
Dire Dawa	0.7	64	812
Education			
No education	40.4	3,589	3,640
Primary	41.7	3,701	3,345
Secondary	12.2	1,088	1,149
More than secondary	5.7	507	751
Wealth quintile			
Lowest	16.2	1,437	2,031
Second	18.2	1,615	1,341
Middle	18.8	1,671	1,268
Fourth	21.1	1,874	1,344
Highest	25.7	2,287	2,901
Total 15-49	100.0	8,885	8,885

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

Table 3.2 Educational attainment: Women

Percent distribution of women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Ethiopia Mini-DHS 2019

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	14.2	49.0	10.1	18.4	0.9	7.4	100.0	5.7	3,691
15-19	10.7	56.9	9.3	19.7	0.4	3.1	100.0	5.5	2,210
20-24	19.5	37.1	11.3	16.4	1.8	13.9	100.0	5.9	1,481
25-29	39.9	32.1	6.5	12.8	0.8	7.8	100.0	2.7	1,667
30-34	60.6	24.5	3.7	4.6	1.5	5.1	100.0	0.0	1,160
35-39	70.9	20.8	2.2	2.8	1.0	2.3	100.0	0.0	1,065
40-44	70.9	23.3	1.7	1.9	0.6	1.7	100.0	0.0	739
45-49	74.1	20.2	1.1	1.0	1.9	1.6	100.0	0.0	563
Residence									
Urban	24.5	33.0	8.6	18.2	2.4	13.4	100.0	6.1	2,861
Rural	47.9	36.4	5.3	7.9	0.4	2.1	100.0	0.6	6,024
Region									
Tigray	34.8	23.7	7.1	19.7	2.2	12.6	100.0	5.4	629
Afar	64.3	27.0	1.1	4.4	0.8	2.5	100.0	0.0	85
Amhara	46.4	29.8	8.2	10.3	0.2	5.0	100.0	1.8	2,026
Oromia	37.2	41.6	6.5	10.8	0.7	3.2	100.0	2.5	3,347
Somali	71.7	15.0	4.5	6.5	0.4	1.9	100.0	0.0	420
Benishangul-Gumuz	39.8	36.6	5.0	8.8	0.2	9.6	100.0	2.9	98
SNNPR	40.7	41.7	4.1	9.0	0.8	3.6	100.0	2.1	1,705
Gambela	21.1	41.9	9.0	14.9	0.4	12.6	100.0	5.6	40
Harari	32.6	31.6	6.4	12.9	1.2	15.3	100.0	4.5	27
Addis Ababa	13.3	24.8	7.9	20.1	7.3	26.5	100.0	8.6	442
Dire Dawa	26.9	28.7	7.3	16.5	2.9	17.6	100.0	6.2	64
Wealth quintile									
Lowest	62.1	31.3	2.8	3.6	0.0	0.2	100.0	0.0	1,437
Second	53.8	37.6	4.3	3.7	0.0	0.5	100.0	0.0	1,615
Middle	45.2	38.8	5.4	8.8	0.4	1.5	100.0	1.5	1,671
Fourth	35.9	38.2	7.1	14.0	0.8	4.0	100.0	3.3	1,874
Highest	17.5	31.2	10.3	20.8	3.0	17.3	100.0	7.1	2,287
Total	40.4	35.3	6.4	11.2	1.0	5.7	100.0	2.5	8,885

[1] Completed 8th grade at the primary level
[2] Completed 4th year at the secondary level

Table 3.3 Literacy: Women

Percent distribution of women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Higher than secondary schooling	No schooling, primary or secondary school: Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language	Blind/visually impaired	Total	Percentage literate[1]	Number of women
Age									
15-24	7.4	42.7	18.3	28.8	2.8	0.1	100.0	68.4	3,691
15-19	3.1	49.1	19.7	25.0	3.0	0.1	100.0	71.9	2,210
20-24	13.9	33.2	16.2	34.4	2.4	0.0	100.0	63.2	1,481
25-29	7.8	28.0	11.9	50.4	1.9	0.0	100.0	47.6	1,667
30-34	5.1	14.1	11.1	67.8	1.9	0.0	100.0	30.3	1,160
35-39	2.3	9.1	11.1	76.0	1.5	0.0	100.0	22.5	1,065
40-44	1.7	13.6	10.2	73.8	0.6	0.1	100.0	25.5	739
45-49	1.6	12.2	10.1	75.1	0.5	0.5	100.0	23.9	563
Residence									
Urban	13.4	39.8	13.6	31.0	2.2	0.0	100.0	66.8	2,861
Rural	2.1	22.2	14.3	59.4	1.9	0.1	100.0	38.6	6,024
Region									
Tigray	12.6	36.8	10.2	40.3	0.0	0.1	100.0	59.6	629
Afar	2.5	7.9	9.4	78.7	1.5	0.0	100.0	19.8	85
Amhara	5.0	34.7	10.1	50.0	0.0	0.2	100.0	49.8	2,026
Oromia	3.2	28.8	15.2	52.8	0.1	0.0	100.0	47.1	3,347
Somali	1.9	5.3	5.0	58.3	29.4	0.0	100.0	12.3	420
Benishangul-Gumuz	9.6	18.8	17.2	52.6	1.8	0.0	100.0	45.5	98
SNNPR	3.6	17.1	21.4	56.1	1.7	0.0	100.0	42.2	1,705
Gambela	12.6	16.6	9.0	27.7	34.1	0.0	100.0	38.2	40
Harari	15.3	28.8	9.7	46.2	0.0	0.0	100.0	53.8	27
Addis Ababa	26.5	45.6	11.8	14.9	1.2	0.0	100.0	84.0	442
Dire Dawa	17.6	32.4	10.1	38.6	1.3	0.0	100.0	60.1	64
Wealth quintile									
Lowest	0.2	11.6	11.5	70.2	6.4	0.0	100.0	23.3	1,437
Second	0.5	17.1	12.6	68.1	1.6	0.2	100.0	30.1	1,615
Middle	1.5	24.2	16.5	56.8	1.0	0.0	100.0	42.2	1,671
Fourth	4.0	32.2	16.5	46.1	1.1	0.1	100.0	52.7	1,874
Highest	17.3	44.8	13.0	23.8	1.0	0.0	100.0	75.2	2,287
Total	5.7	27.8	14.1	50.3	2.0	0.1	100.0	47.6	8,885

[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 3.4 Current marital status

Percent distribution of women age 15-49 by current marital status, according to age, Ethiopia Mini-DHS 2019

Age	Marital status: Never married	Married	Living together	Divorced	Separated	Widowed	Total	Percentage of respondents currently in union	Number of respondents
15-19	74.5	20.3	1.2	2.5	1.4	0.1	100.0	21.5	2,210
20-24	29.5	62.7	1.8	3.7	1.7	0.5	100.0	64.5	1,481
25-29	10.2	81.8	1.8	3.7	1.2	1.3	100.0	83.6	1,667
30-34	3.5	87.6	0.8	4.2	2.3	1.6	100.0	88.5	1,160
35-39	1.4	84.6	1.6	7.4	1.0	3.9	100.0	86.3	1,065
40-44	1.0	85.8	0.4	5.4	1.6	5.9	100.0	86.2	739
45-49	1.5	79.8	1.6	6.6	1.3	9.2	100.0	81.3	563
Total 15-49	26.2	64.6	1.4	4.2	1.5	2.1	100.0	66.0	8,885

FERTILITY DETERMINANTS 4

Key Findings

- ***Birth intervals:*** The median birth interval in Ethiopia is 35.8 months. The interval is longer in urban areas than in rural areas (38.6 months versus 35.1 months).
- ***Age at first birth:*** The median age at first birth among women age 25-49 is 18.7 years.

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 an important 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 fertility determinants in Ethiopia. It presents information on children ever born and living, birth intervals, and age at first birth. Information on the current level of fertility is not presented in this report.

4.1 CHILDREN EVER BORN AND LIVING

The 2019 EMDHS collected information on the number of children ever born to women age 15-49 and those still surviving at the time of the survey. On average, women age 45-49 have given birth to 6.7 children, of whom 5.6 survived to the time of the survey (a difference of 1.1).

Of the 7.0 children on average born to currently married women age 45-49, 5.9 survived to the time of the survey. In Ethiopia, 2% of currently married women age 45-49 have never given birth. Since voluntary childlessness is rare, this is often viewed as a measure of primary sterility (**Table 4.1**).

4.2 BIRTH INTERVALS

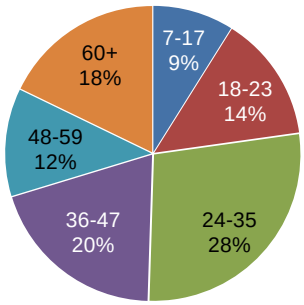
Median birth interval
Number of months since the preceding birth by which half of children are born.
Sample: Non-first births in the 5 years before the survey

Short birth intervals, particularly those less than 24 months, place both newborns and their mothers at increased health risk. The median birth interval in Ethiopia is 35.8 months; thus, half of non-first births occur within 3 years of the first birth (**Table 4.2**). About one in four births (28%) occur within 24-35 months of the previous birth, and one in five births (20%) occur within 36-47 months of the previous birth (**Figure 4.1**).

Trends: There have been no substantial differences in median birth intervals over the last 20 years. From 2000 to 2019, the median birth interval increased slightly but steadily. Median intervals were 33.6 months in 2000, 33.8 months in 2005, 33.9 months in 2011, 34.5 months in 2016, and 35.8 months in 2019.

Figure 4.1 **Birth intervals**

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



Note: Percentages do not sum to 100 due to rounding.

Patterns by background characteristics

- Births to older women occur after longer intervals than births to younger women. The median birth interval among women age 40-49 is nearly 14 months longer than the median birth interval among women age 15-19 (41.0 months versus 27.3 months) (**Table 4.2**).
- The median birth interval is 15 months longer if the child from the preceding birth is living than if the child has died (36.5 months versus 21.6 months). In contrast, there is little difference (less than 1 month) in the median birth interval by sex of the preceding child.
- The median birth interval is 3.5 months longer in urban areas than in rural areas (38.6 versus 35.1 months).
- The median birth interval increases from 34.8 months among women with no education to 43.8 months among women with a secondary education before decreasing to 39.3 months among women with more than a secondary education.
- Median birth intervals increase with increasing wealth. The birth interval among women in the highest quintile is more than 12 months longer than the interval among women in the lowest quintile (43.3 months versus 30.9 months).

4.3 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 commences is an important determinant of the overall level of fertility as well as the health and well-being of the mother and child. In Ethiopia, the median age at first birth among women age 25-49 is 18.7 years. This means that half of women age 25-49 give birth for the first time before age 19 (**Table 4.3**).

Trends: The median age at first birth increased slightly from 19.0 years in 2005 to 19.2 years in 2011 and 2016 before decreasing to 18.7 years in 2019.

Patterns by background characteristics

- Urban women age 25-49 begin childbearing 1.9 years later than their counterparts in rural areas (20.0 versus 18.1 years) (**Figure 4.2** and **Table 4.4**).
- By region, median age at first birth ranges from 17.5 years among women in Gambela to 21.5 years among women in Dire Dawa.
- Women with a secondary education begin childbearing almost 5 years later than women with no education (22.6 years versus 17.9 years) (**Figure 4.3**).

Figure 4.2 Median age at first birth by residence

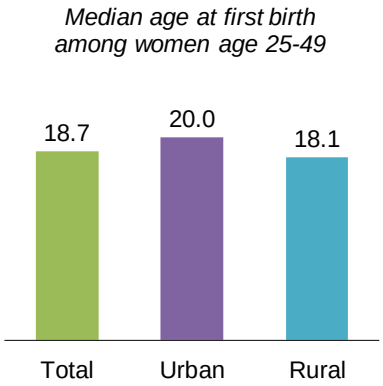
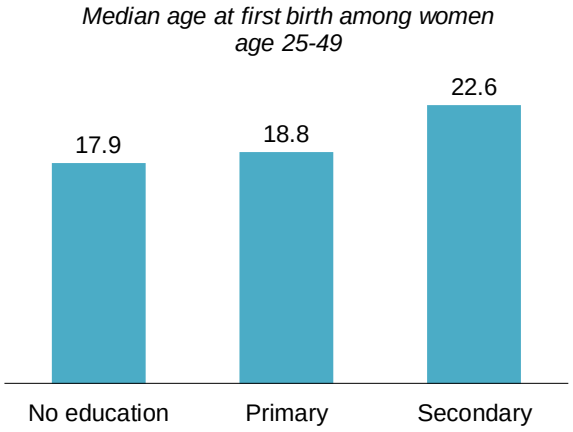


Figure 4.3 Median age at first birth by education



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

- **Table 4.1 Children ever born and living**
- **Table 4.2 Birth intervals**
- **Table 4.3 Age at first birth**
- **Table 4.4 Median age at first birth**

Table 4.1 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, Ethiopia Mini-DHS 2019

Age	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	89.7	8.6	1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,210	0.12	0.11
20-24	44.1	29.6	17.1	6.2	2.3	0.7	0.0	0.0	0.0	0.0	0.0	100.0	1,481	0.95	0.89
25-29	16.2	16.2	25.3	16.6	11.7	6.8	4.4	2.5	0.2	0.0	0.1	100.0	1,667	2.44	2.26
30-34	4.8	5.7	15.2	17.8	16.1	15.0	11.4	9.1	2.4	1.9	0.7	100.0	1,160	4.04	3.75
35-39	3.5	4.2	8.0	11.1	16.9	14.3	16.0	10.4	6.2	5.3	4.3	100.0	1,065	5.05	4.60
40-44	2.1	2.6	3.2	5.6	11.3	13.3	13.7	14.5	12.6	8.3	12.8	100.0	739	6.32	5.36
45-49	3.0	2.6	4.0	5.6	6.2	11.3	10.7	17.1	13.0	10.8	15.6	100.0	563	6.69	5.61
Total	34.1	11.7	11.4	8.6	8.0	6.9	6.1	5.2	3.0	2.3	2.7	100.0	8,885	2.73	2.44
CURRENTLY MARRIED WOMEN															
15-19	60.5	33.2	5.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	475	0.47	0.42
20-24	20.7	40.7	25.0	8.9	3.4	1.2	0.1	0.0	0.0	0.0	0.0	100.0	955	1.37	1.29
25-29	7.3	16.1	28.3	18.3	13.3	8.0	5.2	3.0	0.3	0.0	0.1	100.0	1,394	2.77	2.56
30-34	2.1	4.2	13.9	17.7	17.3	16.7	12.7	9.8	2.6	2.1	0.7	100.0	1,026	4.31	4.00
35-39	2.6	3.0	6.7	10.6	16.9	14.7	17.3	10.7	6.9	5.7	4.9	100.0	919	5.29	4.85
40-44	1.6	1.9	2.1	3.9	11.4	13.2	13.3	16.7	13.9	8.6	13.3	100.0	637	6.55	5.61
45-49	1.9	2.7	1.8	5.3	5.9	10.1	11.1	19.5	12.6	11.5	17.8	100.0	458	7.03	5.91
Total	11.1	14.8	15.1	11.4	11.1	9.5	8.5	7.4	4.1	3.1	3.8	100.0	5,864	3.76	3.38

Table 4.2 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, Ethiopia Mini-DHS 2019

Background characteristic	Months since preceding birth						Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
Mother's age									
15-19	14.3	30.2	34.2	3.4	8.1	9.9	100.0	41	27.3
20-29	11.1	16.0	28.1	21.2	12.0	11.7	100.0	1,863	33.4
30-39	6.9	12.2	28.6	19.3	12.1	20.9	100.0	1,929	37.0
40-49	8.5	10.7	22.0	19.4	12.7	26.7	100.0	473	41.0
Sex of preceding birth									
Male	8.7	13.4	27.6	20.2	13.7	16.5	100.0	2,126	36.2
Female	9.1	14.3	27.8	19.8	10.5	18.4	100.0	2,179	35.4
Survival of preceding birth									
Living	7.1	13.2	28.7	20.8	12.4	17.9	100.0	4,038	36.5
Dead	36.9	24.3	12.3	7.9	7.3	11.2	100.0	268	21.6
Birth order									
2-3	7.6	14.3	24.4	19.8	13.2	20.8	100.0	1,755	37.7
4-6	9.7	12.5	28.5	19.6	11.2	18.5	100.0	1,727	35.7
7+	10.1	15.6	33.0	21.3	11.6	8.3	100.0	824	32.5
Residence									
Urban	8.1	12.2	23.0	22.3	11.5	23.0	100.0	970	38.6
Rural	9.2	14.3	29.1	19.3	12.2	15.9	100.0	3,335	35.1
Region									
Tigray	3.7	6.0	32.9	20.5	14.1	22.8	100.0	275	38.7
Afar	20.9	17.3	32.1	15.2	6.2	8.4	100.0	67	27.2
Amhara	3.2	8.5	19.1	18.2	16.5	34.5	100.0	775	48.6
Oromia	9.7	16.5	31.1	20.6	9.7	12.5	100.0	1,741	32.5
Somali	22.1	18.8	37.2	12.8	6.7	2.3	100.0	359	26.0
Benishangul-Gumuz	6.1	9.9	30.3	21.1	13.4	19.2	100.0	53	37.6
SNNPR	8.3	14.0	23.4	24.0	14.4	15.9	100.0	893	37.6
Gambela	7.8	7.3	18.8	19.4	21.0	25.7	100.0	18	46.5
Harari	12.5	15.1	30.1	20.6	8.0	13.7	100.0	13	33.3
Addis Ababa	6.5	12.8	20.4	13.8	13.9	32.6	100.0	90	44.7
Dire Dawa	11.3	12.8	30.9	21.9	11.8	11.3	100.0	21	33.6
Mother's education									
No education	10.1	14.2	29.3	19.6	10.8	16.0	100.0	2,683	34.8
Primary	7.3	14.1	26.0	20.9	15.8	16.0	100.0	1,304	36.8
Secondary	7.1	10.2	16.7	19.5	6.6	39.8	100.0	230	43.8
More than secondary	4.1	9.8	31.6	19.9	9.5	25.0	100.0	89	39.3
Wealth quintile									
Lowest	13.7	17.4	31.4	17.8	12.3	7.5	100.0	1,146	30.9
Second	8.1	15.0	27.7	21.9	13.6	13.7	100.0	979	35.6
Middle	6.6	12.3	28.9	20.1	12.4	19.7	100.0	809	37.3
Fourth	8.6	9.4	27.7	20.7	11.3	22.2	100.0	716	37.6
Highest	5.2	12.6	19.7	20.1	9.8	32.6	100.0	656	43.3
Total	8.9	13.8	27.7	20.0	12.1	17.5	100.0	4,306	35.8

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 4.3 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Ethiopia Mini-DHS 2019

Current age	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
	15	18	20	22	25			
15-19	1.1	na	na	na	na	89.7	2,210	a
20-24	6.3	22.2	39.0	na	na	44.1	1,481	a
25-29	15.3	35.0	51.1	63.6	78.7	16.2	1,667	19.9
30-34	20.7	48.1	66.3	76.8	87.6	4.8	1,160	18.2
35-39	21.4	48.1	64.5	77.0	87.9	3.5	1,065	18.2
40-44	31.1	52.3	69.2	81.3	89.3	2.1	739	17.7
45-49	22.0	48.3	60.3	73.0	84.4	3.0	563	18.3
20-49	17.5	39.6	56.0	na	na	15.7	6,675	19.3
25-49	20.7	44.5	60.8	72.8	84.7	7.6	5,194	18.7

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 4.4 Median age at first birth

Median age at first birth among women age 20-49 and age 25-49, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Women age 20-49	Women age 25-49
Residence		
Urban	a	20.0
Rural	18.7	18.1
Region		
Tigray	20.0	19.6
Afar	19.1	19.4
Amhara	19.1	18.2
Oromia	18.8	18.2
Somali	19.9	19.6
Benishangul-Gumuz	18.6	18.0
SNNPR	19.0	18.5
Gambela	17.9	17.5
Harari	a	19.6
Dire Dawa	a	21.5
Education		
No education	17.9	17.9
Primary	19.4	18.8
Secondary	a	22.6
Wealth quintile		
Lowest	18.8	18.7
Second	18.7	18.2
Middle	18.5	18.0
Fourth	18.6	17.9
Highest	a	20.6
Total	19.3	18.7

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

FAMILY PLANNING 5

Key Findings

- ***Contraceptive knowledge:*** Knowledge of family planning is nearly universal in Ethiopia, with 96% of currently married women having heard of at least one modern method.
- ***Modern contraceptive use:*** Modern contraceptive use among currently married women has increased steadily since 2005, from 14% to 41%.
- ***Methods used:*** Injectables are the most commonly used method among currently married women (27%), followed by implants (9%).
- ***Sources of modern methods:*** The most common source of modern contraception is the public sector (87%); only 12% of women obtain their method from private sector sources.

Couples can use contraceptive methods to limit or space the number of children they have. This chapter presents information on knowledge, use, and sources of contraceptive methods.

Family planning helps women avoid unplanned or unwanted pregnancies and prevent unsafe abortions. Additionally, contraceptive use helps women space the births of their children, which benefits the health of the mother and child. Although previous surveys gathered data on family planning from both women and men, the 2019 Ethiopia Mini-DHS was limited to only women.

In line with Ethiopia's Family Planning 2020 (FP2020) commitments, the Ministry of Health (MoH) developed the health sector transformation plan of 2015, which aimed to increase the contraceptive prevalence rate (CPR) to 55%. This would mean reaching an additional 6.2 million women and adolescent girls with family planning services by 2020 (MOH 2015).

5.1 CONTRACEPTIVE KNOWLEDGE AND USE

Knowledge of contraceptive methods is virtually universal in Ethiopia, with 96% of currently married women age 15-49 knowing at least one method of contraception. The most well-known methods for currently married women are injectables (93%), implants (87%) and pills (83%). Among all women, male sterilisation is the least-known modern contraceptive method (13%). On average, currently married women know of six contraceptive methods (**Table 5.1**).

Knowledge of contraceptive methods varies the most by a respondent's region. Almost all currently married women in Addis Ababa know at least one method of contraception, while in Somali only 67% of currently married women know at least one method of contraception (**Table 5.2**).

Contraceptive prevalence rate: Percentage of women who use any contraceptive method

Sample: All women age 15-49 and currently married women age 15-49

The contraceptive prevalence rate (CPR) among currently married women age 15-49 in Ethiopia is 41%. Many currently married women use a modern method (41%), while only 1% use a traditional method (**Table 5.3**).

Modern methods

Include male and female sterilisation, injectables, intrauterine devices (IUDs), contraceptive pills, implants, female and male condoms, the Standard Days Method and emergency contraception

The most commonly used modern contraceptive methods among currently married women in Ethiopia are injectables (27%), followed by implants (9%), and the pill and IUD (2% each) (**Figure 5.1**).

Trends: Modern contraceptive use among currently married women has steadily increased over the last 15 years, from 14% in 2005 to 41% in 2019 (**Figure 5.2**). The largest increases have been in the use of injectables (from 10% in 2005 to 27% in 2019) and implants (from less than 1% in 2005 to 9% in 2019).

Figure 5.1 **Contraceptive use**

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

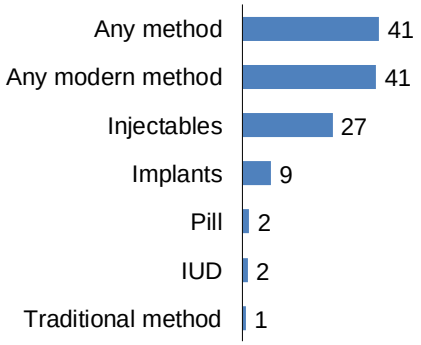
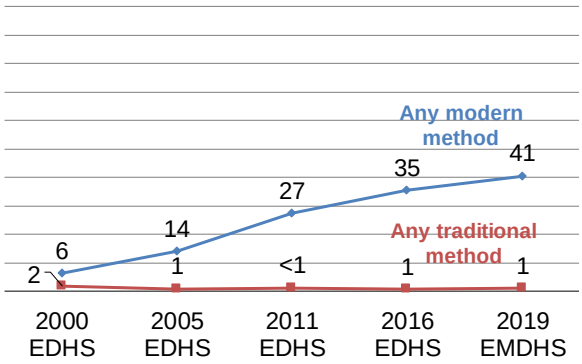


Figure 5.2 **Trends in contraceptive use**

Percentage of currently married women currently using a contraceptive method



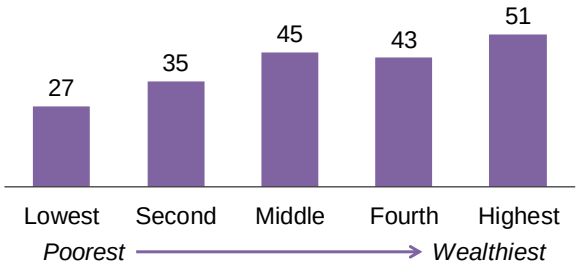
Patterns by background characteristics

- Modern contraceptive use is higher among currently married women with one or two living children (53%) than among those with five or more living children (31%) (**Table 5.4**).
- Urban women (48%) are more likely than rural women (38%) to use modern methods.

- Modern contraceptive use generally increases with increasing household wealth, from 27% among women in the lowest wealth quintile to 51% among those in the highest quintile (**Figure 5.3**).
- The percentage of women using a modern method is higher among those with a secondary education (56%) than among those with no education (32%) (**Table 5.4**).
- The percentages of women using modern methods are lowest in Somali (3%) and Afar (13%) and highest in Amhara (50%) and Addis Ababa (48%).

Figure 5.3 **Use of modern methods by household wealth**

Percentage of currently married women age 15-49



5.2 SOURCE OF MODERN CONTRACEPTIVE METHODS

Source of modern contraceptives

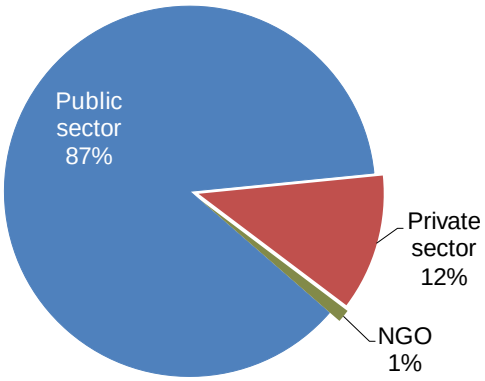
The place where the modern method currently being used was obtained the last time it was acquired.

Sample: Women age 15-49 currently using a modern contraceptive method

Information on current sources of modern contraceptive methods is important for family planners and programme implementers. The most common source of modern contraception is the public sector (87%), followed by the private sector (12%). In the public sector, government health stations/centres (47%) and government health posts (34%) are the most common sources (**Figure 5.4** and **Table 5.5**).

Figure 5.4 **Source of modern contraceptive methods**

Percent distribution of current users of modern methods age 15-49 by most recent source of method



Patterns by background characteristics

- The main source of injectables is the public sector (85%), primarily government health stations/centres (41%) and government health posts (42%). Only 13% of women using injectables obtained their method from the private sector, mainly private clinics (12%).
- Almost all implant and IUD users obtained their method from the public sector (96% and 94%, respectively).
- Sixty-eight percent of pill users obtained their method from the public sector, mainly through a government health station/centre (30%) or public pharmacy (18%). Thirty-two percent of pill users obtained their method from the private sector, primarily from a private clinic or private pharmacy (15% each).

LIST OF TABLES

For more information on family planning, see the following tables:

- **Table 5.1 Knowledge of contraceptive methods**
- **Table 5.2 Knowledge of contraceptive methods according to background characteristics**
- **Table 5.3 Current use of contraception by age**
- **Table 5.4 Current use of contraception according to background characteristics**
- **Table 5.5 Source of modern contraceptive methods**

Table 5.1 Knowledge of contraceptive methods

Percentage of all women and currently married women age 15-49 who know any contraceptive method, by specific method, Ethiopia Mini-DHS 2019

Method	All women	Currently married women
Any method	**95.2**	**96.2**
Any modern method	**95.0**	**96.1**
Female sterilisation	30.7	32.1
Male sterilisation	13.2	12.8
Pill	81.0	83.0
IUD	50.5	52.3
Injectables	91.0	92.5
Implants	84.3	87.1
Male condom	70.9	68.7
Female condom	24.7	22.3
Emergency contraception	27.2	25.0
Standard days method	19.2	20.3
Lactational amenorrhoea (LAM)	42.1	46.9
Any traditional method	**51.5**	**51.9**
Rhythm	46.7	46.7
Withdrawal	24.0	24.7
Other traditional method	0.2	0.2
Mean number of methods known by respondents 15-49	6.1	6.1
Number of respondents	8,885	5,864

Table 5.2 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, Ethiopia Mini-DHS 2019

Background characteristic	Heard of any method	Heard of any modern method[1]	Number of women
Age			
15-19	94.8	94.8	475
20-24	97.1	97.1	955
25-29	97.2	97.0	1,394
30-34	96.6	95.9	1,026
35-39	95.9	95.9	919
40-44	95.6	95.6	637
45-49	93.7	93.7	458
Residence			
Urban	98.2	98.0	1,627
Rural	95.5	95.3	4,237
Region			
Tigray	98.4	98.2	370
Afar	86.3	86.1	64
Amhara	96.2	96.2	1,313
Oromia	98.5	98.2	2,306
Somali	66.7	66.5	284
Benishangul-Gumuz	95.4	95.3	67
SNNPR	98.3	98.2	1,177
Gambela	94.7	94.4	25
Harari	98.2	98.2	16
Addis Ababa	99.4	99.4	206
Dire Dawa	95.5	95.5	36
Education			
No education	94.0	93.7	3,025
Primary	98.2	98.1	2,119
Secondary	99.9	99.9	470
More than secondary	99.9	99.9	250
Wealth quintile			
Lowest	89.2	88.9	1,069
Second	96.5	96.4	1,138
Middle	97.0	96.9	1,154
Fourth	98.3	98.3	1,220
Highest	99.1	98.8	1,283
Total	96.2	96.1	5,864

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

Table 5.3 Current use of contraception by age

Percent distribution of all women and currently married women age 15-49 by contraceptive method currently used, according to age, Ethiopia Mini-DHS 2019

			Modern method											Traditional method					
Age	Any method	Any modern method	Female sterili-sation	Pill	IUD	Inject-ables	Im-plants	Male condom	Emer-gency contra-ception	SDM	LAM	Other	Any tradi-tional method	Rhythm	With-drawal	Other	Not current-ly using	Total	Number of women
ALL WOMEN																			
15-19	9.4	9.4	0.0	0.5	0.1	6.5	1.9	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	90.6	100.0	2,210
20-24	36.2	34.7	0.0	1.4	0.2	26.1	6.2	0.1	0.1	0.0	0.6	0.0	1.5	1.5	0.0	0.0	63.8	100.0	1,481
25-29	41.4	40.5	0.0	1.9	2.0	26.7	9.0	0.1	0.0	0.2	0.6	0.0	0.9	0.5	0.4	0.0	58.6	100.0	1,667
30-34	40.3	39.5	0.1	2.3	1.6	26.4	8.7	0.2	0.0	0.0	0.2	0.0	0.8	0.5	0.2	0.0	59.7	100.0	1,160
35-39	34.6	34.1	0.8	2.2	1.9	20.7	7.7	0.2	0.0	0.4	0.1	0.0	0.5	0.1	0.4	0.0	65.4	100.0	1,065
40-44	27.6	26.9	1.5	2.0	1.1	14.7	6.4	0.3	0.0	0.0	0.7	0.2	0.8	0.1	0.6	0.0	72.4	100.0	739
45-49	14.4	13.7	0.7	0.0	0.4	8.4	3.4	0.0	0.0	0.1	0.7	0.0	0.8	0.8	0.0	0.0	85.6	100.0	563
Total	28.8	28.1	0.3	1.4	1.0	18.7	6.0	0.2	0.0	0.1	0.4	0.0	0.7	0.5	0.2	0.0	71.2	100.0	8,885
CURRENTLY MARRIED WOMEN																			
15-19	36.5	36.4	0.0	1.7	0.0	27.4	5.9	0.4	0.0	0.2	0.7	0.0	0.0	0.0	0.0	0.0	63.5	100.0	475
20-24	52.5	50.6	0.0	2.2	0.4	37.8	9.1	0.1	0.2	0.0	0.9	0.0	1.9	1.9	0.0	0.0	47.5	100.0	955
25-29	48.1	47.1	0.0	2.2	2.4	31.4	10.2	0.0	0.0	0.2	0.7	0.0	1.0	0.5	0.4	0.0	51.9	100.0	1,394
30-34	43.9	43.0	0.1	2.4	1.9	29.0	9.3	0.0	0.0	0.0	0.2	0.0	0.9	0.6	0.3	0.0	56.1	100.0	1,026
35-39	39.3	38.8	0.9	2.5	2.3	23.4	8.9	0.2	0.0	0.5	0.1	0.0	0.5	0.1	0.4	0.0	60.7	100.0	919
40-44	30.1	29.2	1.0	2.1	1.2	16.8	6.8	0.2	0.0	0.0	0.8	0.3	0.9	0.1	0.7	0.0	69.9	100.0	637
45-49	17.5	16.6	0.9	0.0	0.3	10.3	4.2	0.0	0.0	0.1	0.8	0.0	0.9	0.9	0.0	0.0	82.5	100.0	458
Total	41.4	40.5	0.3	2.0	1.5	27.2	8.5	0.1	0.0	0.2	0.6	0.0	1.0	0.7	0.3	0.0	58.6	100.0	5,864

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

Table 5.4 Current use of contraception according to background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Ethiopia Mini-DHS 2019

			Modern method											Traditional method					
Background characteristic	Any method	Any modern method	Female sterili-sation	Pill	IUD	Inject-ables	Implants	Male condom	Emer-gency contra-ception	SDM	LAM	Other	Any tradi-tional method	Rhythm	With-drawal	Other	Not currently using	Total	Number of women
Number of living children																			
0	28.2	25.6	0.0	2.8	0.7	18.2	3.5	0.4	0.0	0.1	0.0	0.0	2.6	2.6	0.0	0.0	71.8	100.0	694
1-2	53.7	52.9	0.1	3.4	1.3	35.5	11.5	0.1	0.1	0.1	0.7	0.0	0.9	0.5	0.3	0.0	46.3	100.0	1,857
3-4	43.7	43.5	0.3	1.3	1.4	30.2	9.1	0.0	0.0	0.3	1.0	0.0	0.2	0.1	0.1	0.0	56.3	100.0	1,463
5+	32.2	31.1	0.8	1.0	2.0	19.9	6.8	0.0	0.0	0.2	0.4	0.1	1.0	0.5	0.5	0.0	67.8	100.0	1,850
Residence																			
Urban	49.7	47.7	0.3	5.2	1.5	30.7	9.2	0.2	0.0	0.2	0.5	0.0	2.0	1.9	0.1	0.0	50.3	100.0	1,627
Rural	38.2	37.7	0.4	0.8	1.5	25.8	8.2	0.1	0.0	0.2	0.6	0.0	0.6	0.2	0.4	0.0	61.8	100.0	4,237
Region																			
Tigray	37.3	36.3	0.0	3.8	1.0	15.0	15.4	0.4	0.0	0.0	0.7	0.0	0.9	0.6	0.4	0.0	62.7	100.0	370
Afar	12.7	12.7	0.0	2.5	0.9	7.0	1.6	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	87.3	100.0	64
Amhara	49.5	49.5	0.2	1.7	1.2	36.1	10.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	50.5	100.0	1,313
Oromia	40.7	38.9	0.7	2.0	1.6	26.1	7.4	0.0	0.0	0.2	0.9	0.1	1.8	1.2	0.5	0.0	59.3	100.0	2,306
Somali	3.4	3.4	0.0	0.3	0.0	2.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	96.6	100.0	284
Benishangul-Gumuz	38.5	36.7	0.0	1.0	2.2	16.8	15.8	0.0	0.0	0.8	0.0	0.0	1.8	1.5	0.2	0.1	61.5	100.0	67
SNNPR	45.0	44.6	0.2	1.3	1.5	33.5	7.7	0.2	0.1	0.1	0.0	0.0	0.4	0.1	0.3	0.0	55.0	100.0	1,177
Gambela	33.8	33.2	0.0	2.2	0.4	29.5	1.0	0.2	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	66.2	100.0	25
Harari	32.4	30.3	0.2	3.5	1.4	10.4	11.0	0.8	0.2	0.0	2.8	0.0	2.1	2.1	0.0	0.0	67.6	100.0	16
Addis Ababa	49.9	47.6	0.0	8.6	5.2	17.0	13.3	1.1	0.0	1.2	1.2	0.0	2.4	2.4	0.0	0.0	50.1	100.0	206
Dire Dawa	30.5	30.3	0.4	4.9	0.9	8.2	12.6	0.5	0.0	0.3	2.5	0.0	0.1	0.1	0.0	0.0	69.5	100.0	36
Education																			
No education	32.3	32.0	0.4	0.9	0.9	22.1	6.7	0.0	0.0	0.1	0.9	0.0	0.3	0.1	0.2	0.0	67.7	100.0	3,025
Primary	49.0	47.5	0.4	1.7	1.4	33.8	9.7	0.2	0.0	0.1	0.2	0.1	1.5	0.9	0.6	0.0	51.0	100.0	2,119
Secondary	57.2	55.8	0.0	7.1	3.5	32.7	11.5	0.1	0.3	0.5	0.1	0.0	1.5	1.5	0.0	0.0	42.8	100.0	470
More than secondary	57.5	53.8	0.0	9.7	6.0	22.3	14.1	0.6	0.0	0.8	0.4	0.0	3.8	3.7	0.0	0.0	42.5	100.0	250
Wealth quintile																			
Lowest	27.0	26.7	0.1	0.5	0.3	19.5	4.8	0.3	0.0	0.3	0.8	0.0	0.3	0.0	0.3	0.0	73.0	100.0	1,069
Second	35.3	35.1	0.2	0.8	0.7	24.1	8.5	0.0	0.0	0.0	0.6	0.2	0.2	0.1	0.1	0.0	64.7	100.0	1,138
Middle	45.2	44.6	0.1	0.2	1.9	32.1	9.3	0.1	0.1	0.3	0.5	0.0	0.6	0.1	0.4	0.0	54.8	100.0	1,154
Fourth	44.0	42.9	0.7	1.6	1.6	28.8	9.6	0.0	0.0	0.0	0.6	0.0	1.0	0.7	0.3	0.0	56.0	100.0	1,220
Highest	53.0	50.6	0.5	6.6	2.6	30.5	9.6	0.2	0.0	0.2	0.4	0.0	2.4	2.1	0.3	0.0	47.0	100.0	1,283
Total	41.4	40.5	0.3	2.0	1.5	27.2	8.5	0.1	0.0	0.2	0.6	0.0	1.0	0.7	0.3	0.0	58.6	100.0	5,864

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

Table 5.5 Source of modern contraceptive methods

Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to method, Ethiopia Mini-DHS 2019

Source	IUD	Injectables	Implants	Pill	Male condom	Total
Public sector	**93.7**	**85.4**	**95.5**	**68.1**	**(30.7)**	**86.6**
Government hospital	9.4	1.9	4.9	6.6	(0.0)	3.8
Government health station/ centre	66.5	40.8	69.8	29.9	(9.2)	46.9
Government health post	17.8	41.7	20.8	13.3	(4.5)	34.1
Public pharmacy	0.0	1.0	0.0	18.4	(17.0)	1.7
Other public sector	0.0	0.0	0.0	0.0	(0.0)	0.0
NGO health facility	2.2	0.9	1.0	0.2	(0.0)	1.1
Other NGO	0.0	0.1	0.0	0.0	(0.0)	0.1
Private sector	**4.1**	**13.3**	**3.5**	**31.7**	**(50.1)**	**11.8**
Private hospital	4.1	1.0	0.3	1.5	(0.0)	1.0
Private clinic	0.0	11.5	3.2	15.2	(16.2)	9.3
Private pharmacy	0.0	0.9	0.0	15.0	(33.9)	1.5
Other private medical	0.0	0.0	0.0	0.0	(0.0)	0.0
Other source	**0.0**	**0.2**	**0.0**	**0.0**	**(19.2)**	**0.3**
Shop	0.0	0.0	0.0	0.0	(19.2)	0.1
Friend/relative	0.0	0.2	0.0	0.0	(0.0)	0.2
Other	0.0	0.1	0.0	0.0	(0.0)	0.2
Don't know	0.0	0.0	0.0	0.0	(0.0)	0.0
Missing	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
Number of women	90	1,658	533	127	14	2,459

Note: Total includes other modern methods (female sterilisation, emergency contraception, standard days method, and lactational amenorrhoea method). Figures in parentheses are based on 25-49 unweighted cases.

INFANT AND CHILD MORTALITY 6

Key Findings

- ***Current levels:*** For the 5-year period preceding the survey, the infant mortality rate was 47 deaths per 1,000 live births and the under-5 mortality rate was 59 deaths per 1,000 live births. This means that 1 in 17 children in Ethiopia die before reaching age 5.
- ***Trends:*** There has been a slight increase in neonatal mortality since 2016, from 29 to 33 deaths per 1,000 live births.
- ***High-risk fertility behaviour:*** Seventy-three percent of currently married women are in a high-risk birth category. In the 5 years preceding the survey, 60% of infants were at elevated odds of dying from avoidable risks; 39% fell into a single high-risk category, and 21% fell into a multiple high-risk category. Only 23% of births were not in any high-risk category.

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 estimate how many children may be at higher risk of death and support the development of strategies to reduce this risk, such as promoting birth spacing.

This chapter presents information on levels, trends, and differentials in neonatal, postneonatal, infant, child, 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 during a retrospective birth history in which female respondents listed all of the children born to them, 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 to whom she has given birth, 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 workload, because live births occurring during the 5 years before the interview are the subject of a lengthy set of additional questions.
- Inaccurate 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.

6.1 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).

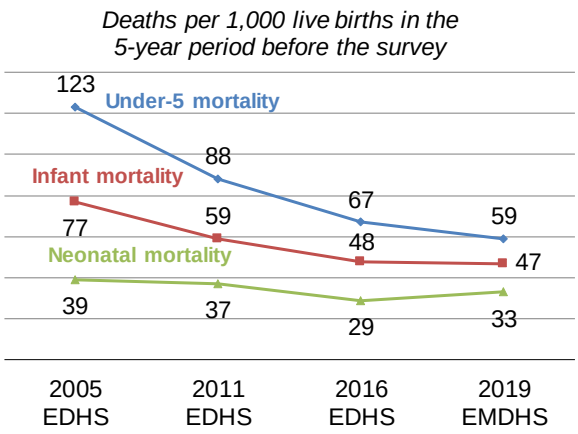
Infant mortality: The probability of dying between birth and the first birthday.

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.

The 2019 EMDHS results show that the neonatal, infant, and under-5 mortality rates for the 5 years before the survey were 33, 47, and 59 deaths per 1,000 live births, respectively. In other words, 1 in every 30 children in Ethiopia die within the first month, 1 in every 21 die before their first birthday, and 1 in every 17 die before their fifth birthday (**Table 6.1**).

Figure 6.1 **Trends in early childhood mortality rates**



Trends: Under-5 mortality declined from 123 deaths per 1,000 live births in 2005 to 59 deaths per 1,000 live births in 2019, a 52% decrease. Over the same period, infant mortality declined from 77 to 47 deaths per 1,000 live births, a 39% reduction. Neonatal mortality declined from 39 deaths per 1,000 live births in 2005 to 29 deaths per 1,000 live births in 2016 before increasing to 33 deaths per 1,000 births in 2019 (an overall reduction of 15% over the past 14 years) (**Figure 6.1**).

Patterns by background characteristics

- The 5-year infant mortality rate is higher in rural areas than in urban areas (51 versus 32 deaths per 1,000 live births) (**Table 6.2**).
- The under-5 mortality rate decreases with increasing household wealth. Under-5 mortality is 77 deaths per 1,000 live births in the poorest households and 46 deaths per 1,000 live births in the wealthiest households (**Figure 6.2**).
- In general, childhood mortality rates decrease as the length of previous birth intervals increases (**Figure 6.3**).

Figure 6.2 **Under-5 mortality by household wealth**

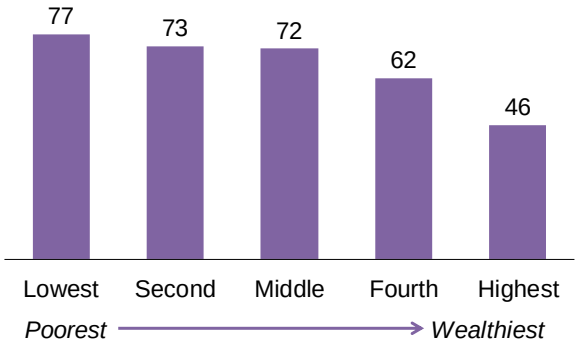
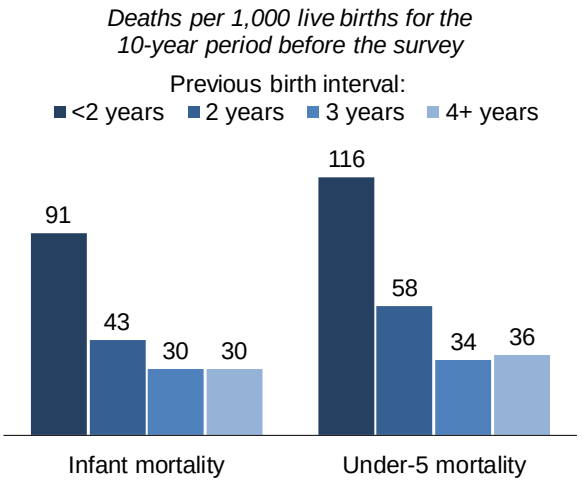


Figure 6.3 **Childhood mortality by previous birth interval**



6.2 HIGH-RISK FERTILITY BEHAVIOUR

Findings from scientific studies have confirmed a strong relationship between a child's chance of dying and specific fertility behaviours, meaning that the survival of infants and children depends in part on the demographic and biological characteristics of their mothers. The probability of children dying in infancy is much greater among children born to mothers who are too young (under age 18) or too old (over age 34), children born after a short birth interval (less than 24 months after the preceding birth), and children born to mothers of high parity (more than three children). The risk is elevated when a child is born to a mother who has a combination of these risk characteristics.

Table 6.4 presents the percentage distribution of children born in the 5 years preceding the survey who fall into different risk categories: not in any high-risk category, in an unavoidable risk category, in a single high-risk category, or in a multiple high-risk category.

Patterns by background characteristics

- Overall, 73% of currently married women have the potential for a high-risk birth, with 32% falling into a single high-risk category and 41% falling into a multiple high-risk category.
- In the 5 years before the survey, 60% of infants in Ethiopia were at elevated odds of dying from avoidable risks: 39% were in a single high-risk category, and 21% were in a multiple high-risk

category. Twenty-three percent of births were not in any high-risk category, while 17% were in the unavoidable risk category.

- In general, risk ratios are higher for children in a multiple high-risk category than for children in a single high-risk category. The risk ratio is highest (6.18) for births to women less than 34 years old in which the birth interval was less than 24 months and the birth order was higher than three.

List of Tables

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

- **Table 6.1 Early childhood mortality rates**
- **Table 6.2 Five-year early childhood mortality rates according to background characteristics**
- **Table 6.3 Ten-year early childhood mortality rates according to additional characteristics**
- **Table 6.4 High-risk fertility behaviour**

Table 6.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-5 mortality rates for 5-year periods preceding the survey, Ethiopia Mini-DHS 2019

Years preceding the survey	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
0-4	33	14	47	13	59
5-9	38	23	61	15	76
10-14	38	30	68	34	100

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

Table 6.2 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, Ethiopia Mini-DHS 2019

Background characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Child's sex					
Male	37	15	53	15	67
Female	28	12	40	11	51
Residence					
Urban	21	11	32	14	46
Rural	37	14	51	13	64
Total	33	14	47	13	59

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

Table 6.3 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, Ethiopia Mini-DHS 2019

Characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Mother's age at birth					
<20	55	20	75	11	86
20-29	26	16	43	13	55
30-39	42	19	61	19	79
40-49	(36)	*	*	*	*
Birth order					
1	49	14	62	10	72
2-3	30	16	46	13	58
4-6	29	16	44	10	54
7+	44	36	80	33	110
Previous birth interval[2]					
<2 years	56	35	91	27	116
2 years	28	15	43	16	58
3 years	19	11	30	4	34
4+ years	18	12	30	6	36
Region					
Tigray	28	10	38	6	43
Afar	22	24	46	13	58
Amhara	46	12	58	11	69
Oromia	39	23	62	11	72
Somali	45	27	71	32	101
Benishangul-Gumuz	55	19	74	17	90
SNNPR	22	15	37	20	56
Gambela	33	17	50	38	86
Harari	37	13	49	16	64
Addis Ababa	(17)	(4)	(21)	(5)	(26)
Dire Dawa	31	30	61	20	79
Mother's education					
No education	34	22	56	15	70
Primary	40	13	53	15	68
Secondary	34	16	50	(1)	(51)
More than secondary	(10)	(7)	(17)	(1)	(19)
Wealth quintile					
Lowest	34	24	58	20	77
Second	41	21	62	12	73
Middle	40	17	57	16	72
Fourth	36	12	49	14	62
Highest	24	15	39	7	46

Note: Figures in parentheses are based on 250-499 unweighted person-years of exposure to the risk of death. An asterisk indicates that a figure is based on fewer than 250 unweighted person-years of exposure to the risk of death and has been suppressed.

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

[2] Excludes first-order births

Table 6.4 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, Ethiopia Mini-DHS 2019

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	23.1	1.00	18.3[a]
Unavoidable risk category			
First-order births between age 18 and age 34	17.0	2.04	8.9
In any avoidable high-risk category	59.9	2.30	72.8
Single high-risk category			
Mother's age <18 only	5.7	2.99	1.5
Mother's age >34 only	1.1	0.93	3.0
Birth interval <24 months only	6.2	3.33	9.2
Birth order >3 only	25.6	1.11	18.3
Subtotal	38.6	1.73	32.0
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.8	1.18	0.2
Age >34 and birth interval <24 months	0.1	*	0.3
Age >34 and birth order >3	9.7	2.65	27.6
Age >34 and birth interval <24 months and birth order >3	1.9	6.18	4.2
Birth interval <24 months and birth order >3	8.9	3.56	8.5
Subtotal	21.3	3.33	40.8
Total	100.0	na	100.0
Subtotals by individual avoidable high-risk category			
Mother's age <18	6.4	2.77	1.6
Mother's age >34	12.8	3.10	35.1
Birth interval <24 months	17.8	3.71	22.4
Birth order >3	46.1	2.11	58.7
Number of births/women	5,527	na	5,864

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

MATERNAL HEALTH CARE 7

Key Findings

- ***Antenatal care:*** 74% of women age 15-49 with a live birth in the 5 years before the survey received antenatal care (ANC) from a skilled provider for their most recent birth. 43% of women had at least four ANC visits during their last pregnancy.
- ***Components of antenatal care:*** 88% of women who received ANC had their blood pressure measured, 79% had a blood sample taken, 74% had a urine sample taken, and 71% received nutritional counselling.
- ***Delivery:*** Almost half (48%) of live births in the 5 years preceding the survey occurred in a health facility. Institutional deliveries increased from 26% in 2016 to 48% in 2019, while home deliveries decreased from 73% to 51% over the same period.
- ***Postnatal care:*** Thirty-four percent of women and 35% of newborns received a postnatal check within the first 2 days after birth.

Health care services during pregnancy and after delivery are important for the survival and well-being of both the mother and the infant. Skilled care during pregnancy, childbirth, and the postpartum period is critical in reducing maternal and neonatal morbidity and mortality.

As highlighted in the 2015-16 Health Sector Transformation Plan (HSTP), maternal and newborn health are priorities for the government of Ethiopia (FMoH 2015). The key components of the HSTP are delivery at a health facility, with skilled medical attention and hygienic conditions; reductions in complications and infections during labour and delivery; timely postnatal care that treats complications from delivery; and education of the mother on care for herself and her infant. The goal of the reproductive health programme is to reduce the maternal mortality ratio to 199 maternal deaths per 100,000 live births and the neonatal mortality rate to 10 deaths per 1,000 live births by 2020.

This chapter presents information on antenatal care (ANC) and its main components: the number and timing of ANC visits, blood pressure measurement, blood and urine sampling, and nutritional counselling. The chapter also presents information on childbirth and postnatal care such as place of delivery, assistance during delivery, caesarean delivery, and postnatal health checks for mothers and newborns.

7.1 ANTENATAL CARE COVERAGE AND CONTENT

7.1.1 Skilled Providers

Antenatal care (ANC) from a skilled provider

Pregnancy care received from skilled providers, such as doctors, nurses/midwives, health officers, and health extension workers.

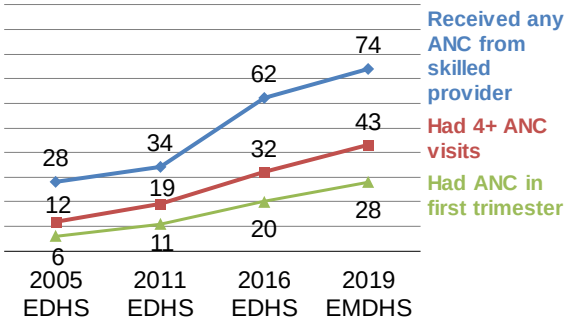
Sample: Women age 15-49 who had a live birth in the 5 years before the survey

The 2019 EMDHS results show that 74% of women who had a live birth in the 5 years before the survey received ANC from a skilled provider for their last birth (**Table 7.1**).

Trends: The proportion of women age 15-49 who received ANC from a skilled provider has increased over time, from 28% in 2005 and 34% in 2011 to 62% in 2016 and 74% in 2019 (**Figure 7.1**).

Figure 7.1 **Trends in antenatal care coverage**

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



Patterns by background characteristics

- ANC from a skilled provider varies by mother's age, from a high of 77% among women age 20-34 to a low of 59% among women age 35-49.
- ANC from a skilled provider is lowest for sixth- or higher-order births (58%) and highest for first-order births (83%).
- Urban women are more likely than rural women to receive ANC from a skilled provider (85% and 70%, respectively).
- Regionally, ANC coverage from a skilled provider is highest in Addis Ababa (97%) and lowest in Somali (30%).
- ANC from a skilled provider increases with increasing mother's education, from 62% among women with no education to nearly 100% among women with more than a secondary education.
- Women in the highest wealth quintile (95%) are more likely than those in the lowest quintile (47%) to receive ANC from a skilled provider.

7.1.2 Timing and Number of ANC Visits

Forty-three percent of women in Ethiopia had at least four ANC visits during their last pregnancy, while 26% of women had no ANC visits (**Table 7.2**). Rural women (29%) were more likely than urban women (15%) to have no ANC visits.

Only 28% of women had their first ANC visit during the first trimester, while 32% had their first visit during the fourth or fifth month of pregnancy and 12% had their first visit during the sixth or seventh month. Two percent of women did not receive any ANC until the eight month of pregnancy or later (**Table 7.2**).

Forty-three percent of women in urban areas received ANC within their first trimester of pregnancy, as compared with 22% of those in rural areas (**Table 7.2**).

Trends: The proportion of women with the recommended four or more ANC visits increased from 12% in 2005 to 43% in 2019. During this same time period, the proportion of women who received ANC in the first trimester increased from 6% to 28% (**Figure 7.1**).

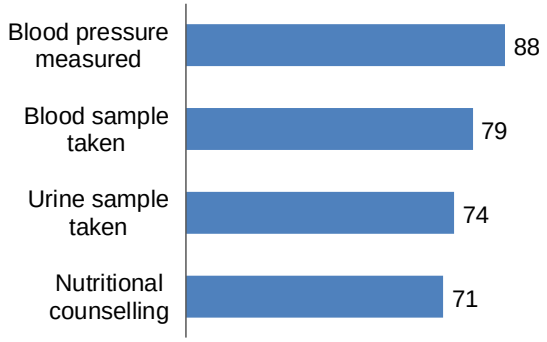
7.2 COMPONENTS OF ANC

Standard guidelines for ANC in Ethiopia emphasise that every pregnant woman should receive ANC from a skilled provider that includes a thorough physical examination, blood tests for infection screening, and a urine test.

Among women who received ANC, 88% had their blood pressure measured, 79% had a blood sample taken, and 74% had a urine sample taken as part of an ANC visit (**Table 7.3** and **Figure 7.2**). Seventy-one percent of women received nutritional counselling during ANC. Women living in urban areas, highly educated women, and women in the highest wealth quintile were more likely than their counterparts to receive each service.

Figure 7.2 **Components of antenatal care**

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



Trends: The proportion of pregnant women who had a urine sample collected during an ANC visit increased from 27% in 2005 to 74% in 2019. Similarly, the proportion who had a blood sample taken increased from 26% to 79%, and the proportion who had their blood pressure measured increased from 62% to 88%.

7.3 DELIVERY SERVICES

7.3.1 Institutional Deliveries

Institutional deliveries
Deliveries that occur in a health facility.
Sample: All live births in the 5 years before the survey

Increasing institutional deliveries is important for reducing maternal and neonatal mortality. However, access to health facilities is more difficult in rural areas than in urban areas because of distance, scarce transport, and a lack of appropriate facilities. Although institutional delivery has been promoted in Ethiopia, home delivery is still common, primarily in hard-to-reach areas. Forty-eight percent of live births in the 5 years before the survey were delivered in a health facility (**Table 7.4**).

Trends: Institutional deliveries increased from 5% in 2005 to 26% in 2016 and 48% in 2019. During the same period, there was a sharp decline in home deliveries (94% in 2005, 73% in 2016, and 51% in 2019) (**Figure 7.3**).

Patterns by background characteristics

- Sixth- and higher-order births are more likely than first-order births to be delivered at home (67% versus 30%) (**Figure 7.4** and **Table 7.5**).
- Seventy-four percent of births to mothers who attended four or more ANC visits were delivered in a health facility, as compared with 14% of births to mothers with no ANC visits.
- Ninety-three percent of births to mothers with more than a secondary education were delivered in a health facility, compared with 33% of births to mothers with no education.
- The percentage of public sector deliveries is lowest in Somali (17%) and Afar (27%) and highest in Tigray (72%).
- Births to women in the lowest wealth quintile are more likely to be delivered at home (79%) than births to women in the highest wealth quintile (14%).

Figure 7.3 **Trends in place of birth**

Percentage of live births in the 5 years before the survey

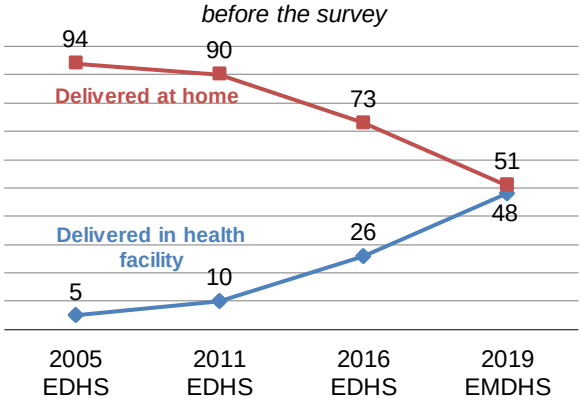
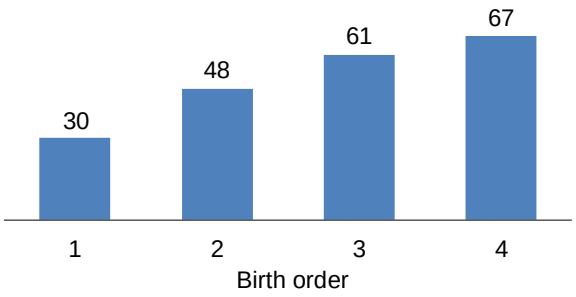


Figure 7.4 **Home births by birth order**

Percentage of live births in the 5 years before the survey that were delivered at home



7.3.2 Skilled Assistance during Delivery

Skilled assistance during delivery

Births delivered with the assistance of doctors, nurses/midwives, health officers, and health extension workers.

Sample: All live births in the 5 years before the survey

In the 5 years before the survey, 50% of births were delivered by a skilled provider (**Figure 7.5** and **Table 7.6**). Most births were attended by nurses or midwives (36%), followed by traditional birth attendants (31%) and doctors (8%).

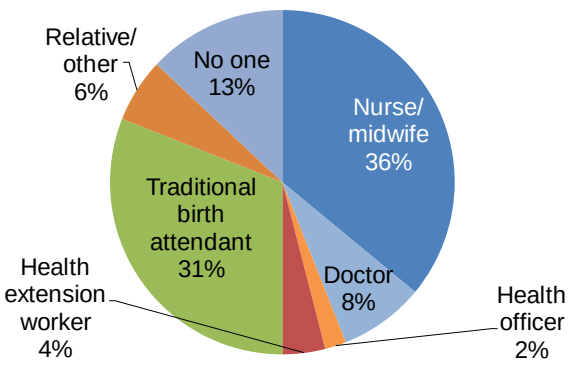
Trends: The percentage of births delivered by a skilled provider increased from 11% in 2011 and 28% in 2016 to 50% in 2019.

Patterns by background characteristics

- Skilled providers delivered 76% of births to mothers who attended four or more ANC visits, as compared with 15% of births to mothers with no ANC visits (**Table 7.6**).

Figure 7.5 **Assistance during delivery**

Percent distribution of births in the 5 years before the survey



- Births to mothers in urban areas (72%) are more likely than births to mothers in rural areas (43%) to be assisted by a skilled provider.

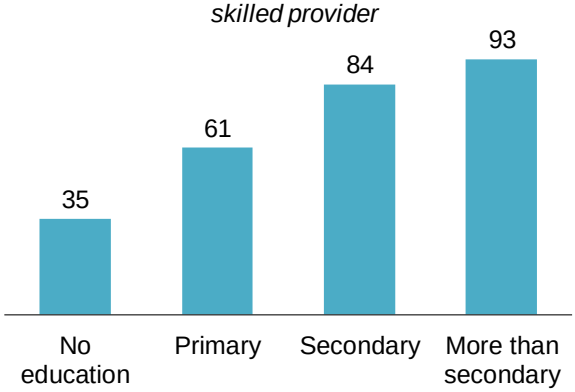
- Ninety-three percent of births to mothers with more than a secondary education are assisted by a skilled provider, compared with 35% of births to mothers with no education (**Figure 7.6** and **Table 7.6**).

- The proportion of births assisted by skilled providers ranges from 26% in Somali to 96% in Addis Ababa.

- Births to mothers in the highest wealth quintile (87%) are almost four times more likely to be assisted by a skilled provider than births to mothers in the lowest quintile (22%).

Figure 7.6 **Skilled assistance at delivery by education**

Percentage of live births in the 5 years before the survey assisted by a skilled provider



7.3.3 Delivery by Caesarean Section

Access to caesarean sections (C-sections) can reduce maternal and neonatal mortality and complications such as obstetric fistula. However, use of caesarean sections without medical need can put women at risk of both short-term and long-term health problems. The World Health Organization advises that C-sections be performed only when medically necessary. According to WHO, population-level reductions in maternal and newborn mortality are not associated with C-section rates higher than 10%.

The 2019 EMDHS results showed that 5% of live births in the 5 years before the survey were delivered by C-section (**Table 7.7**).

Trends: The rate of caesarean sections increased from 2% in 2016 to 5% in 2019.

Patterns by background characteristics

- Caesarean section deliveries are more common among mothers age 35-49 (7%) than among mothers less than age 20 (3%).

- The caesarean section rate in urban areas (10%) is more than twice that in rural areas (4%).

- Women with more than a secondary education (19%) are more likely to undergo C-sections than women with a secondary education (13%), primary education (6%), or no education (3%).

7.4 Postnatal Care

7.4.1 Postnatal Health Check for Mothers

A large proportion of maternal and neonatal deaths occur during the first 24 hours after delivery. For both the mother and the infant, prompt postnatal care is important in treating complications that arise from delivery and providing the mother with important information on caring for herself and her baby. In Ethiopia, 34% of women age 15-49 who gave birth in the 2 years before the survey had a postnatal check during the first 2 days after birth, while 64% did not receive a postnatal check (**Table 7.8**).

Patterns by background characteristics

- Women who delivered in a health facility were 20 times more likely to have a postnatal health check within 2 days of delivery than those who delivered elsewhere (60% versus 3%).

- Forty-eight percent of urban women received a postnatal check-up within 2 days, as compared with 29% of rural women.

- The proportion of women who received postnatal check-ups in the 2 days after delivery varies widely by region, from 10% in Somali to 74% in Addis Ababa.

Type of Provider

The skills of the provider determine the provider's ability to diagnose problems and recommend appropriate treatment or referral. Thirty percent of women received a postnatal check from a doctor, nurse, or midwife. Only 3% of women received a check from a health officer, and another 2% received a check from a health extension worker (HEW) (**Table 7.9**).

7.4.2 Postnatal Health Check for Newborns

The first 48 hours is a vulnerable phase in the life of a newborn baby and a period in which many neonatal deaths occur. Lack of postnatal health checks during this period can delay identification of newborn complications and initiation of appropriate care and treatment. **Table 7.10** shows that only 35% of newborns had a postnatal check within the first 2 days after birth, while 63% received no postnatal check.

Patterns by background characteristics

- Newborns delivered in a health facility were much more likely to receive a postnatal health check from a skilled provider within 2 days than those delivered elsewhere (62% versus 2%).

- Infants born to urban women (48%) were more likely than those born to rural women (30%) to receive a check-up within the first 2 days of birth.

- The percentage of newborns receiving check-ups within the first 2 days increases with increasing mother's education. Twenty-two percent of babies born to women with no education received a postnatal check-up, as compared with 70% of babies born to women with more than a secondary education.

Type of Provider

Thirty percent of newborns received a postnatal check-up within 2 days from a doctor, nurse, or midwife, while 3% received a check-up from a health officer, 1% from an HEW, and less than 1% from a traditional birth attendant (**Table 7.11**).

Other Components of Newborn Postnatal Care

The survey also collected data on other components of postnatal care such as whether selected signal functions were performed within 2 days of birth, including measuring the newborn's temperature and informing the mother about danger signs in newborns. Forty percent of newborns in the 2 years before the survey had at least two signal functions performed within 2 days after birth (**Table 7.12**).

LIST OF TABLES

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

- **Table 7.1 Antenatal care**
- **Table 7.2 Number of antenatal care visits and timing of first visit**
- **Table 7.3 Components of antenatal care**
- **Table 7.4 Maternal care indicators**
- **Table 7.5 Place of delivery**
- **Table 7.6 Assistance during delivery**

- **Table 7.7 Caesarean section**
- **Table 7.8 Timing of first postnatal check for the mother**
- **Table 7.9 Type of provider of first postnatal check for the mother**
- **Table 7.10 Timing of first postnatal check for the newborn**
- **Table 7.11 Type of provider of first postnatal check for the newborn**
- **Table 7.12 Content of postnatal care for newborns**

Table 7.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth in the 5 years preceding the survey by antenatal care (ANC) provider during the pregnancy for the most recent birth and percentage receiving antenatal care from a skilled provider for the most recent birth, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Antenatal care provider						No ANC	Total	Percentage receiving antenatal care from a skilled provider[1]	Number of women
	Doctor	Nurse/ midwife	Health officer	Health extension worker	Traditional birth attendant	Other				
Age at birth										
<20	7.3	52.0	3.1	10.5	0.1	0.5	26.6	100.0	72.8	529
20-34	8.4	47.9	5.2	15.0	0.2	0.8	22.5	100.0	76.5	2,840
35-49	5.7	35.6	5.3	12.7	0.2	0.4	40.1	100.0	59.4	557
Birth order										
1	12.6	56.2	5.9	8.7	0.2	0.2	16.3	100.0	83.3	841
2-3	11.0	51.6	4.7	13.2	0.1	0.9	18.6	100.0	80.5	1,268
4-5	5.0	40.4	7.1	18.8	0.3	1.5	26.8	100.0	71.4	853
6+	2.2	37.5	2.5	15.6	0.3	0.1	41.7	100.0	57.8	965
Residence										
Urban	21.2	49.8	5.7	7.9	0.0	0.3	15.1	100.0	84.5	1,026
Rural	3.2	45.6	4.7	16.2	0.3	0.8	29.3	100.0	69.7	2,900
Region										
Tigray	22.0	52.3	10.7	9.0	0.4	0.2	5.3	100.0	94.0	287
Afar	10.3	44.3	5.3	2.7	0.3	0.0	37.1	100.0	62.7	51
Amhara	7.9	58.2	9.4	7.1	0.2	2.1	15.1	100.0	82.6	839
Oromia	5.0	40.7	3.1	22.0	0.0	0.0	29.2	100.0	70.8	1,519
Somali	5.1	21.7	2.2	1.2	0.0	0.2	69.6	100.0	30.2	218
Benishangul-Gumuz	9.5	46.5	2.4	24.8	0.0	0.0	16.7	100.0	83.3	47
SNNPR	3.1	49.6	2.3	14.5	0.6	1.0	29.0	100.0	69.4	787
Gambela	25.8	53.0	5.1	1.8	0.0	0.7	13.7	100.0	85.7	19
Harari	28.7	46.7	3.3	2.1	0.0	0.0	19.3	100.0	80.7	11
Addis Ababa	35.7	55.1	6.0	0.0	0.0	0.0	3.1	100.0	96.9	127
Dire Dawa	27.4	39.2	8.7	8.2	0.3	0.7	15.5	100.0	83.5	21
Education										
No education	2.5	39.3	5.1	15.2	0.4	1.3	36.3	100.0	62.0	2,014
Primary	8.1	54.6	4.6	14.2	0.0	0.1	18.5	100.0	81.4	1,415
Secondary	21.6	58.8	5.5	11.2	0.0	0.0	2.9	100.0	97.1	345
More than secondary	46.8	43.2	5.5	4.4	0.0	0.0	0.2	100.0	99.8	153
Wealth quintile										
Lowest	1.1	29.5	3.1	13.6	0.1	1.0	51.6	100.0	47.3	825
Second	2.1	43.9	5.2	19.8	0.2	0.3	28.6	100.0	71.0	822
Middle	2.9	50.8	5.7	16.2	0.4	1.3	22.7	100.0	75.6	761
Fourth	5.9	54.5	4.0	16.3	0.2	1.0	18.0	100.0	80.7	705
Highest	27.1	56.2	6.8	4.6	0.1	0.0	5.3	100.0	94.6	813
Total	7.9	46.7	5.0	14.0	0.2	0.7	25.6	100.0	73.6	3,927

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, health officer, and health extension worker.

Table 7.2 Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 who had a live birth in the 5 years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Ethiopia Mini-DHS 2019

Number of ANC visits and timing of first visit	Residence		Total
	Urban	Rural	
Number of ANC visits			
None	15.1	29.3	25.6
1	1.9	3.8	3.3
2-3	23.6	29.4	27.9
4+	58.7	37.4	43.0
Don't know/missing	0.6	0.1	0.3
Total	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	15.1	29.3	25.6
<4	43.4	22.3	27.8
4-5	32.3	32.2	32.2
6-7	6.4	13.5	11.6
8+	2.3	2.0	2.1
Don't know/missing	0.5	0.8	0.7
Total	100.0	100.0	100.0
Number of women	1,026	2,900	3,927
Median months pregnant at first visit (for those with ANC)	4.0	4.7	4.5
Number of women with ANC	871	2,052	2,923

Table 7.3 Components of antenatal care

Among women age 15-49 receiving antenatal care (ANC) for the most recent live birth in the 5 years preceding the survey, percentage receiving specific antenatal services, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Blood pressure measured	Urine sample taken	Blood sample taken	Nutritional counselling	Number of women with ANC for their most recent birth
Age at birth					
<20	90.8	71.3	78.3	68.7	388
20-34	87.6	74.5	79.2	71.7	2,201
35-49	88.2	72.6	77.0	69.3	334
Birth order					
1	91.7	81.1	84.7	73.1	704
2-3	88.8	77.5	81.1	71.2	1,032
4-5	87.4	68.3	76.6	74.9	624
6+	83.0	64.4	69.9	63.8	563
Residence					
Urban	96.9	87.7	90.7	75.8	871
Rural	84.4	68.0	73.8	69.0	2,052
Region					
Tigray	91.3	85.5	87.7	74.9	271
Afar	94.5	87.3	87.8	67.0	32
Amhara	93.6	83.8	87.0	77.9	713
Oromia	82.8	65.5	71.6	63.3	1,076
Somali	90.5	79.2	80.9	62.2	66
Benishangul-Gumuz	88.5	66.4	74.9	71.1	39
SNNPR	86.2	64.2	72.4	72.5	559
Gambela	92.5	88.4	94.2	74.4	16
Harari	95.2	89.7	90.5	73.0	9
Addis Ababa	99.5	98.6	97.9	89.6	123
Dire Dawa	94.8	91.6	91.8	68.8	18
Education					
No education	83.2	67.6	74.0	69.1	1,282
Primary	90.4	74.0	79.0	68.4	1,153
Secondary	94.5	86.5	88.8	83.2	335
More than secondary	97.6	98.0	96.9	80.3	152
Wealth quintile					
Lowest	81.7	59.3	67.7	59.2	399
Second	78.9	60.0	68.0	66.9	587
Middle	85.9	69.9	75.5	73.7	589
Fourth	90.5	75.6	80.1	70.9	578
Highest	98.3	93.8	94.6	78.4	770
Total	88.1	73.9	78.9	71.0	2,923

Table 7.4 Maternal care indicators

Among women age 15-49 who had a live birth in the 5 years preceding the survey, percentage who received antenatal care (ANC) from a skilled provider for the most recent live birth and percentage with four or more ANC visits for the most recent live birth; among all live births in the 5 years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility; and among women age 15-49 who had a live birth in the 2 years preceding the survey, percentage who received a postnatal check during the first 2 days after giving birth, according to background characteristics, Ethiopia Mini-DHS 2019

	Women who had a live birth in the 5 years preceding the survey			Live births in the 5 years preceding the survey			Women who had a live birth in the 2 years preceding the survey	
Background characteristic	Percentage receiving antenatal care from a skilled provider[1]	Percentage with 4+ ANC visits	Number of women	Percentage delivered by a skilled provider[1]	Percentage delivered in a health facility	Number of births	Percentage with a postnatal check during the first 2 days after birth[2]	Number of women
Age at birth								
<20	72.8	36.4	529	55.8	53.6	751	34.5	316
20-34	76.5	45.7	2,840	49.9	47.8	4,069	34.1	1,504
35-49	59.4	35.5	557	43.0	39.7	707	31.6	285
Residence								
Urban	84.5	58.7	1,026	72.1	70.4	1,367	47.6	553
Rural	69.7	37.4	2,900	42.5	40.0	4,160	28.9	1,552
Region								
Tigray	94.0	63.9	287	73.3	72.4	371	63.3	155
Afar	62.7	31.1	51	30.6	28.3	86	23.5	31
Amhara	82.6	50.8	839	55.7	54.2	1,050	39.8	433
Oromia	70.8	40.6	1,519	43.7	41.0	2,211	26.1	825
Somali	30.2	11.1	218	26.0	23.3	409	10.3	132
Benishangul-Gumuz	83.3	55.9	47	65.0	63.7	67	45.0	24
SNNPR	69.4	34.1	787	50.1	47.5	1,106	32.0	411
Gambela	85.7	31.8	19	69.9	70.3	25	55.1	10
Harari	80.7	38.8	11	64.7	63.8	16	45.1	6
Addis Ababa	96.9	81.8	127	95.7	94.8	156	73.5	64
Dire Dawa	83.5	61.5	21	70.8	69.2	30	48.2	13
Education								
No education	62.0	32.4	2,014	35.2	32.7	2,962	21.8	977
Primary	81.4	47.0	1,415	60.5	57.8	1,956	36.9	840
Secondary	97.1	72.5	345	83.6	83.8	415	62.4	182
More than secondary	99.8	78.9	153	93.1	93.1	194	70.6	105
Wealth quintile								
Lowest	47.3	20.1	825	22.1	19.7	1,321	12.8	460
Second	71.0	37.7	822	40.6	38.5	1,198	21.3	449
Middle	75.6	39.0	761	47.5	43.3	1,044	27.8	392
Fourth	80.7	48.7	705	63.1	61.5	960	48.5	364
Highest	94.6	70.4	813	86.9	85.9	1,005	61.7	438
Total	73.6	43.0	3,927	49.8	47.5	5,527	33.8	2,105

Note: If more than one source of assistance was mentioned, only the provider with the highest qualifications is considered in this tabulation.
[1] Skilled provider includes doctor, nurse, midwife, health officer, and health extension worker.
[2] Includes women who received a check from a doctor, nurse, midwife, health officer, health extension worker, or traditional birth attendant

Table 7.5 Place of delivery

Percent distribution of live births in the 5 years preceding the survey by place of delivery and percentage delivered in a health facility, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Health facility			Home	Other	Total	Percentage delivered in a health facility	Number of births
	Public sector	Private sector	NGO					
Mother's age at birth								
<20	52.7	0.5	0.4	45.8	0.5	100.0	53.6	751
20-34	45.2	1.4	1.2	51.1	1.1	100.0	47.8	4,069
35-49	38.1	1.1	0.4	59.1	1.2	100.0	39.7	707
Birth order								
1	65.7	1.9	1.4	30.0	0.9	100.0	69.1	1,221
2-3	47.7	2.0	1.1	48.1	1.0	100.0	50.9	1,755
4-5	37.4	0.6	0.5	60.5	1.0	100.0	38.5	1,244
6+	30.7	0.2	0.7	67.2	1.2	100.0	31.6	1,306
Antenatal care visits[1]								
None	13.3	0.0	0.3	85.8	0.7	100.0	13.6	1,004
1-3	50.7	0.8	0.6	47.3	0.7	100.0	52.0	1,225
4+	69.8	2.5	1.4	25.0	1.4	100.0	73.6	1,688
Don't know/missing	*	*	*	*	*	*	*	10
Residence								
Urban	63.2	3.7	3.5	29.2	0.4	100.0	70.4	1,367
Rural	39.5	0.4	0.1	58.7	1.2	100.0	40.0	4,160
Region								
Tigray	72.0	0.0	0.4	26.5	1.1	100.0	72.4	371
Afar	27.1	0.0	1.2	71.6	0.2	100.0	28.3	86
Amhara	53.3	0.1	0.8	44.4	1.4	100.0	54.2	1,050
Oromia	39.7	0.7	0.6	57.8	1.2	100.0	41.0	2,211
Somali	16.7	1.3	5.2	76.0	0.8	100.0	23.3	409
Benishangul-Gumuz	63.4	0.0	0.3	31.3	5.0	100.0	63.7	67
SNNPR	47.3	0.0	0.2	52.1	0.4	100.0	47.5	1,106
Gambela	58.2	0.9	11.2	29.3	0.4	100.0	70.3	25
Harari	56.0	6.8	1.1	35.5	0.6	100.0	63.8	16
Addis Ababa	66.8	26.2	1.9	4.8	0.4	100.0	94.8	156
Dire Dawa	56.5	12.6	0.0	30.3	0.6	100.0	69.2	30
Mother's education								
No education	31.8	0.3	0.6	66.0	1.3	100.0	32.7	2,962
Primary	56.1	0.5	1.1	41.4	0.8	100.0	57.8	1,956
Secondary	76.3	5.1	2.3	15.5	0.7	100.0	83.8	415
More than secondary	77.3	14.2	1.6	6.9	0.0	100.0	93.1	194
Wealth quintile								
Lowest	19.0	0.3	0.4	79.2	1.1	100.0	19.7	1,321
Second	38.2	0.0	0.3	60.4	1.0	100.0	38.5	1,198
Middle	42.9	0.0	0.3	55.3	1.4	100.0	43.3	1,044
Fourth	60.4	0.1	0.9	37.3	1.3	100.0	61.5	960
Highest	76.5	6.2	3.2	13.7	0.4	100.0	85.9	1,005
Total	45.3	1.2	1.0	51.4	1.0	100.0	47.5	5,527

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 birth in the 5 years preceding the survey

Table 7.6 Assistance during delivery

Percent distribution of live births in the 5 years preceding the survey by person providing assistance during delivery and percentage of births assisted by a skilled provider, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Person providing assistance during delivery								Percentage delivered by a skilled provider[1]	Number of births
	Doctor	Nurse/ midwife	Health officer	Health extension worker	Traditional birth attendant	Relative/ other	No one	Total		
Mother's age at birth										
<20	5.5	45.0	1.6	3.7	29.9	7.3	7.0	100.0	55.8	751
20-34	8.8	35.4	2.0	3.7	31.1	5.4	13.5	100.0	49.9	4,069
35-49	9.7	26.6	1.4	5.4	31.8	5.9	19.2	100.0	43.0	707
Birth order										
1	15.1	49.5	2.4	3.1	21.0	5.1	3.8	100.0	70.1	1,221
2-3	9.3	38.5	2.0	3.1	29.5	6.2	11.4	100.0	52.9	1,755
4-5	6.3	27.8	1.9	4.9	36.7	5.8	16.6	100.0	40.8	1,244
6+	3.1	26.2	1.2	4.7	37.1	5.8	21.9	100.0	35.3	1,306
Antenatal care visits[2]										
None	2.3	10.3	0.6	1.6	55.8	7.1	22.3	100.0	14.8	1,004
1-3	6.5	41.4	2.1	5.6	22.8	6.5	15.1	100.0	55.6	1,225
4+	14.9	54.2	2.2	4.7	14.1	4.7	5.2	100.0	76.0	1,688
Don't know/missing	*	*	*	*	*	*	*	*	*	10
Place of delivery										
Health facility	17.4	72.5	3.8	5.9	0.0	0.2	0.2	100.0	99.6	2,628
Public facility	15.1	74.4	3.8	6.2	0.1	0.2	0.2	100.0	99.5	2,506
Private facility	83.5	16.5	0.0	0.0	0.0	0.0	0.0	100.0	100.0	68
NGO	38.9	52.2	8.9	0.0	0.0	0.0	0.0	100.0	100.0	54
Elsewhere	0.3	2.2	0.1	2.1	59.1	10.8	25.3	100.0	4.7	2,899
Residence										
Urban	21.6	47.0	2.2	1.2	19.4	2.5	6.0	100.0	72.1	1,367
Rural	4.1	31.9	1.8	4.8	34.8	6.8	15.8	100.0	42.5	4,160
Region										
Tigray	15.3	50.9	5.2	1.8	8.7	15.9	2.1	100.0	73.3	371
Afar	5.7	23.5	0.9	0.5	60.8	3.7	4.9	100.0	30.6	86
Amhara	10.4	40.2	2.2	2.8	26.0	7.1	11.3	100.0	55.7	1,050
Oromia	5.0	31.4	1.5	5.8	33.1	2.4	20.7	100.0	43.7	2,211
Somali	5.9	17.0	2.7	0.3	71.4	0.6	2.0	100.0	26.0	409
Benishangul-Gumuz	12.5	42.5	0.5	9.5	8.3	3.9	22.8	100.0	65.0	67
SNNPR	5.5	39.9	0.9	3.7	27.8	10.9	11.2	100.0	50.1	1,106
Gambela	25.6	38.2	3.6	2.4	20.4	6.7	3.0	100.0	69.9	25
Harari	23.1	39.9	1.2	0.6	29.8	0.7	4.8	100.0	64.7	16
Addis Ababa	46.4	47.5	1.8	0.0	3.2	0.8	0.3	100.0	95.7	156
Dire Dawa	27.4	39.6	1.8	2.0	21.5	2.9	4.8	100.0	70.8	30
Mother's education										
No education	3.3	26.4	1.2	4.2	39.9	6.4	18.5	100.0	35.2	2,962
Primary	11.2	42.9	2.5	3.9	24.4	5.7	9.5	100.0	60.5	1,956
Secondary	16.8	59.9	3.7	3.2	11.7	2.8	1.9	100.0	83.6	415
More than secondary	40.1	50.7	1.7	0.6	3.9	3.0	0.0	100.0	93.1	194
Wealth quintile										
Lowest	1.5	15.7	0.9	4.0	49.9	7.8	20.3	100.0	22.1	1,321
Second	2.7	32.1	1.8	4.0	36.8	5.3	17.3	100.0	40.6	1,198
Middle	4.9	33.8	2.2	6.7	34.2	6.5	11.7	100.0	47.5	1,044
Fourth	7.3	49.8	2.1	3.9	18.4	7.3	11.2	100.0	63.1	960
Highest	29.1	54.4	2.5	0.8	8.3	1.5	3.4	100.0	86.9	1,005
Total	8.4	35.6	1.9	3.9	31.0	5.8	13.4	100.0	49.8	5,527

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] Skilled provider includes doctor, nurse, midwife, health officer, and health extension worker.
[2] Includes only the most recent birth in the 5 years preceding the survey

Table 7.7 Caesarean section

Percentage of live births in the 5 years preceding the survey delivered by caesarean section (C-section), according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Percentage delivered by C-section	Number of births
Mother's age at birth		
<20	2.8	751
20-34	5.6	4,069
35-49	7.0	707
Birth order		
1	9.0	1,221
2-3	4.8	1,755
4-5	4.7	1,244
6+	3.6	1,306
Antenatal care visits[1]		
None	1.1	1,004
1-3	6.6	1,225
4+	9.0	1,688
Don't know/missing	*	10
Place of delivery		
Health facility	11.4	2,628
Public facility	10.8	2,506
Private facility	42.2	68
NGO	3.0	54
Residence		
Urban	10.1	1,367
Rural	3.9	4,160
Region		
Tigray	6.9	371
Afar	2.7	86
Amhara	7.4	1,050
Oromia	4.1	2,211
Somali	1.1	409
Benishangul-Gumuz	6.2	67
SNNPR	4.6	1,106
Gambela	3.8	25
Harari	8.2	16
Addis Ababa	24.1	156
Dire Dawa	15.6	30
Mother's education		
No education	2.9	2,962
Primary	6.4	1,956
Secondary	12.6	415
More than secondary	19.3	194
Wealth quintile		
Lowest	1.6	1,321
Second	3.6	1,198
Middle	4.5	1,044
Fourth	4.7	960
Highest	14.3	1,005
Total	5.4	5,527

Note: The question on C-section was 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 a C-section. 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 in the 5 years preceding the survey

Table 7.8 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 by time after delivery, and percentage of women with a live birth during the 2 years preceding the survey who received a postnatal check in the first 2 days after giving birth, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Time after delivery of mother's first postnatal check[1]								Percentage of women with a postnatal check during the first 2 days after birth[1]	Number of women
	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		
Age at birth										
<20	29.3	4.7	0.5	0.0	0.4	0.0	65.1	100.0	34.5	316
20-34	29.2	2.9	2.0	1.1	0.9	0.7	63.3	100.0	34.1	1,504
35-49	28.3	3.1	0.2	0.3	0.0	2.1	66.1	100.0	31.6	285
Birth order										
1	39.4	3.2	2.2	1.5	0.5	0.0	53.2	100.0	44.7	507
2-3	30.8	5.0	1.5	0.0	0.3	0.1	62.3	100.0	37.3	716
4-5	25.3	1.8	1.7	1.6	1.3	2.5	65.9	100.0	28.8	447
6+	18.3	1.6	0.6	0.4	1.0	1.1	77.0	100.0	20.5	435
Place of delivery										
Health facility	52.3	5.4	2.6	0.8	0.7	1.1	37.2	100.0	60.2	1,137
Elsewhere	1.9	0.6	0.3	0.7	0.6	0.5	95.4	100.0	2.8	968
Residence										
Urban	39.4	4.6	3.6	1.9	0.3	0.9	49.3	100.0	47.6	553
Rural	25.4	2.7	0.8	0.4	0.8	0.8	69.2	100.0	28.9	1,552
Region										
Tigray	56.1	4.9	2.3	2.7	1.0	0.6	32.4	100.0	63.3	155
Afar	19.8	3.3	0.4	0.8	0.4	1.0	74.3	100.0	23.5	31
Amhara	34.4	4.6	0.8	2.1	0.6	1.2	56.4	100.0	39.8	433
Oromia	22.9	2.4	0.9	0.0	0.8	1.2	71.9	100.0	26.1	825
Somali	8.5	0.8	1.0	0.4	0.0	0.0	89.3	100.0	10.3	132
Benishangul-Gumuz	36.2	4.7	4.1	1.1	1.8	0.4	51.7	100.0	45.0	24
SNNPR	26.6	2.7	2.7	0.5	0.7	0.0	66.8	100.0	32.0	411
Gambela	52.3	1.8	0.9	0.6	1.3	0.6	42.4	100.0	55.1	10
Harari	30.6	10.7	3.8	1.2	1.8	1.1	50.8	100.0	45.1	6
Addis Ababa	63.2	5.5	4.8	0.0	0.0	1.0	25.5	100.0	73.5	64
Dire Dawa	35.3	10.4	2.5	1.4	2.3	2.5	45.7	100.0	48.2	13
Education										
No education	19.6	1.3	0.9	0.2	0.2	0.6	77.1	100.0	21.8	977
Primary	29.6	5.4	2.0	1.3	1.0	1.2	59.6	100.0	36.9	840
Secondary	57.9	1.0	3.5	1.6	2.3	0.0	33.7	100.0	62.4	182
More than secondary	63.5	6.1	0.9	0.0	0.1	1.0	28.3	100.0	70.6	105
Wealth quintile										
Lowest	11.3	0.8	0.7	0.3	0.3	0.8	85.8	100.0	12.8	460
Second	18.6	2.3	0.4	1.4	0.5	0.0	76.8	100.0	21.3	449
Middle	25.3	2.4	0.1	0.7	0.9	1.2	69.4	100.0	27.8	392
Fourth	42.6	2.8	3.2	0.1	1.5	0.0	49.9	100.0	48.5	364
Highest	50.7	7.5	3.5	1.3	0.5	2.0	34.6	100.0	61.7	438
Total	29.1	3.2	1.5	0.8	0.7	0.8	63.9	100.0	33.8	2,105

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

Table 7.9 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 of the mother's first postnatal health check during the 2 days after the most recent live birth, according to background characteristics, Ethiopia Mini-DHS 2019

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	Health officer	Health extension worker	Traditional birth attendant			
Age at birth							
<20	30.5	2.0	1.8	0.3	65.5	100.0	316
20-34	29.2	3.4	1.5	0.0	65.9	100.0	1,504
35-49	30.1	0.5	1.0	0.0	68.4	100.0	285
Birth order							
1	41.9	2.0	0.8	0.0	55.3	100.0	507
2-3	31.7	3.7	1.7	0.1	62.7	100.0	716
4-5	23.2	3.6	1.9	0.0	71.2	100.0	447
6+	17.8	1.2	1.4	0.0	79.5	100.0	435
Place of delivery							
Health facility	53.3	4.5	2.3	0.0	39.8	100.0	1,137
Elsewhere	1.5	0.7	0.5	0.1	97.2	100.0	968
Residence							
Urban	44.7	2.1	0.7	0.0	52.4	100.0	553
Rural	24.1	3.0	1.7	0.0	71.1	100.0	1,552
Region							
Tigray	53.2	7.8	1.9	0.4	36.7	100.0	155
Afar	22.0	1.0	0.0	0.5	76.5	100.0	31
Amhara	34.5	4.1	1.2	0.0	60.2	100.0	433
Oromia	22.6	1.9	1.6	0.0	73.9	100.0	825
Somali	9.4	0.5	0.4	0.0	89.7	100.0	132
Benishangul-Gumuz	35.4	2.3	7.2	0.0	55.0	100.0	24
SNNPR	27.9	2.5	1.7	0.0	68.0	100.0	411
Gambela	51.9	3.0	0.0	0.3	44.9	100.0	10
Harari	41.8	2.7	0.0	0.6	54.9	100.0	6
Addis Ababa	72.9	0.6	0.0	0.0	26.5	100.0	64
Dire Dawa	46.3	1.5	0.4	0.0	51.8	100.0	13
Education							
No education	18.6	1.5	1.6	0.0	78.2	100.0	977
Primary	32.3	3.7	0.8	0.1	63.1	100.0	840
Secondary	51.8	6.1	4.4	0.0	37.6	100.0	182
More than secondary	69.5	1.0	0.0	0.0	29.4	100.0	105
Wealth quintile							
Lowest	10.6	0.7	1.5	0.0	87.2	100.0	460
Second	17.1	2.4	1.9	0.0	78.7	100.0	449
Middle	23.6	2.7	1.5	0.0	72.2	100.0	392
Fourth	40.7	5.7	2.2	0.0	51.5	100.0	364
Highest	58.1	3.0	0.4	0.2	38.3	100.0	438
Total	29.5	2.8	1.5	0.0	66.2	100.0	2,105

Table 7.10 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, Ethiopia Mini-DHS 2019

Background characteristic	Time after delivery 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 births
	Less than 1 hour	1-3 hours	4-23 hours	1-2 days	3-6 days	Don't know				
Mother's age at birth										
<20	27.9	7.9	0.6	0.4	2.7	0.7	59.9	100.0	36.7	316
20-34	23.6	7.7	1.8	1.6	1.1	1.0	63.3	100.0	34.6	1,504
35-49	21.5	8.0	1.6	0.8	0.3	2.2	65.7	100.0	31.8	285
Birth order										
1	35.5	9.5	1.0	1.3	2.8	0.8	49.2	100.0	47.3	507
2-3	24.9	6.4	2.2	1.1	0.4	1.1	63.9	100.0	34.6	716
4-5	19.0	9.9	1.5	2.6	1.9	1.4	63.7	100.0	33.1	447
6+	13.9	5.6	1.2	0.4	0.2	1.5	77.3	100.0	21.1	435
Place of delivery										
Health facility	43.6	13.5	2.7	2.1	1.6	1.8	34.6	100.0	61.9	1,137
Elsewhere	0.8	0.9	0.3	0.3	0.8	0.3	96.5	100.0	2.3	968
Residence										
Urban	31.2	11.6	2.9	2.7	2.1	1.0	48.5	100.0	48.4	553
Rural	21.3	6.3	1.1	0.8	0.9	1.2	68.3	100.0	29.6	1,552
Region										
Tigray	45.5	8.2	1.5	0.4	1.4	4.3	38.7	100.0	55.5	155
Afar	16.7	5.6	2.7	0.8	0.4	1.0	72.8	100.0	25.8	31
Amhara	27.1	11.9	1.9	0.8	2.1	2.9	53.3	100.0	41.7	433
Oromia	19.5	6.5	1.2	1.0	1.1	0.4	70.4	100.0	28.1	825
Somali	7.9	2.1	2.4	0.5	0.0	0.4	86.7	100.0	13.0	132
Benishangul-Gumuz	30.7	10.3	3.0	0.7	0.0	0.0	55.3	100.0	44.7	24
SNNPR	19.2	6.4	1.2	3.2	1.3	0.0	68.7	100.0	30.0	411
Gambela	46.7	5.9	3.1	0.3	1.3	0.0	42.8	100.0	56.0	10
Harari	33.7	5.9	5.7	1.6	2.4	2.0	48.7	100.0	46.9	6
Addis Ababa	65.1	15.4	2.7	1.1	0.9	1.0	13.7	100.0	84.4	64
Dire Dawa	33.8	8.1	5.9	0.0	0.0	1.7	50.5	100.0	47.8	13
Mother's education										
No education	14.8	5.4	0.9	1.0	0.6	1.8	75.4	100.0	22.1	977
Primary	28.5	7.3	1.7	1.9	2.0	0.5	58.1	100.0	39.4	840
Secondary	37.3	17.5	2.8	0.7	1.6	0.8	39.3	100.0	58.3	182
More than secondary	49.6	16.1	4.0	0.1	0.0	0.9	29.3	100.0	69.8	105
Wealth quintile										
Lowest	8.4	4.1	0.5	0.2	0.9	1.3	84.6	100.0	13.3	460
Second	18.6	6.0	0.5	0.3	1.3	1.2	72.1	100.0	25.4	449
Middle	23.2	7.9	0.6	1.7	0.8	1.0	64.8	100.0	33.4	392
Fourth	29.8	9.9	2.7	0.7	1.1	0.4	55.3	100.0	43.2	364
Highest	41.5	11.3	3.7	3.5	2.0	1.7	36.3	100.0	60.1	438
Total	23.9	7.7	1.6	1.3	1.2	1.1	63.1	100.0	34.5	2,105

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

Table 7.11 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 of the newborn's first postnatal health check during the 2 days after the most recent live birth, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Type of health provider of newborn's first postnatal check				No postnatal check during the first 2 days after birth	Total	Number of births
	Doctor/ nurse/ midwife	Health officer	Health extension worker	Traditional birth attendant			
Mother's age at birth							
<20	31.4	3.2	2.0	0.1	63.3	100.0	316
20-34	30.0	2.7	1.5	0.4	65.4	100.0	1,504
35-49	29.8	1.6	0.2	0.2	68.2	100.0	285
Birth order							
1	43.6	2.8	0.9	0.0	52.7	100.0	507
2-3	30.3	2.8	1.5	0.1	65.4	100.0	716
4-5	26.0	3.5	2.9	0.7	66.9	100.0	447
6+	18.7	1.4	0.4	0.7	78.9	100.0	435
Place of delivery							
Health facility	55.0	4.6	2.3	0.0	38.1	100.0	1,137
Elsewhere	1.0	0.3	0.3	0.7	97.7	100.0	968
Residence							
Urban	46.4	1.9	0.1	0.0	51.6	100.0	553
Rural	24.4	2.9	1.9	0.4	70.4	100.0	1,552
Region							
Tigray	46.8	6.9	1.0	0.8	44.5	100.0	155
Afar	24.1	1.0	0.2	0.4	74.2	100.0	31
Amhara	38.0	2.5	0.9	0.4	58.3	100.0	433
Oromia	23.9	2.7	1.6	0.0	71.9	100.0	825
Somali	11.2	1.8	0.0	0.0	87.0	100.0	132
Benishangul-Gumuz	36.0	2.3	6.4	0.0	55.3	100.0	24
SNNPR	25.0	1.9	2.2	0.9	70.0	100.0	411
Gambela	52.9	3.1	0.0	0.0	44.0	100.0	10
Harari	42.3	3.3	0.0	1.3	53.1	100.0	6
Addis Ababa	83.8	0.6	0.0	0.0	15.6	100.0	64
Dire Dawa	45.2	2.0	0.0	0.6	52.2	100.0	13
Mother's education							
No education	18.6	1.2	1.9	0.4	77.9	100.0	977
Primary	34.5	3.8	0.8	0.3	60.6	100.0	840
Secondary	50.1	5.8	2.3	0.0	41.7	100.0	182
More than secondary	68.7	1.0	0.0	0.0	30.2	100.0	105
Wealth quintile							
Lowest	10.3	1.1	1.1	0.8	86.7	100.0	460
Second	19.9	2.3	2.9	0.3	74.6	100.0	449
Middle	27.9	3.0	2.1	0.4	66.6	100.0	392
Fourth	37.9	4.6	0.7	0.0	56.8	100.0	364
Highest	57.3	2.7	0.1	0.0	39.9	100.0	438
Total	30.2	2.6	1.4	0.3	65.5	100.0	2,105

Table 7.12 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, Ethiopia Mini-DHS 2019

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 breastfeeding	Observation of breastfeeding		
Mother's age at birth							
<20	24.5	21.5	19.1	31.3	32.7	36.7	316
20-34	26.4	26.8	21.9	39.1	35.2	40.4	1,504
35-49	28.9	25.2	19.4	36.3	30.9	38.2	285
Birth order							
1	31.6	32.1	24.2	44.1	45.7	49.5	507
2-3	26.6	25.6	22.7	41.2	36.8	41.8	716
4-5	27.0	25.6	21.1	32.7	26.0	33.4	447
6+	19.5	18.9	15.0	29.0	25.2	30.6	435
Place of delivery							
Health facility	42.8	44.1	34.0	59.9	58.5	66.0	1,137
Elsewhere	7.2	4.2	6.0	11.3	5.8	8.5	968
Residence							
Urban	36.9	40.1	30.7	54.7	50.2	57.7	553
Rural	22.7	20.7	17.7	31.5	28.6	33.1	1,552
Region							
Tigray	50.5	50.6	40.7	61.3	59.6	69.7	155
Afar	22.5	17.1	21.9	34.3	29.7	32.0	31
Amhara	26.5	28.9	19.6	48.7	41.0	49.2	433
Oromia	22.7	19.9	16.7	27.7	26.4	29.8	825
Somali	11.8	13.6	6.5	18.6	14.6	17.9	132
Benishangul-Gumuz	38.4	37.2	30.9	48.6	52.1	52.7	24
SNNPR	20.9	20.6	20.2	34.6	31.6	35.6	411
Gambela	46.4	57.1	46.8	48.0	53.8	64.6	10
Harari	35.9	28.5	15.1	35.7	39.4	42.9	6
Addis Ababa	70.5	70.4	69.4	85.7	78.6	89.5	64
Dire Dawa	50.3	39.5	20.6	39.4	33.7	52.6	13
Mother's education							
No education	20.4	21.3	16.3	27.0	24.0	30.3	977
Primary	27.2	23.4	19.2	41.3	38.2	43.1	840
Secondary	49.5	46.1	41.7	64.8	57.8	60.5	182
More than secondary	36.5	50.4	45.7	58.9	57.1	61.8	105
Wealth quintile							
Lowest	10.5	11.1	9.3	19.2	17.7	19.8	460
Second	23.2	19.6	15.0	30.2	30.8	35.2	449
Middle	25.1	20.8	22.8	33.7	26.3	34.4	392
Fourth	30.0	26.2	20.0	41.0	34.7	41.6	364
Highest	44.7	51.6	39.3	65.0	61.9	67.8	438
Total	26.4	25.8	21.1	37.6	34.3	39.6	2,105

CHILDHOOD VACCINATIONS 8

Key Findings

- ***Vaccinations:*** 44% of children age 12-23 months have received all basic vaccinations at some time, and 40% received these vaccinations by the appropriate age. The percentage of children who received all basic vaccinations has increased by 5 percentage points since 2016 (from 39% to 44%).
- ***Vaccination cards in households:*** A vaccination card, booklet, or other home-based record was seen for 41% of children age 12-23 months and 26% of children age 24-35 months.
- ***Vaccination history missing but sought at health facilities:*** 62% of children age 0-35 months did not have a vaccination card seen during the home visit. Vaccination history was sought at a health facility for 33% of children and obtained for 29% of children.

8.1 VACCINATION OF CHILDREN

All basic vaccinations coverage

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card, health facility visit, or the mother's report).

To have received all basic vaccinations, a child must receive at least:

- One dose of BCG vaccine, which protects against tuberculosis
- Three doses of DPT-HepB-Hib, which protects against diphtheria, pertussis (whooping cough), tetanus, hepatitis B, and *Haemophilus influenzae* type b
- Three doses of polio vaccine
- One dose of measles vaccine

Sample: Living children age 12-23 months

The Expanded Programme for Immunisation (EPI) in Ethiopia, launched in 1980, has been one of the core priorities in past Health Sector Development Programmes (HSDPs) and the current Health Sector Transformation Plan (HSTP) (FMoH 2015). The country has mobilised volunteers, health extension workers, and health facilities to deliver immunisation services. Improved district planning and management were initiated in 2011 with the goal of reaching every district. Static, outreach, and mobile are the three important service delivery platforms for vaccination services. In addition, several campaigns provide polio, measles, and other antigens to children.

Universal immunisation of children against the six common vaccine-preventable diseases, namely tuberculosis, diphtheria, whooping cough (pertussis), tetanus, polio, and measles, is crucial in reducing infant and child mortality. Other childhood vaccines given in Ethiopia protect against hepatitis B and *Haemophilus influenzae* type b (Hib). Unlike previous EDHS surveys, this survey also captured information related to the second dose of measles vaccine (MCV 2), an effort launched in early 2019.

According to the guidelines developed by the World Health Organization (WHO), children are considered to have received all basic vaccinations if they have received a vaccination against tuberculosis (also known as BCG), three doses of the DPT-HepB-Hib (also called pentavalent) vaccine, and vaccinations against polio and measles. The BCG vaccine is usually given at birth or at first clinical contact, while the DPT-HepB-Hib and polio vaccines are given at approximately age 6, 10, and 14 weeks. Measles vaccinations should be given at or soon after age 9 months. The EPI in Ethiopia considers a child to have received all basic vaccinations if the child has also received three doses of the pneumococcal conjugate vaccine (PVC) (at age 6, 10, and 14 weeks) and two doses of the rotavirus vaccine (at age 6 and 10 weeks).

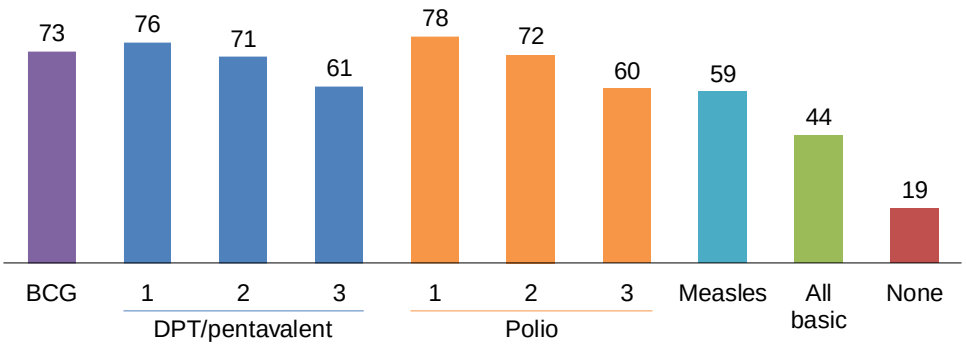
Information on vaccination coverage was obtained in three ways in the 2019 EMDHS: from written vaccination records, including the infant immunisation card and other health cards; from mothers' verbal reports; and from health facility records. For each child born in the 3 years before the survey, mothers were asked to show the interviewer the infant immunisation card or health card used to record the child's immunisations. If the infant immunisation card or other health card was available, the interviewer copied the dates of each vaccination received in the respective section of the Woman's Questionnaire. If a vaccination was not recorded on the infant immunisation card or the health card, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present the child's infant immunisation card, she was asked to recall whether the child had received the BCG, polio, DPT-HepB-Hib, measles, pneumococcal, and rotavirus vaccines. If she indicated that the child had received the polio, DPT-HepB-Hib, pneumococcal, measles, or rotavirus vaccine, she was asked the number of doses that the child received.

In addition, for any children missing vaccination data who also visited a health facility, the field supervisor visited the health facility to collect the relevant vaccination records. The purpose of obtaining information at the health facility was to complement the immunisation information based on mothers' recall.

Data on vaccination coverage among children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's recall) showed that only 4 out of 10 children (44%) have received all basic vaccinations at some time, and 40% received these vaccinations before their first birthday (**Figure 8.1** and **Table 8.1**). Fifty-nine percent of children in this age group received a measles vaccination (MCV 1), and 19% received no vaccinations.

Figure 8.1 Childhood vaccinations

Percentage of children age 12-23 months vaccinated at any time before the survey



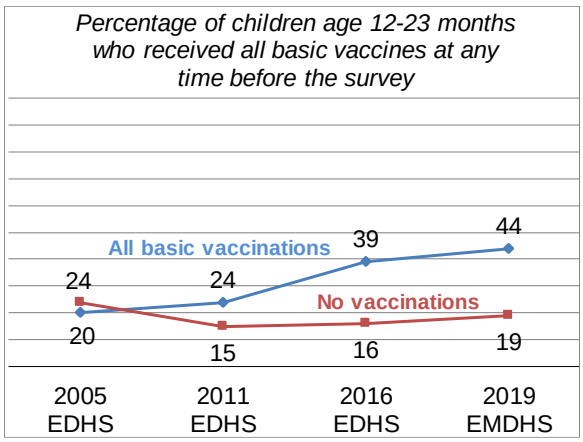
Coverage rates decline for subsequent doses of these vaccines, with 61% of children age 12-23 months receiving the recommended three doses of DPT-HepB-Hib vaccine and 60% receiving all three doses of the polio vaccine. There is a 15 percentage-point dropout rate within this age group from the first to the third dose of the DPT-HepB-Hib vaccine and an 18 percentage-point dropout rate from the first to the third dose of the polio vaccine. Only 9 percent of children age 24-35 months received the second dose of the measles vaccine (MCV 2).

8.2 UPTAKE OF THE RECENTLY INTRODUCED VACCINES

The government of Ethiopia introduced the pneumococcal conjugate vaccine (PCV) and monovalent human rotavirus vaccine (RV) into the national infant immunisation programme in November 2011 and October 2012, respectively. PCV protects against *Streptococcus pneumoniae* bacteria, which cause severe pneumonia, meningitis, and other illnesses. Rotavirus causes gastroenteritis, an inflammation of the stomach and intestines. If left untreated, rotavirus can lead to severe dehydration and death. Among children age 12-23 months, 74% received the first dose of PCV and 60% received the third dose (**Table 8.2**). Seventy-three percent of children received the first dose of RV, while 67% received the second dose.

Trends: There has been steady progress in EPI coverage over the years. The percentage of children age 12-23 months who received all basic vaccinations increased from 20% in 2005 and 24% in 2011 to 39% in 2016 and 44% in 2019. Also, the proportion of children with no vaccinations decreased from 24% in 2005 to 19% in 2019 (**Figure 8.2**).

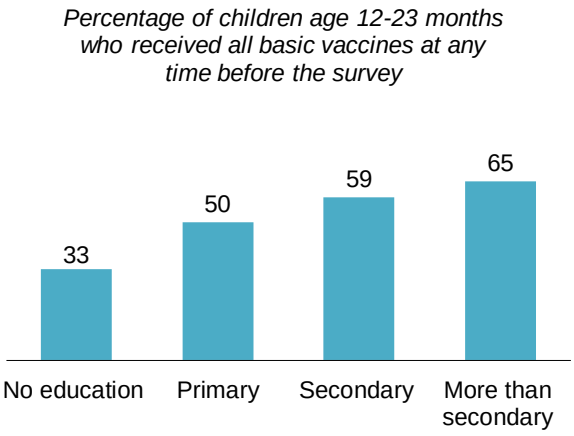
Figure 8.2 **Trends in childhood vaccinations**



Patterns by background characteristics

- Vaccination coverage among children age 12-23 months generally declines as birth order increases, from 44% among first-order births to 37% among sixth- or higher-order births (**Table 8.2**).
- Children in urban areas are more likely to receive all basic vaccinations than children in rural areas (62% versus 36%).
- At the regional level, coverage of all basic vaccinations is highest in Addis Ababa (83%) and Tigray (73%) and lowest in Somali (19%) and Afar (20%).
- Children are more likely to receive all basic vaccinations if their mothers have more than a secondary education (65%) than if their mothers have no education (33%) (**Figure 8.3**).

Figure 8.3 **Vaccination coverage by mother's education**



- Children from households in the highest wealth quintile are more likely to receive all basic vaccinations than children from households in the lowest quintile (67% versus 26%) (**Table 8.2**).

8.3 Possession and Observation of Vaccination Cards in Households

Vaccination cards in households

Percentage of children age 12-23 months and children age 24-35 who ever had a vaccination card (or booklet or other home-based record) that was seen during a home visit.

Sample: Children under age 3 with vaccination cards in the household

Vaccination cards are critical tools in ensuring that children receive all recommended vaccinations according to schedule. In Ethiopia, 45% of children age 12-23 months and 31% of children age 24-35 months were reported to have ever had a vaccination card. Interviewers were able to see a vaccination card, booklet, or other home-based record for 41% of children age 12-23 months and 26% of children age 24-35 months (**Table 8.3**).

8.4 Observation of Vaccination Cards in Health Facilities

Vaccination cards in health facilities

Percentage of children age 0-35 months and children age 12-35 months with vaccination history found and seen at a health facility.

Sample: Children under age 3 with vaccination cards in a health facility

Table 8.4 presents information on observation of vaccination history at health facilities for children age 0-35 months. Sixty-two percent of children in this age group did not have a vaccination card seen during home visits. Of these children, 53% received at least one vaccination at a health facility. For 51% of the children, interviewers were able to obtain the mother's consent to search for the health record at a health facility. Vaccination history was sought at a health facility for 33% of children and found for 29% of children.

Table 8.5 presents results from health facility visits for children age 12-35 months. Sixty-six percent did not have a vaccination card during their home visit. Among these children, 58% received at least one vaccination at a health facility. Interviewers obtained the mother's consent to search for the health record at a health facility for 56% of the children. Supervisors and field teams searched for the vaccination history at health facilities for 37% of children and located the history for 32% of children.

Trends: The percentage of children age 0-35 months with no vaccination card during their home visit declined from 71% in 2016 to 62% in 2019. Over the same period, the percentage of children age 12-23 months who ever had a vaccination card decreased slightly from 46% to 45%, while the percentage among children age 24-35 months decreased from 35% to 31%.

LIST OF TABLES

For more information on childhood vaccinations, observation of vaccination cards, and observation of vaccination history at health facilities, see the following tables:

- **Table 8.1 Vaccinations by source of information**
- **Table 8.2 Vaccinations by background characteristics**
- **Table 8.3 Possession and observation of vaccination cards, according to background characteristics**
- **Table 8.4 Observation of vaccination history at health facilities: Children age 0-35 months**
- **Table 8.5 Observation of vaccination history at health facilities: Children age 12-35 months**

Table 8.1 Vaccinations by source of information

Percentage of children age 12-23 months and children age 24-35 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage who received specific vaccines by the appropriate age, Ethiopia Mini-DHS 2019

	Children age 12-23 months					Children age 24-35 months				
Vaccine	Vaccination card[1]	Health facility	Mother's report	Any source	Vaccinated by appropriate age[2,3]	Vaccination card[1]	Health facility	Mother's report	Any source	Vaccinated by appropriate age[3,4]
BCG	37.2	27.7	8.0	73.0	70.4	24.7	32.0	6.2	63.0	62.6
DPT-HepB-Hib										
1	40.1	28.0	8.2	76.3	75.1	26.2	32.8	5.4	64.4	63.3
2	38.2	26.5	6.6	71.3	70.3	24.6	30.1	4.4	59.1	58.4
3	35.6	22.5	3.1	61.1	60.3	22.7	24.9	2.3	50.0	49.0
Polio										
0 (birth dose)	16.2	13.6	2.2	31.9	31.6	11.9	18.9	2.1	32.9	32.3
1	39.7	28.5	9.7	77.9	76.7	26.0	34.4	8.2	68.7	67.5
2	38.0	27.0	6.6	71.5	70.6	23.9	32.1	5.7	61.6	60.9
3	34.5	23.1	2.4	59.9	58.4	22.3	26.2	1.6	50.2	49.2
IPV	24.8	22.3	7.5	54.6	53.3	15.4	28.6	4.6	48.5	47.7
Pneumococcal										
1	39.9	26.1	7.5	73.6	72.5	25.7	31.6	5.2	62.6	61.5
2	37.7	24.4	6.3	68.4	67.5	23.9	29.0	3.7	56.6	56.0
3	34.7	22.1	3.1	59.8	58.6	21.6	25.2	1.2	48.0	47.0
Rotavirus										
1	39.3	26.2	7.0	72.5	71.4	25.4	29.8	6.0	61.3	60.3
2	36.9	23.8	6.0	66.8	65.6	23.5	27.8	4.0	55.3	53.8
Measles-containing vaccine										
1	29.0	22.8	6.7	58.5	54.8	19.0	29.7	6.2	54.9	49.9
2	na	na	na	na	na	1.9	6.6	0.6	9.1	6.9
All basic vaccinations[5]	26.1	17.7	0.2	44.1	40.2	17.6	20.9	1.0	39.5	36.3
All age-appropriate vaccinations[6]	9.9	8.3	0.0	18.2	18.1	1.4	2.5	0.0	3.9	1.6
No vaccinations	0.0	3.7	15.5	19.2	na	0.0	5.4	23.6	29.0	na
Number of children	425	338	265	1,028	1,028	271	415	341	1,027	1,027

na = Not applicable
BCG = Bacille Calmette-Guérin
DPT = Diphtheria-pertussis-tetanus
HepB = Hepatitis B
Hib = *Haemophilus influenzae* type b
IPV = inactivated polio vaccine
[1] Vaccination card, booklet, or other home-based record
[2] Received by age 12 months
[3] For children whose vaccination information is based on the mother's report, date of vaccination is not collected. The proportions of vaccinations given during the first and second years of life are assumed to be the same as for children with a written record of vaccination.
[4] Received by age 12 months for all vaccines except measles-containing vaccine 2, which should be received by age 24 months
[5] BCG, three doses of DPT-HepB-Hib, three doses of oral polio vaccine (excluding polio vaccine given at birth), and one dose of measles-containing vaccine
[6] For children age 12-23 months: BCG, three doses of DPT-HepB-Hib, four doses of oral polio vaccine, IPV, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of measles-containing vaccine. For children age 24-35 months, all of the just-mentioned vaccinations plus a second dose of measles-containing vaccine.

Table 8.2 Vaccinations by background characteristics

Percentage of children age 12-23 months and children age 24-35 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), percentage with all basic vaccinations, and percentage with all age-appropriate vaccinations, by background characteristics, Ethiopia Mini-DHS 2019

	Children age 12-23 months																			Children age 24-35 months		
		DPT-HepB-Hib			Polio[1]					Pneumococcal			Rotavirus									
Background characteristic	BCG	1	2	3	0 (birth dose)	1	2	3	IPV	1	2	3	1	2	MCV 1	All basic vaccinations[2]	All age-appropriate vaccinations[3]	No vaccinations	Number of children	MCV 2	All age-appropriate vaccinations[4]	Number of children
Sex																						
Male	74.1	79.0	72.1	63.3	32.4	79.9	73.1	62.4	53.2	75.3	70.5	62.8	73.2	67.6	57.6	45.5	17.4	17.7	495	7.8	4.0	514
Female	71.9	73.8	70.4	59.1	31.5	76.0	70.1	57.7	55.9	72.0	66.3	57.1	71.9	66.0	59.4	42.8	18.9	20.6	533	10.5	3.7	514
Birth order																						
1	79.7	80.6	74.9	56.4	30.8	79.0	73.5	59.7	57.1	74.0	69.6	56.0	74.3	69.1	66.4	44.3	16.7	16.0	248	7.6	3.0	220
2-3	75.1	77.7	72.2	65.1	36.1	78.9	72.5	60.3	55.9	75.6	72.1	63.8	74.0	68.3	62.2	50.2	21.4	17.6	376	9.5	5.7	281
4-5	68.9	77.9	72.5	62.3	26.8	78.8	74.8	63.4	53.1	76.8	68.0	61.9	74.5	66.2	53.6	38.9	15.2	20.0	219	12.9	5.4	244
6+	64.4	65.9	63.0	58.0	31.1	73.5	63.3	55.4	50.4	65.0	59.5	54.5	64.8	61.1	46.4	37.4	17.2	25.6	185	6.8	1.5	283
Vaccination card[5]																						
Seen	90.1	96.9	92.4	86.1	39.2	96.1	91.8	83.4	60.0	96.6	91.1	83.9	95.1	89.2	70.2	63.2	23.9	0.0	425	7.4	5.3	271
Found in health facility	84.1	85.3	80.4	68.3	41.3	86.6	82.0	70.1	67.9	79.5	74.1	67.0	79.6	72.5	69.2	53.9	25.2	11.2	338	16.3	6.1	415
Not seen/no card	31.2	31.8	25.6	11.9	8.4	37.6	25.7	9.2	29.0	29.1	24.5	11.9	27.2	23.5	26.2	0.9	0.0	60.2	265	1.8	0.0	341
Residence																						
Urban	88.8	90.0	85.3	76.7	40.6	88.0	83.0	72.9	71.2	87.4	85.2	77.9	85.7	80.7	78.1	62.2	28.7	9.8	313	10.3	7.5	248
Rural	66.0	70.3	65.1	54.3	28.1	73.5	66.5	54.2	47.3	67.5	61.0	51.9	66.8	60.6	50.0	36.1	13.6	23.3	715	8.8	2.8	780
Region																						
Tigray	91.7	95.4	90.1	84.4	54.6	94.6	89.9	83.6	78.8	88.6	84.3	78.4	81.6	78.0	82.9	73.0	38.9	4.6	77	17.2	7.4	61
Afar	45.6	46.5	35.7	27.0	20.6	46.6	33.3	25.0	31.2	42.7	32.2	23.6	43.1	34.4	29.6	19.7	4.1	44.8	15	8.4	0.9	17
Amhara	79.2	84.4	83.1	77.8	37.3	83.5	81.4	75.4	61.6	81.8	80.5	77.8	82.8	77.9	71.3	62.9	23.4	14.8	218	13.3	8.4	192
Oromia	69.7	73.4	66.8	52.9	20.8	77.4	70.5	53.8	48.3	72.6	65.5	52.6	72.1	67.4	48.7	29.2	9.9	18.9	405	5.2	2.1	429
Somali	39.5	44.0	34.7	26.2	15.6	51.7	41.2	26.8	27.9	41.5	33.5	22.9	45.9	35.6	30.9	18.5	4.5	47.3	56	1.4	0.0	74
Benishangul-Gumuz	85.6	89.3	87.5	77.3	61.0	90.3	88.5	74.7	73.3	83.3	80.7	74.6	85.2	80.0	76.7	66.1	41.7	9.7	11	1.6	1.6	13
SNNPR	71.4	72.7	67.3	56.3	34.7	72.4	62.6	53.0	54.8	67.3	61.4	54.0	63.7	54.4	58.2	43.5	18.2	24.2	199	15.3	4.2	196
Gambela	81.8	76.3	73.7	60.4	61.4	85.0	72.4	57.2	52.8	74.8	72.7	60.8	68.9	65.8	57.6	39.8	22.6	14.2	4	21.5	11.8	4
Harari	69.6	63.2	57.5	53.6	44.4	76.3	63.1	50.9	38.1	62.9	56.4	53.8	62.8	48.1	59.9	44.7	16.3	21.4	3	7.2	0.0	4
Addis Ababa	96.3	96.3	96.3	93.1	74.9	91.6	90.5	85.8	77.1	96.3	96.3	93.1	94.4	94.4	90.6	83.3	54.9	3.7	34	3.4	3.4	32
Dire Dawa	95.5	95.2	90.3	73.6	65.1	95.2	86.1	69.0	65.1	88.6	81.0	68.2	86.3	79.2	74.5	56.4	28.1	2.6	6	17.1	7.7	5
Mother's education																						
No education	63.4	66.5	62.3	54.4	28.8	70.3	62.2	54.5	50.8	65.1	58.9	52.6	64.0	56.8	43.7	33.2	15.6	26.7	464	8.4	2.5	576
Primary	76.1	80.7	76.3	64.5	26.2	81.7	77.9	62.7	52.4	77.0	73.2	63.1	75.9	71.6	65.1	50.1	16.2	16.7	418	9.0	6.6	338
Secondary	94.0	93.7	84.3	74.8	65.3	93.2	87.4	69.3	75.0	86.2	81.7	75.8	84.7	81.2	84.6	58.7	28.1	2.5	85	15.9	3.6	85
More than secondary	94.5	97.0	86.6	70.1	48.3	89.1	76.7	69.0	70.1	97.0	89.0	70.1	96.9	88.9	90.3	65.1	37.6	3.0	62	(5.5)	(0.7)	29
Wealth quintile																						
Lowest	52.6	58.8	54.1	47.0	20.8	62.9	58.1	41.4	35.5	56.0	51.8	44.7	55.6	51.0	42.1	26.4	8.9	35.6	217	6.1	1.7	245
Second	68.7	75.8	68.8	57.9	30.9	78.1	69.9	60.8	56.1	72.2	63.1	53.4	70.5	63.9	53.9	42.5	15.5	20.1	214	8.2	4.0	218
Middle	68.5	69.7	63.3	50.8	30.6	72.7	63.3	53.2	43.4	67.9	60.4	50.6	67.3	59.6	46.1	35.4	17.7	23.8	179	11.5	2.7	212
Fourth	77.4	78.0	73.6	59.7	29.7	75.8	67.7	55.1	53.6	72.1	65.4	57.5	67.9	60.1	62.2	42.6	13.1	15.5	159	13.9	4.7	162
Highest	93.8	94.8	91.6	83.4	44.3	95.2	92.2	82.2	77.6	94.2	93.7	85.4	94.7	91.2	82.4	67.0	31.5	3.9	260	7.6	7.1	190
Total	73.0	76.3	71.3	61.1	31.9	77.9	71.5	59.9	54.6	73.6	68.4	59.8	72.5	66.8	58.5	44.1	18.2	19.2	1,028	9.1	3.9	1,027

Note: Children are considered to have received the vaccine if it was either written on their vaccination card or reported by the mother. For children whose vaccination information is based on the mother's report, date of vaccination is not collected. The proportions of vaccinations given during the first and second years of life are assumed to be the same as for children with a written record of vaccination. Figures in parentheses are based on 25-49 unweighted cases.
BCG = Bacille Calmette-Guérin
DPT = Diphtheria-pertussis-tetanus
HepB = Hepatitis B
Hib = *Haemophilus influenzae* type b
IPV = inactivated polio vaccine
MCV = Measles-containing virus
[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, three doses of DPT-HepB-Hib, three doses of oral polio vaccine (excluding polio vaccine given at birth), and one dose of measles-containing vaccine
[3] BCG, three doses of DPT-HepB-Hib, four doses of oral polio vaccine, IPV, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and one dose of measles-containing vaccine
[4] BCG, three doses of DPT-HepB-Hib, four doses of oral polio vaccine, IPV, three doses of pneumococcal vaccine, two doses of rotavirus vaccine, and two doses of measles-containing vaccine
[5] Vaccination card, booklet, or other home-based record

Table 8.3 Possession and observation of vaccination cards, according to background characteristics

Percentage of children age 12-23 months and children age 24-35 months who ever had a vaccination card, and percentage with a vaccination card seen, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Children age 12-23 months			Children age 24-35 months		
	Percentage who ever had a vaccination card[1]	Percentage with a vaccination card seen[1]	Number of children	Percentage who ever had a vaccination card[1]	Percentage with a vaccination card seen[1]	Number of children
Sex						
Male	45.6	41.9	495	25.2	21.0	514
Female	44.6	40.8	533	36.7	31.8	514
Birth order						
1	45.5	41.1	248	35.7	34.6	220
2-3	49.3	45.7	376	33.1	28.5	281
4-5	45.6	43.9	219	34.3	27.0	244
6+	35.3	29.7	185	22.1	17.3	283
Residence						
Urban	60.7	57.4	313	46.6	37.9	248
Rural	38.2	34.3	715	26.0	22.7	780
Region						
Tigray	75.0	69.0	77	64.7	63.6	61
Afar	22.9	19.2	15	19.0	11.3	17
Amhara	53.3	52.4	218	39.6	38.6	192
Oromia	39.6	35.2	405	24.5	20.2	429
Somali	24.9	21.4	56	17.1	13.2	74
Benishangul-Gumuz	46.7	45.7	11	33.2	31.1	13
SNNPR	34.1	29.6	199	22.1	11.8	196
Gambela	58.1	53.5	4	31.5	27.6	4
Harari	52.2	48.5	3	47.7	41.0	4
Addis Ababa	91.1	85.9	34	87.6	84.8	32
Dire Dawa	58.2	54.6	6	52.7	50.0	5
Mother's education						
No education	33.9	30.8	464	24.2	19.1	576
Primary	50.6	45.8	418	36.2	33.1	338
Secondary	68.0	65.1	85	48.4	39.7	85
More than secondary	60.3	58.2	62	(53.1)	(53.1)	29
Wealth quintile						
Lowest	22.2	17.4	217	18.0	13.6	245
Second	36.8	35.5	214	19.9	15.7	218
Middle	44.5	40.1	179	30.4	27.9	212
Fourth	48.4	45.1	159	27.4	24.1	162
Highest	69.4	64.6	260	64.0	55.4	190
Total	45.1	41.3	1,028	30.9	26.4	1,027

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Vaccination card, booklet, or other home-based record

Table 8.4 Observation of vaccination history at health facilities: Children age 0-35 months

Percentage of children age 0-35 months who did not have a vaccination card seen during the home visit, and among children age 0-35 months without a vaccination card seen during the home visit, percentage who received at least one vaccination at a health facility, percentage with mother's consent for visiting health facilities, percentage with vaccination history searched at health facilities, and percentage with vaccination history found and seen by the interviewer at health facilities, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Percentage of children who did not have vaccination card during home visit[1]	Number of children	Among children who did not have vaccination card during home visit: Percentage who received at least one vaccination at a health facility	Percentage with mother's consent for visiting health facilities	Percentage with vaccination history searched at health facilities[1]	Percentage with vaccination history found and seen by interviewer	Number of children
Age in months							
<6	54.5	554	31.8	29.3	16.9	14.8	302
6-11	53.2	485	48.7	47.8	32.6	29.1	258
12-23	58.7	1,028	57.2	56.2	37.6	34.8	603
24-35	73.6	1,027	59.1	55.5	35.7	30.1	756
Sex							
Male	64.1	1,562	56.6	54.9	37.3	32.8	1,002
Female	59.9	1,532	48.7	45.8	28.2	25.0	918
Birth order							
1	55.6	707	60.9	59.7	36.5	31.3	393
2-3	57.2	996	54.4	51.6	33.9	31.2	570
4-5	61.8	683	50.3	49.0	33.4	29.5	422
6+	75.4	708	47.1	44.0	29.0	24.8	534
Residence							
Urban	45.5	802	49.9	44.9	28.6	25.1	365
Rural	67.8	2,292	53.5	51.9	34.0	30.0	1,554
Region							
Tigray	28.6	213	72.0	72.0	57.2	46.1	61
Afar	80.2	49	21.8	19.8	8.7	7.6	39
Amhara	51.8	614	69.3	69.3	37.1	37.1	318
Oromia	68.6	1,236	56.2	53.2	38.3	35.2	847
Somali	78.6	201	24.3	24.3	11.2	11.2	158
Benishangul-Gumuz	62.0	37	57.2	56.2	42.3	41.8	23
SNNPR	72.5	609	43.4	40.0	26.0	16.7	442
Gambela	48.6	14	53.1	53.1	18.0	18.0	7
Harari	53.5	9	45.9	43.7	15.9	9.4	5
Addis Ababa	12.6	95	*	*	*	*	12
Dire Dawa	42.5	17	84.3	83.6	40.0	40.0	7
Mother's education							
No education	72.0	1,533	46.2	43.6	27.4	24.9	1,104
Primary	56.2	1,161	58.6	57.2	39.0	34.1	652
Secondary	43.5	268	71.3	67.4	53.3	45.0	116
More than secondary	35.7	132	(81.2)	(79.8)	(27.4)	(18.5)	47
Wealth quintile							
Lowest	81.6	693	39.1	39.1	23.1	20.6	565
Second	69.3	662	56.6	53.8	36.2	31.7	458
Middle	66.2	598	59.3	57.0	41.4	37.6	396
Fourth	56.8	513	61.0	58.0	35.1	27.2	291
Highest	33.2	628	57.6	51.9	33.5	32.6	208
Total	62.0	3,094	52.8	50.6	32.9	29.1	1,919

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] Vaccination card, booklet, or other home-based record

Table 8.5 Observation of vaccination history at health facilities: Children age 12-35 months

Percentage of children age 12-35 months who did not have a vaccination card seen during the home visit, and among children age 12-35 months without a vaccination card seen during the home visit, percentage who received at least one vaccination at a health facility, percentage with mother's consent for visiting health facilities, percentage with vaccination history searched at health facilities, and percentage with vaccination history found and seen by the interviewer at health facilities, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Percentage of children who did not have vaccination card during home visit[1]	Number of children	Among children who did not have vaccination card during home visit: Percentage who received at least one vaccination at a health facility	Percentage with mother's consent for visiting health facilities	Percentage with vaccination history searched at health facilities[1]	Percentage with vaccination history found and seen by interviewer	Number of children
Age in months							
12-23	58.7	1,028	57.2	56.2	37.6	34.8	603
24-35	73.6	1,027	59.1	55.5	35.7	30.1	756
Sex							
Male	68.8	1,009	61.0	59.0	41.2	36.3	694
Female	63.6	1,047	55.3	52.5	31.7	27.9	666
Birth order							
1	62.0	469	65.8	64.1	39.0	33.4	290
2-3	61.6	656	60.1	56.6	37.1	33.7	405
4-5	65.0	463	54.4	53.4	37.2	34.0	301
6+	77.8	467	53.4	50.3	33.4	28.1	363
Residence							
Urban	51.2	561	55.5	49.2	31.2	26.7	287
Rural	71.7	1,494	59.0	57.6	38.0	33.7	1,072
Region							
Tigray	33.3	138	78.5	78.5	66.8	52.1	46
Afar	85.1	32	26.2	24.6	11.0	9.9	28
Amhara	54.0	410	79.5	79.5	41.1	41.1	222
Oromia	72.5	834	57.8	55.1	39.4	36.7	605
Somali	83.3	130	26.0	26.0	14.0	14.0	108
Benishangul-Gumuz	62.4	24	66.1	64.6	49.0	48.2	15
SNNPR	79.3	395	53.7	48.9	33.2	22.0	313
Gambela	59.1	8	59.0	59.0	22.2	22.2	5
Harari	55.9	6	50.6	48.6	17.1	9.7	3
Addis Ababa	14.6	66	*	*	*	*	10
Dire Dawa	47.6	11	89.3	89.3	42.0	42.0	5
Mother's education							
No education	75.7	1,040	51.7	49.3	32.3	29.3	787
Primary	59.8	755	65.3	63.3	42.5	36.9	452
Secondary	47.7	170	72.9	67.3	52.8	40.9	81
More than secondary	43.4	91	(79.1)	(77.5)	(20.0)	(20.0)	39
Wealth quintile							
Lowest	84.6	462	44.2	44.2	26.9	24.5	391
Second	74.5	432	59.9	58.3	38.7	33.3	322
Middle	66.5	391	68.3	65.6	48.8	44.2	260
Fourth	65.5	321	69.5	65.2	38.1	29.2	210
Highest	39.3	450	58.1	51.4	34.4	33.3	177
Total	66.1	2,055	58.2	55.8	36.6	32.2	1,359

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] Vaccination card, booklet, or other home-based record

NUTRITION OF CHILDREN 9

Key Findings

- ***Nutritional status of children:*** 37% of children under age 5 are stunted (short for their age), 7% are wasted (thin for their height), 21% are underweight (thin for their age), and 2% are overweight (heavy for their height).
- ***Breastfeeding:*** Almost all children (96%) born in the 2 years preceding the survey were breastfed at some point. However, only 59% of infants under age 6 months are exclusively breastfed.
- ***Minimum acceptable diet:*** Only 11% of children age 6-23 months were fed a minimum acceptable diet in the 24 hours before the survey. Fourteen percent of children have an adequately diverse diet.

The government of Ethiopia has taken several steps toward reducing undernutrition in the country. The recently endorsed 2019 Food and Nutrition Policy aims to achieve optimal nutritional status throughout the life cycle via coordinated implementation of nutrition-specific and nutrition-sensitive interventions. In addition, through the Seqota Declaration, Ethiopia has committed to ending undernutrition in children under age 2 by 2030. To accelerate reductions in malnutrition, Ethiopia developed the National Nutrition Programme (NNP) I (2008-2015) and the NNP II (2016-2020) with a specific focus on multisectoral coordination of nutrition interventions.

This chapter focuses on the nutritional status of children and provides data on indicators that can be used in planning and monitoring national efforts to improve nutrition. The chapter describes the nutritional status of children under age 5 and infant and young child feeding practices, including breastfeeding and complementary feeding.

9.1 NUTRITIONAL STATUS OF CHILDREN

The anthropometric data collected in the 2019 EMDHS permit the measurement and evaluation of the nutritional status of infants and young children in Ethiopia. This evaluation allows for the identification of subgroups of the child population that are at increased risk of faltered growth, impaired mental development, and death.

The 2019 EMDHS collected data on the nutritional status of children by measuring the weight and height of children under age 5 in all sampled households, regardless of whether their mothers were interviewed in the survey. Weight was measured with an electronic mother-infant scale (SECA 874 flat) designed for mobile use. Height was measured with a UNICEF measuring board. Children younger than age 24 months were measured lying down on the board (recumbent length), while older children were measured standing up.

The distribution of height and weight among children under age 5 was compared against the WHO Child Growth Standards reference population (WHO 2006). A well-nourished population will be similar to the reference population, while a poorly nourished population will differ from the reference population. Three indices—height-for-age, weight-for-height, and weight-for-age—can be expressed in standard deviation

units (Z-scores) from the median of the reference population, with values greater than two standard deviations from the median of the WHO Child Growth Standards used to define malnutrition.

Stunting, or low height-for-age, is a sign of chronic undernutrition that reflects failure to receive adequate nutrition over a long period of time. The most direct causes of stunting are inadequate nutrition (not eating enough or eating foods that lack growth-promoting nutrients) and recurrent infections or chronic diseases that result in poor nutrient intake, absorption, and utilisation.

Wasting, or low weight-for-height, is a measure of acute undernutrition and represents the failure to receive adequate nutrition in the period immediately before the survey. Wasting may result from inadequate food intake or from a recent episode of illness or infection causing weight loss.

Overweight, or high weight-for-height, is a measure of overnutrition and results from an imbalance between energy consumed (too much) and energy expended (too little).

Underweight, or low weight-for-age, is a composite index of weight-for-height and height-for-age reflecting both acute (wasting) and chronic (stunting) undernutrition.

Stunting (assessed via height-for-age)

Height-for-age is a measure of linear growth retardation and cumulative growth deficits. Children whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted), or chronically undernourished. Children whose Z-score is below minus three standard deviations (-3 SD) from the median are considered severely stunted.

Sample: Children under age 5

Wasting (assessed via weight-for-height)

The weight-for-height index measures body mass in relation to body height or length and describes acute nutritional status. Children whose weight-for-height Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered thin (wasted), or acutely undernourished. Children whose Z-score is below minus three standard deviations (-3 SD) from the median are considered severely wasted.

Sample: Children under age 5

Underweight (assessed via weight-for-age)

Weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic undernutrition. Children whose weight-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population are classified as underweight. Children whose Z-score is below minus three standard deviations (-3 SD) from the median are considered severely underweight.

Sample: Children under age 5

Overweight (assessed via weight-for-height)

Children whose weight-for-height Z-score is more than two standard deviations (+2 SD) above the median of the reference population are considered overweight.

Sample: Children under age 5

The means of the Z-scores for height-for-age, weight-for-height, and weight-for-age are also calculated as summary statistics representing the nutritional status of children in a population. These mean scores describe the nutritional status of the entire population of children without the use of a cutoff point. A mean

Z-score of less than 0 (i.e., a negative mean value for stunting, wasting, or underweight) suggests a downward shift in the entire sample population's nutritional status relative to the reference population. The prevalence of malnutrition rises as mean Z-scores move farther away from 0.

9.1.1 Anthropometry Training and Data Collection

Health technicians were trained to measure children's height and weight. Training on child height measurement included standardisation exercises and re-standardisation exercises (for those who did not successfully complete the standardisation exercises).

9.1.2 Levels of Child Malnutrition

Table 9.1 shows that 37% of children under age 5 are stunted, and 12% are severely stunted. Seven percent are wasted and 1% severely wasted. Twenty-one percent of children are underweight, with 6% severely underweight. Only 2% of children are overweight.

Trends: The percentage of underweight children has declined consistently since 2005, from 33% to 21% (**Figure 9.1**). On the other hand, the prevalence of wasting has decreased only from 12% to 7%. The prevalence of stunting has decreased from 51% to 37%, while the prevalence of severe stunting has decreased by more than half (from 28% to 12%) (**Figure 9.2**).

Figure 9.1 **Trends in nutritional status of children**

Percentage of children under age 5 who are malnourished

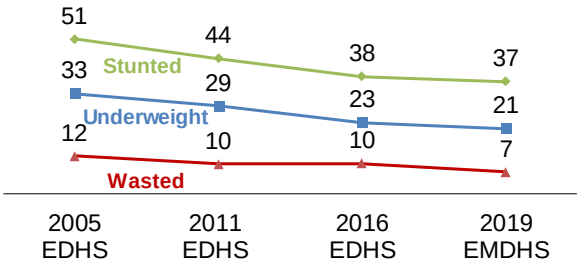
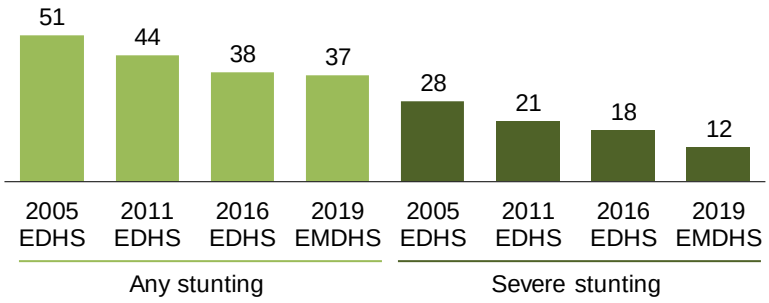


Figure 9.2 **Trends in stunting**

Percentage of children under age 5 who are stunted



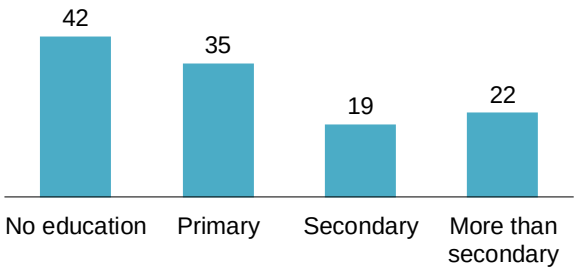
Patterns by background characteristics

- The prevalence of stunting increases sharply with age, from 17% among children less than age 6 months to a peak of 45% among children age 24-35 months; this represents the impact of undernutrition in the first 1,000 days of life (**Table 9.1**).
- Children in rural areas are more likely than those in urban areas to be stunted (40% versus 26%), underweight (23% versus 15%), and wasted (8% versus 5%).

- There are wide regional variations in stunting and wasting. The proportion of children who are stunted is highest in Tigray (48%), Afar (42%), and Amhara (42%), whereas the proportion of wasting is highest in Somali (21%), Afar (14%), and Gambela (13%).
- The proportions of children who are stunted and underweight generally decline with increasing mother's education and household wealth. For example, the prevalence of stunting among children whose mothers have no education is 42%, as compared with 22% among children whose mothers have more than a secondary education (**Figure 9.3**).

Figure 9.3 **Stunting in children by mother's education**

Percentage of children under age 5 who are stunted



9.2 Infant and Young Child Feeding Practices

Appropriate infant and young child feeding (IYCF) practices include early initiation of breastfeeding (within the first hour of life), exclusive breastfeeding for the first 6 months of life, continued breastfeeding for 2 years or more, and introduction of safe, appropriate, and adequate complementary foods at age 6 months (WHO 2008).

9.2.1 Early Initiation of Breastfeeding

Initiation of breastfeeding within the first hour of life is important for both the mother and the child. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also encourages bonding between the mother and her newborn and facilitates the production of regular breast milk. Thus, as medical guidelines suggest, children should be put to the breast immediately or within 1 hour after birth. Prelacteal feeding (feeding newborns anything other than breast milk) is discouraged during the first few days of life.

Early initiation of breastfeeding
Initiation of breastfeeding within 1 hour of birth.
Sample: Last-born children who were born in the 2 years before the survey

The National Guideline on Adolescent, Maternal, Infant, and Young Child Nutrition (AMIYCN) (FDRE 2016) promotes optimal feeding and care practices that are in line with international recommendations. Mothers are encouraged to breastfeed exclusively until the child is age 6 months without adding any water, other fluids, or foods and to continue breastfeeding until the child reaches age 2.

Ninety-six percent of last-born children born in the 2 years before the survey were breastfed at some point (**Table 9.2**). Seventy-two percent were breastfed within 1 hour of birth, and 91% were breastfed within 1 day of birth. Twelve percent of children received a prelacteal feed.

Trends: There have been slight declines since 2016 in the percentages of children who began breastfeeding within 1 hour of birth (from 73% to 72%) and 1 day of birth (from 92% to 91%). Over the same period, the percentage of children receiving a prelacteal feed has increased from 8% to 12%.

Patterns by background characteristics

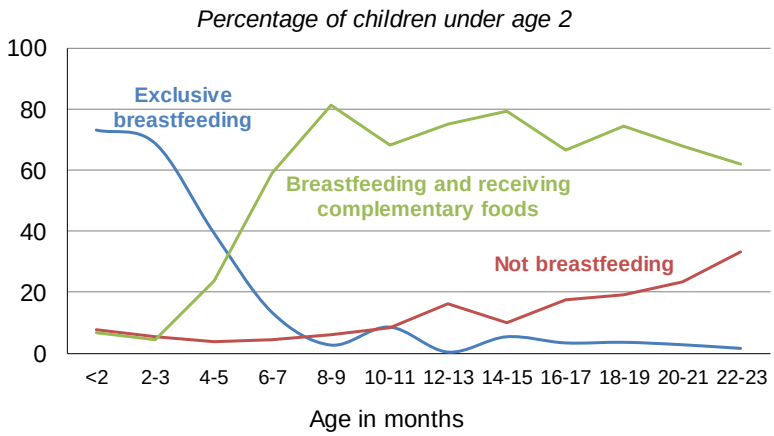
- Sixty-six percent of children whose mothers have more than a secondary education began breastfeeding within 1 hour of birth, as compared with 72%-74% of children whose mothers are at lower educational levels.
- The percentage of children who began breastfeeding within 1 hour of birth is lowest in Somali (57%) and highest in Oromia (82%). Children in Somali were most likely to receive a prelacteal feed (45%).
- Children born to mothers with more than a secondary education were more likely to receive a prelacteal feed (15%) than children born to mothers in the other education categories (11%-13%).

9.2.2 Exclusive Breastfeeding

Breast milk contains all of the nutrients needed by children in the first 6 months of life. It is recommended that children be given nothing but breast milk in the first 6 months of their life. Exclusive breastfeeding for 6 months prevents infections such as diarrhoea and respiratory illnesses and provides the nutrients and liquid an infant requires for optimal growth and development. Feeding complementary foods within the first 6 months will have the adverse effect of reducing breast milk output because the production and release of breast milk are modulated by the frequency and intensity of suckling.

Exclusive breastfeeding
Proportion of children age 0-5 months who are fed exclusively with breast milk.
Sample: Last-born children who were born in the 2 years before the survey

Figure 9.4 **Breastfeeding practices by age**



Overall, 59% of children under age 6 months are exclusively breastfed; the percentage of exclusive breastfeeding declines with age, from 73% among children age 0-1 months to 40% among those age 4-5 months (**Figure 9.4** and **Table 9.3**). Contrary to the recommendation that children under 6 months be exclusively breastfed, many infants also receive other liquids such as water (14%), non-milk liquids (1%), and other milks (8%) before reaching age 6 months. Moreover, 13% of infants begin complementary foods before age 6 months, with nearly one-fourth of children age 4-5 months consuming complementary foods.

Sixty-eight percent of children under age 24 months are receiving age-appropriate breastfeeding. Sixty-nine percent of children are introduced to solid, semisolid, or soft foods at 6-8 months, an improvement from 2016 (60%). Continued breastfeeding at age 1 is relatively high at 87%, and 72% of children continue breastfeeding until their second birthday. Twenty-two percent of children under age 2 are bottle fed, as compared with 14% in 2016 (**Table 9.4**).

Trends: Exclusive breastfeeding among children under age 6 months increased from 49% in 2005 to 59% in 2019.

9.2.3 Median Duration of Breastfeeding

Table 9.5 shows that the median duration of any breastfeeding among children born in the 3 years before the survey is 23.6 months. Overall, the median duration of exclusive breastfeeding is 3.7 months, and the median duration of predominant breastfeeding (either exclusively breastfed or breastfed and receiving plain water and/or non-milk liquids) is 5.5 months.

Patterns by background characteristics

- Female children have a longer median duration (6.0 months) of predominant breastfeeding than male children (4.9 months).
- The median duration of any breastfeeding is longest in Amhara (31.8 months) and SNNPR (31.2 months) and shortest in Somali (16.3 months).
- The median duration of any breastfeeding is longer in rural than urban areas (24.1 and 22.1 months, respectively).

9.2.4 Introduction of Complementary Foods

After the first 6 months, breast milk alone is no longer sufficient to meet the nutritional needs of an infant. After 6 months, appropriate complementary foods should be introduced while breastfeeding is continued until age 2 or older. The transition from exclusive breastfeeding to complementary family food is a vulnerable period for children during which they can become undernourished. It is important that they receive solid, semisolid, or soft foods during this time.

Appropriate complementary feeding should include a variety of foods to ensure that nutrient requirements are met. Fruits and vegetables rich in vitamin A should be consumed daily. Eating a range of fruits and vegetables, in addition to those rich in vitamin A, is also important. Studies have shown that plant-based complementary foods by themselves are insufficient to meet the needs for certain micronutrients. Therefore, it has been recommended that meat, poultry, fish, or eggs be part of the daily diet or eaten as often as possible (WHO 2003).

In the 2019 EMDHS, women who had at least one child living with them who was born in 2017 or later were asked questions about the types of liquids and foods the child consumed during the 24-hour period (the day or night) before the interview. Mothers who had more than one child born in 2017 or later were asked questions about the youngest child living with them.

Table 9.6 indicates the types of foods and liquids consumed by children during the day and night before the interview by their age and breastfeeding status. Overall, the food items most commonly given to breastfed children are grains (48%), fruits and vegetables rich in vitamin A (20%), and foods made from legumes and nuts (19%).

Patterns by background characteristics

- Only 3% of breastfed children and 7% of nonbreastfed children age 6-23 months consumed infant formula in the 24 hours before the survey (**Table 9.6**).
- Sixty-five percent each of breastfed and nonbreastfed children consumed food made from grains in the 24 hours before the survey.
- Twenty-seven percent of breastfed children and 25% of nonbreastfed children are given fruits and vegetables rich in vitamin A.

- Children age 6-23 months are much less likely to consume fortified baby food (5% among both breastfed and nonbreastfed children) than other solid or semisolid foods.

9.2.5 Minimum Dietary Diversity and Minimum Meal Frequency

Minimum dietary diversity is a proxy for adequate micronutrient density of foods. Consumption of food from at least five groups means that the child has a high likelihood of consuming at least one animal source of food and at least one fruit or vegetable in addition to a staple food such as grains, roots, or tubers (WHO 2008). The five groups should come from a list of eight food groups: breast milk; grains, roots, and tubers; legumes and nuts; dairy products (milk, yogurt, and cheese); flesh foods (meat, fish, poultry, and liver/organ meat); eggs; vitamin A-rich fruits and vegetables; and other fruits and vegetables.

Minimum meal frequency is a proxy for meeting energy requirements. Breastfed children age 6-8 months are considered to be fed with a minimum meal frequency if they receive solid, semisolid, or soft foods at least twice a day. Breastfed children age 6-23 months are considered to be fed with a minimum meal frequency if they receive solid, semisolid, or soft foods at least three times a day. Nonbreastfed children age 6-23 months are considered to be fed with a minimum meal frequency if they receive solid, semisolid, or soft foods or milk feeds at least four times a day and if at least one of the feeds is a solid, semisolid, or soft food.

Minimum dietary diversity

Proportion of children age 6-23 months who received a minimum of five out of eight food groups during the previous day.

Minimum meal frequency

Proportion of children age 6-23 months who received solid, semisolid, or soft food (including milk feeds for nonbreastfed children) the minimum number of times or more during the previous day.

Sample: Youngest children age 6-23 months living with their mother

Patterns by background characteristics for minimal meal frequency

- Children in urban areas (59%) are more likely than those in rural areas (54%) to be fed according to the minimum meal frequency standards (**Table 9.7**).
- The proportion of children fed with a minimum meal frequency ranges from a high of 82% in Addis Ababa to a low of 34% in Somali.
- The percentage of children fed with a minimum meal frequency increases with increasing mother's education, from 46% among children whose mothers have no education to 70% among those whose mothers have more than a secondary education.

Patterns by background characteristics for minimum dietary diversity

- Children in urban areas (16%) are more likely to be fed according to the minimum dietary diversity standards than those in rural areas (12%).
- The percentage of children with an adequately diverse diet is highest in Addis Ababa (29%) and lowest in Somali (1%).
- The proportion of children fed according to the minimum dietary diversity standards increases with increasing household wealth, from 6% among children in the lowest wealth quintile to 20% among those in the highest quintile.

9.2.6 Minimum Acceptable Diet

Infants and young children should be fed a minimum acceptable diet to ensure appropriate growth and development. Without adequate diversity and meal frequency, infants and young children are vulnerable to undernutrition, especially stunting and micronutrient deficiencies, and to increased morbidity and mortality. The WHO minimum acceptable diet recommendation, which is a combination of dietary diversity and minimum meal frequency, is different for breastfed and nonbreastfed children. The composite indicator of a minimum acceptable diet for all children age 6-23 months is defined below.

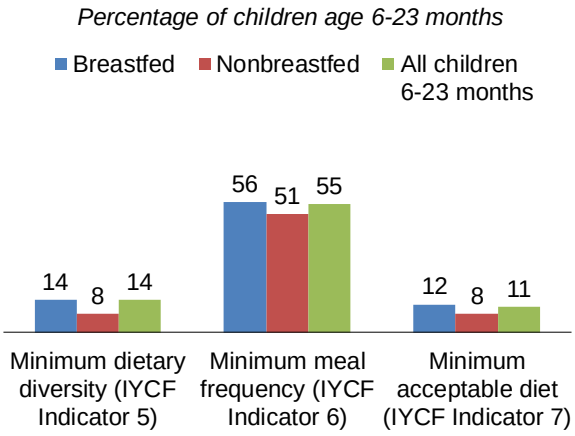
Minimum acceptable diet

Proportion of children age 6-23 months who receive a minimum acceptable diet. This indicator is a composite of children fed with a minimum dietary diversity and a minimum meal frequency.

Sample: Youngest children age 6-23 months living with their mother

According to the 2019 EMDHS, 11% of children age 6-23 months meet the minimum standards with respect to all three IYCF practices (breastfeeding status, number of food groups, and times they were fed during the day or night before the survey) (**Table 9.7**). Fourteen percent of children have an adequately diverse diet (i.e., they are given foods from the appropriate number of food groups), and 55% are fed the minimum number of times appropriate for their age (**Figure 9.5**).

Figure 9.5 **IYCF indicators on minimum acceptable diet**



Trends: The percentage of children fed according to the minimum acceptable diet standards has increased slightly since 2016, from 7% to 11%.

Patterns by background characteristics

- The proportion of children fed according to the minimum acceptable dietary standards is somewhat lower among those who are not breastfed (8%) than among those who are breastfed (12%).
- Children in urban areas (14%) are more likely to fed according to the minimum acceptable dietary standards than those in rural areas (10%).
- The percentage of children who receive a minimum acceptable diet is highest in Addis Ababa (28%) and lowest in Somali, Afar, and Amhara (1%, 4%, and 6%, respectively).
- The proportions of children receiving a minimum acceptable diet generally increase with increasing mother's education and household wealth. However, the proportions are quite low even among children whose mothers have more than a secondary education (19%) and children from households in the highest wealth quintile (17%).

9.3 Micronutrient Intake and Supplementation among Children

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Micronutrients are available in foods and can also be provided through direct supplementation. Breastfeeding children benefit from supplements given to their mother.

The information collected on food consumption among the youngest children under age 2 is useful in assessing the extent to which children are consuming food groups rich in two key micronutrients—vitamin

A and iron—in their daily diet. Iron deficiency is one of the primary causes of anaemia, which has serious health consequences for both women and children. Vitamin A is an essential micronutrient for the immune system and plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency (VAD) can cause eye damage and is the leading cause of childhood blindness. VAD also increases the severity of infections such as measles and diarrhoeal disease in children and slows recovery from illness. VAD is common in dry environments where fresh fruits and vegetables are not readily available.

Consumption of foods rich in vitamin A or iron remains low among young children in Ethiopia. Thirty-nine percent of children age 6-23 months consumed foods rich in vitamin A during the 24 hours before the interview, while 24% consumed iron-rich foods (**Table 9.8**).

Patterns by background characteristics

- Intake of both vitamin A-rich and iron-rich foods generally increases with age. For example, 28% of children age 6-8 months consume foods rich in vitamin A, as compared with 52% of children age 18-23 months.
- The percentage of children consuming foods rich in vitamin A ranges from 2% in Somali to 58% in Addis Ababa.
- Among children age 6-35 months, those in urban areas (53%) are more likely than those in rural areas (45%) to have received a vitamin A supplement in the 6 months before the survey.
- Consumption of foods rich in vitamin A and iron increases with increasing mother's education. For example, 41% of children whose mothers have more than a secondary education consume foods rich in iron, compared with 14% of children whose mothers have no education.

9.4 Micronutrient Supplementation during Pregnancy

During pregnancy, women are at a higher risk of anaemia due to an increase in blood volume. Severe anaemia can place both the mother and the baby in danger through increased risk of blood loss during labour, preterm delivery, low birth weight, and perinatal mortality. To prevent anaemia, pregnant women are advised to take iron folate supplements, eat iron-rich foods, and prevent intestinal worms.

According to the 2019 EMDHS, 40% of women with a child born in the last 5 years did not take any iron tablets during their most recent pregnancy. Only 11% of women took iron tablets for 90 days or more (**Table 9.9**).

Trends: The percentage of women taking iron supplements for 90 days or more increased from 5% in 2016 to 11% in 2019 but remains at a substandard level. The percentage of women who did not take any iron supplements decreased from 58% to 40% over the same period.

Patterns by background characteristics

- Women in urban areas were more likely than those in rural areas to have taken iron supplements for at least 90 days during their most recent pregnancy (14% versus 9%).
- The percentage of women taking iron supplements for 90 days or more is highest in Dire Dawa (22%) and Addis Ababa (19%) and lowest in Somali (2%) and SNNPR (4%).
- The proportion of women taking iron tablets for 90 days or more increases with increasing education. Twenty-seven percent of women with more than a secondary education took iron tablets for 90 days or more, as compared with 7% of women with no education.

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Table 9.1 Nutritional status of children

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Height-for-age[1]				Weight-for-height					Weight-for-age				
	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Number of children	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Number of children	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Number of children
Age in months														
<6	4.7	17.1	-0.6	523	1.2	9.4	6.7	0.0	520	2.1	9.7	2.2	-0.4	536
6-8	5.3	21.0	-0.9	265	1.3	4.5	5.4	-0.1	270	3.2	16.2	1.5	-0.6	270
9-11	12.1	33.3	-1.2	228	0.6	8.3	4.1	-0.4	231	8.5	18.7	2.0	-0.9	230
12-17	9.3	30.1	-1.3	567	1.5	8.6	0.7	-0.5	573	5.2	20.9	0.6	-1.1	570
18-23	8.6	35.5	-1.4	471	1.1	6.8	1.9	-0.2	473	5.4	17.7	0.6	-0.9	473
24-35	17.1	44.6	-1.8	1,052	1.1	7.4	1.8	-0.3	1,079	6.8	24.2	0.1	-1.2	1,059
36-47	13.5	40.7	-1.7	1,168	0.9	5.0	1.8	-0.2	1,193	5.6	20.4	0.6	-1.1	1,170
48-59	15.7	43.5	-1.8	1,004	1.5	7.4	0.9	-0.5	1,068	8.1	29.0	0.1	-1.5	1,029
Sex														
Male	14.8	39.8	-1.6	2,673	1.6	8.7	2.3	-0.4	2,745	6.9	23.1	0.9	-1.1	2,704
Female	10.0	33.6	-1.4	2,605	0.8	5.3	2.2	-0.3	2,663	4.9	19.4	0.4	-1.0	2,634
Birth interval in months[3]														
First birth[4]	8.9	35.5	-1.5	1,051	0.6	4.3	1.7	-0.3	1,055	3.2	17.7	1.3	-1.0	1,058
<24	17.6	42.7	-1.7	800	1.7	9.4	2.7	-0.4	828	7.1	27.7	0.5	-1.3	818
24-47	13.9	39.7	-1.6	1,889	1.5	8.2	1.9	-0.3	1,899	7.7	21.8	0.6	-1.1	1,905
48+	8.6	29.6	-1.3	1,158	0.9	6.6	2.5	-0.3	1,174	4.1	18.2	0.3	-1.0	1,169
Mother's interview status														
Interviewed	12.2	36.9	-1.5	4,898	1.2	7.2	2.1	-0.3	4,955	5.8	21.1	0.6	-1.1	4,952
Not interviewed but in household	(18.8)	(29.6)	1.5	40	(0.0)	(1.5)	(0.0)	-0.0	39	(6.2)	(26.0)	(0.0)	0.9	40
Not interviewed and not in the household[5]	15.0	35.7	-1.5	340	1.3	5.3	3.8	-0.3	413	7.2	23.7	1.1	-1.0	347
Residence														
Urban	6.3	26.2	-1.1	1,338	1.0	5.4	2.4	-0.2	1,350	3.8	15.1	0.9	-0.8	1,347
Rural	14.5	40.4	-1.6	3,941	1.3	7.5	2.2	-0.3	4,058	6.6	23.4	0.6	-1.2	3,991
Region														
Tigray	15.1	48.4	-1.8	361	0.7	9.1	1.8	-0.5	363	7.8	30.5	0.3	-1.4	363
Afar	20.6	42.2	-1.5	77	2.8	13.5	1.5	-0.8	79	11.7	31.1	1.4	-1.4	78
Amhara	13.4	41.5	-1.7	1,001	1.6	7.6	0.9	-0.5	1,012	6.2	27.1	0.0	-1.4	1,009
Oromia	11.9	35.3	-1.5	2,134	0.3	4.3	3.4	-0.1	2,186	5.2	16.3	0.4	-0.9	2,161
Somali	11.5	30.6	-1.1	359	5.7	21.4	0.8	-1.1	380	9.6	31.9	1.1	-1.4	363
Benishangul-Gumuz	19.2	40.7	-1.7	62	0.8	6.4	1.5	-0.6	63	10.2	32.0	1.7	-1.4	63
SNNPR	12.3	36.4	-1.4	1,078	1.2	6.3	1.5	-0.3	1,116	5.3	20.3	1.4	-1.0	1,090
Gambela	4.1	17.3	-0.7	21	2.7	13.1	0.5	-0.8	22	4.2	17.6	0.6	-0.9	21
Harari	13.8	36.4	-1.5	15	0.8	4.1	2.3	-0.2	16	6.5	20.2	0.4	-1.0	16
Addis Ababa	4.0	15.0	-0.8	144	0.0	2.2	5.1	0.3	145	0.5	4.9	2.8	-0.2	149
Dire Dawa	5.4	25.4	-1.0	26	1.0	5.9	1.8	-0.4	27	3.7	15.8	0.9	-0.9	26
Mother's education[6]														
No education	15.9	41.5	-1.7	2,667	1.7	9.2	2.2	-0.4	2,713	8.4	26.1	0.5	-1.3	2,701
Primary	9.3	35.4	-1.4	1,732	0.6	4.9	2.2	-0.2	1,742	3.2	17.3	0.9	-1.0	1,747
Secondary	4.2	19.0	-1.0	360	0.6	5.7	1.9	-0.2	361	1.6	9.4	0.5	-0.7	362
More than secondary	0.1	21.6	-0.9	96	0.1	0.2	0.8	-0.2	96	0.1	3.4	0.0	-0.6	97
Wealth quintile														
Lowest	17.2	43.3	-1.7	1,188	2.7	11.7	2.3	-0.6	1,268	10.4	30.2	0.5	-1.4	1,213
Second	13.9	38.6	-1.6	1,168	1.1	6.9	2.9	-0.4	1,183	5.9	23.1	1.1	-1.2	1,183
Middle	14.0	42.2	-1.6	1,007	0.5	5.1	1.6	-0.3	1,022	4.4	22.0	0.5	-1.1	1,014
Fourth	10.9	35.2	-1.5	940	0.6	6.2	2.1	-0.2	945	5.5	17.0	0.5	-1.0	944
Highest	4.7	22.6	-1.1	976	0.6	3.9	2.3	-0.1	990	2.3	11.5	0.6	-0.7	985
Total	12.4	36.8	-1.5	5,279	1.2	7.0	2.3	-0.3	5,408	5.9	21.3	0.7	-1.1	5,338

Note: Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards. Figures in parentheses are based on 25-49 unweighted cases.

[1] Recumbent length is measured for children under age 2; standing height is measured for all other children.

[2] Includes children who are below -3 standard deviations (SD) from the WHO Child Growth Standards population median

[3] Excludes children whose mothers were not interviewed

[4] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

[5] Includes children whose mothers are deceased

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

Table 9.2 Initial breastfeeding

Among last-born children who were born in the 2 years preceding the survey, percentage who were ever breastfed and percentages who started breastfeeding within 1 hour and within 1 day of birth, and among last-born children born in the 2 years preceding the survey who were ever breastfed, percentage who received a prelacteal feed in the first 3 days after birth, according to background characteristics, Ethiopia Mini-DHS 2019

	Among last-born children born in the past 2 years:				Among last-born children born in the past 2 years who were ever breastfed:	
Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Number of last-born children	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	93.7	70.7	88.6	1,084	12.3	1,015
Female	97.4	73.3	94.1	1,021	11.7	995
Assistance at delivery						
Health personnel[3]	96.8	73.9	92.6	1,177	10.7	1,139
Traditional birth attendant	95.3	70.2	90.1	558	18.1	532
Other	94.1	63.7	90.5	112	7.0	106
No one	90.5	70.5	87.8	257	7.3	233
Place of delivery						
Health facility	96.9	74.0	92.5	1,137	10.9	1,101
At home	93.7	70.1	89.8	942	13.6	882
Other	100.0	52.4	93.0	48	16.5	48
Residence						
Urban	98.2	70.2	94.8	553	12.9	543
Rural	94.5	72.6	90.0	1,552	11.7	1,467
Region						
Tigray	97.0	73.4	93.1	155	4.2	151
Afar	95.1	65.6	89.7	31	24.2	30
Amhara	96.2	61.2	87.3	433	13.4	417
Oromia	96.2	81.5	93.5	825	7.7	793
Somali	93.5	57.3	86.4	132	44.9	124
Benishangul-Gumuz	97.0	75.5	94.4	24	4.1	23
SNNPR	93.0	68.5	92.0	411	10.7	383
Gambela	98.2	79.4	93.2	10	6.0	10
Harari	95.5	72.0	84.8	6	19.7	6
Addis Ababa	97.9	71.7	90.6	64	15.7	63
Dire Dawa	95.5	71.5	85.3	13	22.6	12
Mother's education						
No education	93.8	71.5	90.8	977	13.3	917
Primary	96.5	72.9	91.7	840	10.5	810
Secondary	99.1	73.6	91.4	182	11.0	180
More than secondary	97.1	66.2	91.0	105	15.0	102
Wealth quintile						
Lowest	95.8	70.2	90.8	460	17.3	441
Second	94.9	76.7	92.9	449	12.0	427
Middle	95.0	70.5	90.2	392	7.0	373
Fourth	93.6	69.5	89.9	364	8.5	341
Highest	97.9	72.4	92.1	438	13.9	429
Total	95.5	72.0	91.2	2,105	12.0	2,010

Note: Table is based on last-born children born in the 2 years preceding the survey regardless of whether the children are living or dead at the time of the interview.
[1] Includes children who started breastfeeding within 1 hour of birth
[2] Children given something other than breast milk during the first 3 days of life
[3] Doctor, nurse, midwife, health officer, or health extension worker

Table 9.3 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother by breastfeeding status and percentage currently breastfeeding, and percentage of all children under age 2 using a bottle with a nipple, according to age in months, Ethiopia Mini-DHS 2019

		Breastfeeding status									
Age in months	Not breast-feeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods	Total	Percentage currently breast-feeding	Number of youngest children under age 2 living with their mother	Percentage using a bottle with a nipple	Number of all children under age 2
0-1	7.6	73.1	9.2	1.5	1.7	6.8	100.0	92.4	176	1.9	178
2-3	5.3	68.8	11.6	0.1	9.8	4.4	100.0	94.7	159	9.2	159
4-5	3.9	39.6	20.0	1.7	11.0	23.9	100.0	96.1	214	15.6	217
6-8	5.7	8.3	8.8	7.6	3.2	66.6	100.0	94.3	255	28.6	257
9-11	6.9	7.2	4.5	4.1	2.3	75.0	100.0	93.1	221	26.2	227
12-17	14.5	2.8	4.1	3.5	0.9	74.2	100.0	85.5	551	25.2	561
18-23	24.5	2.7	2.9	0.4	0.5	68.9	100.0	75.5	435	25.3	467
0-3	6.5	71.1	10.3	0.8	5.5	5.7	100.0	93.5	336	5.3	337
0-5	5.5	58.8	14.1	1.2	7.6	12.8	100.0	94.5	550	9.3	554
6-9	5.3	7.4	6.9	5.9	3.1	71.4	100.0	94.7	331	30.1	334
12-15	13.3	2.7	3.8	2.3	0.8	77.2	100.0	86.7	390	27.0	399
12-23	18.9	2.8	3.6	2.1	0.7	71.8	100.0	81.1	987	25.3	1,028
20-23	27.8	2.2	3.7	0.7	0.2	65.4	100.0	72.2	269	26.7	295

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

[1] Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Table 9.4 Infant and young child feeding (IYCF) indicators on breastfeeding status

Percentage of children fed according to various IYCF practices, Ethiopia Mini-DHS 2019

Indicator	Percentage	Number
Exclusive breastfeeding under 6 months	58.8	550
Exclusive breastfeeding at 4-5 months	39.6	214
Continued breastfeeding at 1 year	86.7	390
Introduction of solid, semisolid, or soft foods (6-8 months)	69.0	255
Continued breastfeeding at 2 years	72.2	269
Age-appropriate breastfeeding (0-23 months)[1]	68.0	2,012
Predominant breastfeeding (0-5 months)[2]	74.1	550
Mixed breast milk and non-breast milk feeding (0-5 months)[3]	9.7	550
Bottle feeding (0-23 months)	21.5	2,067

[1] For children age 0-5 months: exclusively breastfed; for children age 6-23 months: received breast milk and complementary foods

[2] Either exclusively breastfed or received breast milk and plain water and/or non-milk liquids only

[3] Received breast milk and fresh, tinned, or powdered animal milk or commercial infant formula

Table 9.5 Median duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the 3 years preceding the survey, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Median duration (months) of breastfeeding among children born in the past 3 years[1]		
	Any breast-feeding	Exclusive breastfeeding	Predominant breastfeeding[2]
Sex			
Male	23.2	3.2	4.9
Female	24.0	4.4	6.0
Residence			
Urban	22.1	3.3	5.8
Rural	24.1	3.8	5.5
Region			
Tigray	(23.0)	4.3	(7.5)
Afar	19.7	(1.9)	3.2
Amhara	31.8	(5.3)	(6.1)
Oromia	22.4	3.3	4.9
Somali	16.3	a	3.9
Benishangul-Gumuz	29.0	4.4	5.6
SNNPR	31.2	4.2	6.1
Gambela	(28.4)	3.3	6.8
Harari	(21.3)	(3.6)	(5.2)
Addis Ababa	(21.7)	(3.4)	*
Dire Dawa	(18.2)	*	*
Mother's education			
No education	22.9	3.9	5.9
Primary	23.3	3.5	5.0
Secondary	(29.6)	a	6.3
More than secondary	*	(4.2)	(4.3)
Wealth quintile			
Lowest	22.4	3.5	5.6
Second	24.0	4.1	5.8
Middle	29.5	4.5	5.6
Fourth	24.9	*	5.0
Highest	22.5	(2.9)	5.1
Total	23.6	3.7	5.5
Mean for all children	24.8	5.2	7.4

Note: Median and mean durations are based on breastfeeding status of the child at the time of the survey (current status). Includes living and deceased children. Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
a = Omitted because less than 50% of the children in this group were exclusively or predominantly breastfeeding
[1] For last-born children under age 24 months who live with their mother and are breastfeeding, information to determine exclusive and predominant breastfeeding comes from a 24-hour dietary recall. Tabulations assume that last-born children age 24 months or older who live with their mother and are breastfeeding are neither exclusively nor predominantly breastfed. It is assumed that last-born children not currently living with their mother and all non-last-born children are not currently breastfeeding.
[2] Either exclusively breastfed or received breast milk and plain water and/or non-milk liquids only

Table 9.6 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under age 2 who are living with their mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Ethiopia Mini-DHS 2019

	Liquids			Solid or semisolid foods										
Age in months	Infant formula	Other milk[1]	Other liquids[2]	Fortified baby foods	Food made from grains[3]	Fruits and vege-tables rich in vitamin A[4]	Other fruits and vege-tables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry	Eggs	Cheese, yogurt, other milk products	Any solid or semisolid food	Number of children under age 2
BREASTFEEDING CHILDREN														
0-1	0.1	2.0	2.8	0.0	3.1	1.2	0.0	0.9	1.3	0.0	0.8	3.8	7.4	163
2-3	7.8	7.8	5.9	1.4	4.2	1.3	0.2	1.6	3.2	1.2	2.8	2.4	4.7	151
4-5	3.6	11.7	17.7	1.0	15.4	4.8	3.9	2.4	6.0	0.6	8.0	11.1	24.8	206
6-8	5.1	21.3	39.4	9.3	50.4	12.6	6.5	12.6	17.5	1.4	20.2	18.7	70.6	241
9-11	2.7	23.3	42.9	4.8	60.3	27.6	13.2	30.5	19.3	2.5	15.9	15.3	80.6	206
12-17	4.2	18.5	45.3	5.4	69.9	28.8	10.5	24.1	27.7	13.1	18.9	19.2	86.7	471
18-23	0.6	14.1	40.8	2.1	71.7	35.3	12.4	36.5	33.5	12.9	18.3	17.5	91.3	328
6-23	3.2	18.7	42.6	5.2	65.0	27.2	10.6	26.2	25.9	9.0	18.5	18.0	83.8	1,246
Total	3.3	15.4	32.9	3.9	48.3	20.0	8.0	19.0	19.3	6.5	14.3	14.6	63.1	1,765
NONBREASTFEEDING CHILDREN														
0-1	*	*	*	*	*	*	*	*	*	*	*	*	*	13
2-3	*	*	*	*	*	*	*	*	*	*	*	*	*	9
4-5	*	*	*	*	*	*	*	*	*	*	*	*	*	8
6-8	*	*	*	*	*	*	*	*	*	*	*	*	*	14
9-11	*	*	*	*	*	*	*	*	*	*	*	*	*	15
12-17	3.7	29.2	55.3	6.4	57.7	14.2	9.4	19.1	15.0	3.6	5.7	27.4	84.3	80
18-23	7.0	34.8	51.6	4.3	80.5	36.1	14.0	33.5	22.3	10.3	22.8	33.6	96.6	107
6-23	6.6	33.3	48.6	5.4	64.7	24.6	11.1	24.9	19.0	7.6	16.4	28.9	85.9	217
Total	6.3	30.1	45.6	4.8	58.5	22.1	10.2	22.4	16.6	6.7	14.4	25.8	77.8	247

Note: Breastfeeding status and food consumed refer to a "24-hour" period (yesterday and last night). An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

[1] Other milk includes fresh, tinned, and powdered cow or other animal milk.

[2] Does not include plain water

[3] Includes fortified baby food

[4] Includes pumpkin, squash, carrots, yellow or orange sweet potatoes, dark green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A

Table 9.7 Minimum acceptable diet

Percentage of youngest children age 6-23 months living with their mother who are fed a minimum acceptable diet based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, according to background characteristics, Ethiopia Mini-DHS 2019

	Among breastfed children age 6-23 months, percentage fed:				Among nonbreastfed children age 6-23 months, percentage fed:					Among all children age 6-23 months, percentage fed:				
Background characteristic	Minimum dietary diversity[1]	Minimum meal frequency[2]	Minimum acceptable diet[3]	Number of breastfed children age 6-23 months	Minimum milk feeding frequency[4]	Minimum dietary diversity[1]	Minimum meal frequency[5]	Minimum acceptable diet[6]	Number of nonbreastfed children age 6-23 months	Breast milk, milk, or milk products[7]	Minimum dietary diversity[1]	Minimum meal frequency[8]	Minimum acceptable diet[9]	Number of all children age 6-23 months
Age in months														
6-11	8.7	50.2	6.8	446	(30.5)	(5.1)	(37.6)	(5.0)	30	95.6	8.5	49.4	6.7	476
6-8	6.6	50.4	3.8	241	*	*	*	*	14	95.9	6.9	49.5	4.2	255
9-11	11.1	49.9	10.4	206	*	*	*	*	15	95.4	10.4	49.3	9.6	221
12-17	18.7	54.0	15.3	471	28.1	4.2	38.4	4.0	80	89.6	16.6	51.7	13.7	551
18-23	16.1	66.3	13.9	328	38.9	11.7	63.8	11.1	107	85.0	15.0	65.7	13.2	435
Sex														
Male	14.5	55.4	11.6	649	41.1	11.5	53.9	11.5	114	91.2	14.0	55.2	11.6	764
Female	14.4	56.3	12.2	597	25.5	4.2	47.4	3.4	102	89.1	12.9	55.0	11.0	699
Residence														
Urban	17.9	58.1	15.4	347	40.3	8.1	63.0	6.8	66	90.5	16.4	58.9	14.0	413
Rural	13.1	55.0	10.6	899	30.9	8.0	45.6	8.0	151	90.1	12.4	53.6	10.2	1,050
Region														
Tigray	21.1	64.8	15.6	94	*	*	*	*	9	92.7	20.2	63.5	15.1	103
Afar	3.7	52.1	3.7	14	(37.0)	(6.7)	(52.3)	(3.4)	6	82.3	4.5	52.2	3.6	20
Amhara	7.3	52.4	6.3	302	*	*	*	*	24	92.5	6.8	50.7	5.8	326
Oromia	21.6	64.2	18.1	458	*	*	*	*	83	88.4	19.5	61.5	16.4	541
Somali	1.8	29.1	1.8	59	(53.8)	(0.0)	(44.0)	(0.0)	30	84.5	1.2	34.1	1.2	89
Benishangul-Gumuz	13.5	68.2	11.3	15	*	*	*	*	1	92.2	12.3	65.7	10.4	17
SNNPR	9.3	43.9	6.8	252	(45.8)	(10.3)	(58.6)	(10.3)	46	91.6	9.4	46.1	7.3	298
Gambela	9.2	51.3	8.8	6	*	*	*	*	0	98.0	8.6	53.7	8.2	7
Harari	20.8	58.5	15.0	3	*	*	*	*	1	93.0	18.2	60.1	12.5	4
Addis Ababa	26.2	76.7	26.2	35	*	*	*	*	13	92.7	29.1	82.3	27.8	48
Dire Dawa	21.4	80.0	21.4	6	(65.6)	(2.5)	(78.8)	(2.5)	2	90.4	16.1	79.7	16.1	9
Mother's education														
No education	8.9	47.6	7.9	535	28.7	4.8	35.8	4.8	115	87.4	8.2	45.5	7.3	650
Primary	17.2	60.0	13.7	530	35.6	7.5	69.2	7.5	79	91.7	16.0	61.2	12.9	609
Secondary	22.5	65.3	18.6	112	*	*	*	*	7	97.2	23.2	66.0	19.0	120
More than secondary	22.8	72.7	18.3	68	*	*	*	*	15	91.4	22.9	69.9	18.9	84
Wealth quintile														
Lowest	7.6	35.6	2.5	225	24.7	2.7	38.0	2.7	70	82.1	6.4	36.1	2.6	295
Second	11.3	52.4	10.3	282	(36.1)	(0.0)	(43.2)	(0.0)	27	94.4	10.3	51.6	9.4	309
Middle	15.6	59.2	14.3	241	(24.8)	(13.8)	(49.6)	(13.8)	35	90.5	15.4	58.0	14.2	275
Fourth	15.5	58.8	13.3	238	(65.0)	(5.0)	(71.0)	(5.0)	20	97.3	14.7	59.8	12.6	258
Highest	21.8	71.3	18.3	260	37.8	15.0	62.3	13.7	65	87.6	20.4	69.5	17.4	325
Total	14.4	55.9	11.9	1,246	33.7	8.0	50.8	7.7	217	90.2	13.5	55.1	11.3	1,463

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] Children received foods from four or more of the following food groups: a. breast milk; b. infant formula, milk other than breast milk, cheese or yogurt or other milk products; c. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; d. vitamin A-rich fruits and vegetables; e. other fruits and vegetables; f. eggs; g. meat, poultry, fish, and shellfish (and organ meats); h. legumes and nuts

[2] For breastfed children, minimum meal frequency is receiving solid, semisolid, or soft food at least twice a day for infants age 6-8 months and at least three times a day for children age 9-23 months.

[3] Breastfed children age 6-23 months are considered to be fed a minimum acceptable diet if they are fed the minimum dietary diversity as described in footnote 1 and the minimum meal frequency as defined in footnote 2.

[4] Includes two or more feedings of commercial infant formula; fresh, tinned, and powdered animal milk; and yogurt

[5] For nonbreastfed children age 6-23 months, minimum meal frequency is receiving solid, semisolid, or soft food or milk feeds at least four times a day. At least one of the feeds must be a solid, semisolid, or soft feed.

[6] Nonbreastfed children age 6-23 months are considered to be fed a minimum acceptable diet if they receive other milk or milk products at least twice a day, receive the minimum meal frequency as defined in footnote 5, and receive solid, semisolid, or soft foods from at least four food groups not including the milk or milk products food group.

[7] Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula; fresh, tinned, and powdered animal milk; and yogurt

[8] Children are fed the minimum recommended number of times per day according to their age and breastfeeding status as described in footnotes 2 and 5.

[9] Children age 6-23 months are considered to be fed a minimum acceptable diet if they receive breast milk, other milk, or milk products as described in footnote 7; are fed the minimum dietary diversity as described in footnote 1; and are fed the minimum meal frequency as described in footnotes 2 and 5.

Table 9.8 Micronutrient intake among children

Among youngest children age 6-23 months who are living with their mother, percentages who consumed vitamin A-rich and iron-rich foods in the 24 hours preceding the survey, and among all children age 6-35 months, percentage who were given vitamin A supplements in the 6 months preceding the survey, according to background characteristics, Ethiopia Mini-DHS 2019

	Among youngest children age 6-23 months living with their mother:			Among all children age 6-35 months:	
Background characteristic	Percentage who consumed foods rich in vitamin A in last 24 hours[1]	Percentage who consumed foods rich in iron in last 24 hours[2]	Number of children	Percentage given vitamin A supplements in past 6 months[3]	Number of children
Age in months					
6-8	28.3	20.7	255	19.3	257
9-11	33.6	17.3	221	49.0	227
12-17	37.0	25.1	551	51.4	561
18-23	51.9	28.5	435	52.5	467
24-35	na	na	0	48.4	1,027
Sex					
Male	38.5	23.0	764	46.4	1,298
Female	40.5	25.5	699	47.4	1,242
Breastfeeding status					
Breastfeeding	40.1	25.2	1,246	47.9	1,655
Not breastfeeding	35.7	18.6	217	45.0	885
Mother's age					
15-19	39.2	23.3	109	31.4	145
20-29	42.2	25.2	834	44.1	1,382
30-39	32.6	20.1	439	51.7	824
40-49	48.1	36.5	81	58.5	188
Residence					
Urban	47.9	32.4	413	52.5	677
Rural	36.1	21.0	1,050	44.9	1,863
Region					
Tigray	52.7	36.1	103	64.3	167
Afar	16.4	6.9	20	32.6	39
Amhara	29.5	20.5	326	58.0	518
Oromia	42.1	24.8	541	45.6	1,001
Somali	1.8	1.8	89	19.2	167
Benishangul-Gumuz	47.8	29.9	17	63.1	31
SNNPR	49.5	27.7	298	39.7	503
Gambela	57.0	22.1	7	63.8	11
Harari	45.8	28.0	4	48.8	8
Addis Ababa	58.2	40.8	48	53.7	82
Dire Dawa	42.8	26.7	9	62.0	14
Mother's education					
No education	29.5	14.2	650	43.8	1,249
Primary	44.9	30.1	609	48.1	967
Secondary	48.2	36.3	120	52.1	211
More than secondary	64.3	41.1	84	60.8	113
Wealth quintile					
Lowest	19.7	11.5	295	37.9	551
Second	38.9	25.7	309	40.4	537
Middle	38.5	16.5	275	56.6	497
Fourth	46.4	31.9	258	45.3	426
Highest	53.1	34.7	325	55.1	530
Total	39.4	24.2	1,463	46.9	2,540

na = Not applicable

[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, squash, carrots, yellow or orange sweet potatoes, dark green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A

[2] Includes meat (and organ meat), fish, poultry, and eggs

[3] Based on both mother's recall and the vaccination card (where available)

Table 9.9 Iron tablets during mother's pregnancy

Among women age 15-49 with a child born in the 5 years preceding the survey, percent distribution by number of days they took iron tablets during the pregnancy of the last child, according to background characteristics, Ethiopia Mini-DHS 2019

Background characteristic	Number of days women took iron tablets during pregnancy of last birth						Percentage of women who took iron tablets during pregnancy for their most recent live birth	Number of women with a live birth in the last 5 years
	None	<60	60-89	90+	Don't know/ missing	Total		
Age								
15-19	49.9	33.1	5.9	11.0	0.1	100.0	51.3	227
20-29	35.0	37.4	14.0	12.0	1.6	100.0	65.3	1,961
30-39	42.7	36.1	10.4	9.4	1.3	100.0	57.1	1,390
40-49	53.6	26.8	12.6	6.9	0.0	100.0	47.4	348
Residence								
Urban	30.1	40.1	14.4	14.1	1.3	100.0	69.7	1,026
Rural	43.8	34.2	11.3	9.4	1.3	100.0	56.5	2,900
Region								
Tigray	17.1	54.0	18.3	9.0	1.6	100.0	84.5	287
Afar	49.7	28.4	11.9	8.6	1.4	100.0	51.5	51
Amhara	26.2	43.8	13.4	15.4	1.2	100.0	74.4	839
Oromia	44.9	27.6	13.9	11.8	1.7	100.0	54.8	1,519
Somali	81.2	14.7	1.9	1.8	0.5	100.0	18.6	218
Benishangul-Gumuz	40.7	34.2	11.6	12.0	1.5	100.0	60.5	47
SNNPR	44.9	43.2	7.1	4.3	0.6	100.0	55.2	787
Gambela	40.0	34.2	10.6	15.3	0.0	100.0	60.2	19
Harari	35.3	32.7	15.2	16.8	0.0	100.0	66.2	11
Addis Ababa	28.5	34.5	16.1	19.4	1.5	100.0	73.3	127
Dire Dawa	31.7	25.3	18.9	21.8	2.4	100.0	69.3	21
Education								
No education	50.9	31.8	8.9	6.9	1.5	100.0	49.0	2,014
Primary	32.9	39.8	13.3	13.3	0.8	100.0	67.6	1,415
Secondary	16.0	45.1	22.7	13.9	2.2	100.0	83.7	345
More than secondary	22.6	29.5	20.3	27.0	0.6	100.0	80.7	153
Wealth quintile								
Lowest	61.3	24.0	7.9	5.8	1.1	100.0	39.2	825
Second	45.2	36.7	8.6	7.6	1.8	100.0	54.2	822
Middle	36.9	36.2	12.0	14.3	0.6	100.0	63.9	761
Fourth	35.8	42.0	13.1	8.4	0.8	100.0	64.6	705
Highest	20.8	40.8	19.4	17.0	2.0	100.0	79.3	813
Total	40.2	35.7	12.1	10.6	1.3	100.0	60.0	3,927

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SAMPLE DESIGN

Appendix A

A.1 INTRODUCTION

This appendix describes the objectives of the survey, the overall sample size, and survey domains. The 2019 Ethiopia Mini Demographic and Health Survey (EMDHS) is a nationwide survey with a nationally representative sample of 9,150 selected households. All women age 15-49 who were usual members of the selected households and those who spent the night before the survey in the selected households were eligible to be interviewed in the survey. In the selected households, all children under age 5 were eligible for height and weight measurements. The survey was designed to produce reliable estimates of key indicators at the national level as well as for urban and rural areas and each of the 11 regions in Ethiopia.

A.2 SAMPLE FRAME

The sampling frame used for the 2019 EMDHS is a frame of all census enumeration areas (EAs) created for the 2019 Population and Housing Census (PHC) and provided by the Central Statistical Agency (CSA). An EA is a geographic area that covers an average of 131 households. The sampling frame contains information about EA location, type of residence (urban or rural), and estimated number of residential households. A sketch map was available for each EA that delineated the area's geographic boundaries.

Administratively, Ethiopia is divided into 11 geographical regions. Each region is subdivided into zones, each zone into woredas, each woreda into towns, and each town into kebeles. The sample was designed to provide estimates in the 11 regions for most health and demographic indicators. **Table A.1** presents the percentage distribution of households by region and type of residence. The table indicates that about 80% of Ethiopia's households are concentrated in three regions (Amhara, Oromia, and SNNPR), while less than 4% of households are located in the five smallest regions (Afar, Benishangul-Gumuz, Gambela, Harari, and Dire Dawa). Region size (as a proportion of the total) varies from 0.29% (Harari, the smallest region) to 36.96% (Oromia, the largest region). In Ethiopia, 30.70% of households are in urban areas. Other than Addis Ababa, which is predominantly urban, the percentage of urban areas varies greatly, from 24.94% in SNNPR to 67.22% in Dire Dawa.

Table A.1 Distribution of residential households by region and type of residence

Percentage that each region contributes to the total number of households, and percentage of each region that is urban, Ethiopia Mini-DHS 2019

	Residential households			Percentage	
Region	Urban	Rural	Total	Region	Urban
Tigray	405,931	843,193	1,249,124	6.39	32.50
Afar	65,084	168,273	233,357	1.19	27.89
Amhara	1,273,750	3,543,540	4,817,290	24.66	26.44
Oromia	1,911,747	5,309,980	7,221,727	36.96	26.47
Somali	268,510	669,764	938,274	4.80	28.62
Benishangul-Gumuz	71,495	152,022	223,517	1.14	31.99
SNNPR	916,260	2,757,555	3,673,815	18.80	24.94
Gambela	36,197	41,336	77,533	0.40	46.69
Harari	33,098	23,422	56,520	0.29	58.56
Addis Ababa	952,221	0	952,221	4.87	100.00
Dire Dawa	63,435	30,939	94,374	0.48	67.22
Ethiopia	**5,997,728**	**13,540,024**	**19,537,752**	**100.00**	**30.70**

Source: The 2019 Population and Housing Census (PHC) sampling frame provided by the Central Statistical Agency (CSA).

Table A.2 indicates the distribution of EAs and their average size in number of households by region and type of residence. There are a total of 149,093 EAs; among them, 35,292 are in urban areas and 113,801 in rural areas. The average EA size is 131 households; on average, rural EAs are smaller than urban EAs (119 households versus 170 households). The EA size in the survey is adequate in terms of the primary sampling unit (PSU), with a sample of 30 households per EA.

Table A.2 Enumeration areas and households

Distribution of enumeration areas (EAs) and average number of households per EA by region, according to residence, Ethiopia Mini-DHS 2019

	Number of EAs			Average EA size		
Region	Urban	Rural	Total	Urban	Rural	Total
Tigray	2,337	6,914	9,251	174	122	135
Afar	383	1,410	1,793	170	119	130
Amhara	7,212	29,316	36,528	177	121	132
Oromia	11,526	45,456	56,982	166	117	127
Somali	1,561	5,478	7,039	172	122	133
Benishangul-Gumuz	431	1,275	1,706	166	119	131
SNNPR	5,408	23,097	28,505	169	119	129
Gambela	216	414	630	168	100	123
Harari	183	194	377	181	121	150
Addis Ababa	5,669	0	5,669	168	0	168
Dire Dawa	366	247	613	173	125	154
Ethiopia	**35,292**	**113,801**	**149,093**	**170**	**119**	**131**

Source: The 2019 Population and Housing Census (PHC) sampling frame provided by the Central Statistical Agency (CSA).

A.3 SAMPLE DESIGN AND IMPLEMENTATION

The 2019 EMDHS sample was stratified and selected in two stages. Each region was stratified into urban and rural areas, yielding 21 sampling strata. Samples of EAs were selected independently in each stratum in two stages. Implicit stratification and proportional allocation were achieved at each of the lower administrative levels by sorting the sampling frame within each sampling stratum before sample selection, according to administrative units in different levels, and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 305 EAs were selected with probability proportional to EA size and with independent selection in each sampling stratum; the sample allocation is given in **Table A.3**. The EA size is the number of residential households in the EA according to the sampling frame. A household listing operation was carried out in all of the selected EAs, and the resulting lists of households served as the sampling frame for the selection of households in the second stage. Some of the selected EAs were large in size. In order to minimise the task of household listing, the selected large EAs with more than 300 households were segmented. Only one segment was selected for the survey with probability proportional to segment size. Household listing was conducted only in the selected segment.

In the second stage of selection, a fixed number of 30 households per cluster were selected with an equal probability systematic selection from the newly created household listing. The survey interviewer interviewed only the pre-selected households. No replacements and no changes of the pre-selected households were allowed in the implementing stages in order to prevent bias. All women age 15-49 who were usual members of the selected households or who spent the night before the survey in the selected households were eligible for the survey. In all of the selected households, height and weight measurements were collected from children age 0-59 months.

Table A.3 shows the allocation of selected households according to regions and urban-rural areas, and **Table A.4** shows the expected number of completed interviews with women age 15-49 and the expected number of children age 0-59 months with valid height and weight measurements. To ensure that the survey precision was comparable across regions, sample allocation was done through an equal allocation in which 25 EAs were selected from each region other than the three large regions (Amhara, Oromia, and SNNPR).

Thirty-five EAs were selected from each of these regions. Proportional allocation was used to allocate the EAs within each region to urban and rural strata. A total of 305 EAs (93 in urban areas and 212 in rural areas) were selected based on a fixed sample take of 30 households per cluster. The survey was conducted in 9,150 residential households (2,790 in urban areas and 6,360 in rural areas). The sample was expected to result in about 7,959 completed interviews with women age 15-49 (2,636 in urban areas and 5,323 in rural areas) and 4,825 children age 0-59 months with height and weight measurements (852 in urban areas and 3,973 in rural areas). **Table A.5** indicates the regional-level household response rates, as well as individual response rates for women and men.

Table A.3 Sample allocation of clusters and households

Sample allocation of clusters and households by region, according to residence, Ethiopia Mini-DHS 2019

	Number of clusters allocated			Number of households allocated		
Region	Urban	Rural	Total	Urban	Rural	Total
Tigray	5	20	25	150	600	750
Afar	5	20	25	150	600	750
Amhara	5	30	35	150	900	1,050
Oromia	6	29	35	180	870	1,050
Somali	5	20	25	150	600	750
Benishangul-Gumuz	3	22	25	90	660	750
SNNPR	3	32	35	90	960	1,050
Gambela	5	20	25	150	600	750
Harari	15	10	25	450	300	750
Addis Ababa	25	0	25	750	0	750
Dire Dawa	16	9	25	480	270	750
Ethiopia	**93**	**212**	**305**	**2,790**	**6,360**	**9,150**

Table A.4 Sample allocation of expected number of completed interviews with women measured children

Sample allocation of expected number of completed interviews with women age 15-49 and expected number of children age 0-59 months with height and weight measurements by region, according to residence, Ethiopia Mini-DHS 2019

	Expected number of interviews with women age 15-49			Expected number of children age 0-59 months with height and weight measurements		
Region	Urban	Rural	Total	Urban	Rural	Total
Tigray	142	502	644	46	375	421
Afar	142	502	644	46	375	421
Amhara	142	754	896	46	562	608
Oromia	169	728	897	55	543	598
Somali	142	502	644	46	375	421
Benishangul-Gumuz	85	552	637	27	412	439
SNNPR	85	804	889	27	600	627
Gambela	142	502	644	46	375	421
Harari	425	251	676	137	187	324
Addis Ababa	709	0	709	229	0	229
Dire Dawa	453	226	679	147	169	316
Ethiopia	**2,636**	**5,323**	**7,959**	**852**	**3,973**	**4,825**

The sample allocations were derived with information obtained from the 2016 EDHS. The overall household completion rate was 92.5%; there were 1.10 women age 15-49 per household in urban areas and 0.95 women age 15-49 per household in rural areas; the response rate for women was 93.5% in urban areas and 95% in rural areas; and 0.33 and 0.67 children age 0-59 months per household were measured for height and weight in urban areas and rural areas, respectively.

A.4 Sample Probabilities and Sampling Weights

Due to the non-proportional allocation of the sample to different regions and to their urban and rural areas and the possible differences in response rates, sampling weights will be required for any analysis using the 2019 EMDHS data to ensure the actual representativeness of the survey results at the national level as well as the domain level. Since the 2019 EMDHS 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 used the following notations:

P_{1hi}: first-stage sampling probability of the i^{th} cluster in stratum h

P_{2hi}: second-stage sampling probability within the i^{th} cluster (households)

Let a_h be the number of EAs selected in stratum h, M_{hi} the number of households according to the sampling frame in the i^{th} EA, and $\sum M_{hi}$ the total number of households in the stratum. The probability of selecting the i^{th} EA in the 2019 EMDHS sample is calculated as follows:

$$\frac{a_h \, M_{hi}}{\sum M_{hi}}$$

Let b_{hi} be the proportion of households in the selected cluster relative to the total number of households in EA i in stratum h if the EA is segmented; otherwise, $b_{hi} = 1$. Then the probability of selecting cluster i in the sample is:

$$P_{1hi} = \frac{a_h \, M_{hi}}{\sum M_{hi}} \times b_{hi}$$

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

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

The overall selection probability of each household in cluster i of stratum h is therefore the product of the selection probabilities:

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

The sampling weight for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

The sampling weights were adjusted for household non-response and individual non-response to obtain the survey weights for households and for women, respectively. Non-response is adjusted at the sampling stratum level. For the household survey weight, the household sampling weight is multiplied by the inverse of the household response rate by stratum. For women's individual survey weight, the household sampling weight is multiplied by the inverse of women's individual response rate by stratum. After adjusting for non-response, the survey weights are normalized to obtain the final standard weights that appear in the data files. The normalization process is done to obtain a total number of unweighted cases equal to the total number of weighted cases at the national level for the total number of households and women. Normalization is done by multiplying the survey weight by the estimated sampling fraction obtained from the survey for the household weight and the individual woman's weights. The normalized weights are relative weights that are valid for estimating means, proportions, ratios, and rates but are not valid for estimating population totals or for pooled data.

Table A.5 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 residence and region (unweighted), Ethiopia Mini-DHS 2019

	Residence		Region											
Result	Urban	Rural	Tigray	Afar	Amhara	Oromia	Somali	Benishangul-Gumuz	SNNPR	Gambela	Harari	Addis Ababa	Dire Dawa	Total
Selected households														
Completed (C)	94.8	94.6	95.2	88.5	95.9	97.0	87.6	97.9	96.9	92.4	95.9	93.6	98.4	94.7
Household present but no competent respondent at home (HP)	1.0	0.6	0.8	1.9	0.6	0.6	0.5	0.3	0.3	1.5	0.4	0.9	0.3	0.7
Postponed (P)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Refused (R)	0.6	0.2	0.1	1.1	0.1	0.1	0.1	0.0	0.0	0.1	0.5	1.3	0.0	0.3
Dwelling not found (DNF)	0.3	0.5	0.5	0.3	1.3	0.3	0.9	0.1	0.2	0.1	0.4	0.3	0.0	0.4
Household absent (HA)	1.3	1.7	1.3	2.5	0.9	1.0	3.3	1.2	1.5	3.6	1.5	0.8	0.4	1.6
Dwelling vacant/address not a dwelling (DV)	1.3	1.0	1.3	2.4	0.5	0.9	2.9	0.3	0.7	0.5	1.2	1.6	0.3	1.1
Dwelling destroyed (DD)	0.3	1.1	0.4	2.8	0.6	0.3	3.9	0.1	0.2	1.5	0.0	0.4	0.4	0.9
Other (O)	0.4	0.3	0.3	0.5	0.2	0.0	0.7	0.1	0.3	0.3	0.1	0.9	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	2,790	6,360	750	750	1,050	1,050	750	750	1,050	750	750	750	750	9,150
Household response rate (HRR)[1]	98.0	98.7	98.5	96.5	98.0	99.0	98.2	99.6	99.5	98.2	98.6	97.2	99.7	98.5
Eligible women														
Completed (EWC)	98.4	98.7	98.5	99.8	98.3	98.7	98.8	99.5	98.1	96.3	99.3	99.0	98.4	98.6
Not at home (EWNH)	1.1	0.8	0.9	0.0	0.6	0.9	0.5	0.4	1.6	2.8	0.1	0.7	0.8	0.9
Refused (EWR)	0.4	0.1	0.0	0.0	0.4	0.1	0.3	0.0	0.0	0.4	0.4	0.0	0.4	0.2
Incapacitated (EWI)	0.1	0.2	0.4	0.2	0.2	0.3	0.0	0.1	0.2	0.3	0.0	0.2	0.2	0.2
Other (EWO)	0.1	0.2	0.1	0.0	0.4	0.0	0.5	0.0	0.1	0.3	0.1	0.0	0.1	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	100.0
Number of women	2,999	6,013	744	642	964	1,066	648	751	1,027	751	768	826	825	9,012
Eligible women response rate (EWRR)[2]	98.4	98.7	98.5	99.8	98.3	98.7	98.8	99.5	98.1	96.3	99.3	99.0	98.4	98.6
Overall women response rate (OWRR)[3]	96.5	97.4	97.0	96.4	96.3	97.7	97.0	99.1	97.7	94.5	98.0	96.3	98.2	97.1

[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 2019 Ethiopia Mini Demographic and Health Survey (EMDHS) 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 2019 EMDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95% of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2019 EMDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed in SAS, using programs developed by ICF. 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 formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the 2019 EMDHS there were 305 non-empty clusters. Hence, 305 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 305 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 304 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 a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. Relative standard errors and confidence limits for the estimates are also calculated.

Sampling errors for the 2019 EMDHS 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, and for each of the 11 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.15** 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 selected variable. The DEFT and relative standard error are considered undefined (NA) when the standard error is zero (when the estimate is close to 0 or 1).

The confidence interval (e.g., as calculated for *currently using a modern contraceptive method*) can be interpreted as follows: the overall prevalence among currently married women 15-49 from the national sample is 0.405 and its standard error is 0.017. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 0.405 ± 2×0.017. There is a high probability (95 percent) that the true prevlance is between 0.370 and 0.439.

For the total sample, the value of the DEFT, averaged over all indicators in the appendix, is about 2. This means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 2 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Ethiopia Mini-DHS 2019

Variable	Estimate	Base population
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
Currently pregnant	Proportion	Women 15-49
Know any contraceptive method	Proportion	Currently married women 15-49
Know a modern method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using condoms	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using implants	Proportion	Currently married women 15-49
Currently using female sterilisation	Proportion	Currently married women 15-49
Used public sector source	Proportion	Current users of modern method
Births with skilled attendant at delivery	Proportion	Births occurring 1-59 months before survey
Ever had vaccination card	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT-HepB-Hib vaccination (3 doses)	Proportion	Children 12-23 months
Received birth dose polio 0 vaccination	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received pneumococcal vaccination (3 doses)	Proportion	Children 12-23 months
Received rotavirus vaccination (2 doses)	Proportion	Children 12-23 months
Received measles-containing vaccine 1 vaccination	Proportion	Children 12-23 months
Received all basic vaccinations	Proportion	Children 12-23 months
Received all age-appropriate vaccinations (12-23 months)	Proportion	Children 12-23 months
Received measles-containing vaccine 2 vaccination	Proportion	Children 24-35 months
Received all age-appropriate vaccinations (24-35 months)	Proportion	Children 24-35 months
Height-for-age (-2SD)	Proportion	Children under 5 who are measured
Weight-for-height (-2SD)	Proportion	Children under 5 who are measured
Weight-for-age (-2SD)	Proportion	Children under 5 who are measured
Neonatal mortality rate[1]	Rate	Children exposed to the risk of mortality
Postneonatal 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] Mortality rates are calculated for the 5 years before the survey for the national, urban, and rural samples and for the 10 years before the survey for regional samples.

Table B.2 Sampling errors: Total sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			Lower (R-2SE)	Upper (R+2SE)
Urban residence	0.322	0.013	8,885	8,885	2.628	0.040	0.296	0.348
Literacy	0.476	0.017	8,885	8,885	3.199	0.036	0.442	0.510
No education	0.404	0.014	8,885	8,885	2.729	0.035	0.376	0.432
Secondary or higher education	0.180	0.010	8,885	8,885	2.398	0.054	0.160	0.199
Never married (never in union)	0.262	0.010	8,885	8,885	2.217	0.040	0.241	0.282
Currently married (in union)	0.660	0.011	8,885	8,885	2.181	0.017	0.638	0.682
Currently pregnant	0.078	0.005	8,885	8,885	1.774	0.065	0.067	0.088
Know any contraceptive method	0.962	0.004	5,742	5,864	1.445	0.004	0.955	0.970
Know a modern method	0.961	0.004	5,742	5,864	1.581	0.004	0.953	0.969
Currently using any method	0.414	0.018	5,742	5,864	2.754	0.043	0.378	0.450
Currently using a modern method	0.405	0.017	5,742	5,864	2.645	0.042	0.370	0.439
Currently using pill	0.020	0.003	5,742	5,864	1.803	0.165	0.014	0.027
Currently using IUD	0.015	0.004	5,742	5,864	2.513	0.271	0.007	0.023
Currently using condoms	0.001	0.000	5,742	5,864	1.009	0.416	0.000	0.002
Currently using injectables	0.272	0.013	5,742	5,864	2.187	0.047	0.246	0.298
Currently using implants	0.085	0.009	5,742	5,864	2.347	0.102	0.067	0.102
Currently using female sterilisation	0.003	0.001	5,742	5,864	1.863	0.415	0.001	0.006
Using public sector source	0.866	0.020	2,010	2,459	2.632	0.023	0.825	0.906
Births with skilled attendant at delivery	0.498	0.029	5,753	5,527	3.581	0.058	0.440	0.556
Vaccination card seen	0.413	0.038	1,008	1,028	2.441	0.092	0.337	0.490
Received BCG vaccination	0.730	0.027	1,008	1,028	1.916	0.037	0.676	0.783
Received DPT-HepB-Hib vaccination (3 doses)	0.611	0.034	1,008	1,028	2.224	0.056	0.542	0.680
Received polio 0 vaccination	0.319	0.028	1,008	1,028	1.877	0.086	0.264	0.375
Received polio vaccination (3 doses)	0.599	0.032	1,008	1,028	2.044	0.053	0.536	0.663
Received pneumococcal vaccination (3 doses)	0.598	0.032	1,008	1,028	2.081	0.054	0.533	0.663
Received rotavirus vaccination (2 doses)	0.668	0.029	1,008	1,028	1.943	0.043	0.610	0.725
Received measles vaccination	0.585	0.034	1,008	1,028	2.191	0.058	0.517	0.653
Received all basic vaccinations	0.441	0.035	1,008	1,028	2.207	0.078	0.372	0.510
Received all age-appropriate vaccinations (12-23 months)	0.182	0.022	1,008	1,028	1.852	0.123	0.137	0.227
Received measles 2 vaccination	0.091	0.015	1,093	1,027	1.621	0.160	0.062	0.121
Received all age-appropriate vaccinations (24-35 months)	0.039	0.012	1,093	1,027	1.998	0.310	0.015	0.063
Height-for-age (-2SD)	0.368	0.013	5,380	5,279	1.830	0.035	0.342	0.394
Weight-for-height (-2SD)	0.070	0.006	5,556	5,408	1.577	0.082	0.059	0.082
Weight-for-age (-2SD)	0.213	0.013	5,447	5,338	2.176	0.061	0.187	0.239
Neonatal mortality (last 0-4 years)	32.894	4.183	5,770	5,552	1.680	0.127	24.528	41.259
Postneonatal mortality (last 0-4 years)	13.606	2.470	5,791	5,568	1.449	0.182	8.667	18.546
Infant mortality (last 0-4 years)	46.500	5.210	5,775	5,560	1.618	0.112	36.081	56.919
Child mortality (last 0-4 years)	13.380	1.952	5,658	5,424	1.269	0.146	9.475	17.285
Under-5 mortality (last 0-4 years)	59.258	5.454	5,817	5,594	1.557	0.092	48.349	70.166

Table B.3 Sampling errors: Urban sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	1.000	0.000	2,951	2,861	na	na	1.000	1.000
Literacy	0.668	0.033	2,951	2,861	3.827	0.050	0.601	0.734
No education	0.245	0.026	2,951	2,861	3.244	0.105	0.193	0.296
Secondary or higher education	0.340	0.023	2,951	2,861	2.664	0.068	0.293	0.386
Never married (never in union)	0.320	0.023	2,951	2,861	2.635	0.071	0.275	0.366
Currently married (in union)	0.569	0.022	2,951	2,861	2.403	0.039	0.525	0.613
Currently pregnant	0.066	0.010	2,951	2,861	2.146	0.149	0.046	0.085
Know any contraceptive method	0.982	0.006	1,572	1,627	1.715	0.006	0.971	0.994
Know a modern method	0.980	0.008	1,572	1,627	2.170	0.008	0.965	0.995
Currently using any method	0.497	0.036	1,572	1,627	2.836	0.072	0.425	0.568
Currently using a modern method	0.477	0.031	1,572	1,627	2.425	0.064	0.416	0.538
Currently using pill	0.052	0.011	1,572	1,627	1.929	0.209	0.030	0.073
Currently using IUD	0.015	0.004	1,572	1,627	1.441	0.293	0.006	0.024
Currently using condoms	0.002	0.001	1,572	1,627	0.660	0.417	0.000	0.003
Currently using injectables	0.307	0.019	1,572	1,627	1.591	0.060	0.270	0.345
Currently using implants	0.092	0.018	1,572	1,627	2.505	0.199	0.055	0.128
Currently using female sterilisation	0.003	0.003	1,572	1,627	2.007	0.994	0.000	0.008
Using public sector source	0.711	0.048	681	834	2.756	0.068	0.615	0.807
Births with skilled attendant at delivery	0.721	0.067	1,328	1,367	4.529	0.093	0.586	0.855
Vaccination card seen	0.574	0.095	267	313	3.269	0.165	0.384	0.763
Received BCG vaccination	0.888	0.042	267	313	2.353	0.048	0.804	0.973
Received DPT-HepB-Hib vaccination (3 doses)	0.767	0.082	267	313	3.181	0.107	0.603	0.930
Received polio 0 vaccination	0.406	0.066	267	313	2.319	0.162	0.274	0.538
Received polio vaccination (3 doses)	0.729	0.066	267	313	2.488	0.091	0.596	0.862
Received pneumococcal vaccination (3 doses)	0.779	0.066	267	313	2.598	0.084	0.647	0.910
Received rotavirus vaccination (2 doses)	0.807	0.046	267	313	2.038	0.057	0.715	0.899
Received measles vaccination	0.781	0.077	267	313	3.242	0.099	0.627	0.935
Received all basic vaccinations	0.622	0.086	267	313	3.008	0.138	0.450	0.794
Received all age-appropriate vaccinations (12-23 months)	0.287	0.060	267	313	2.293	0.208	0.168	0.407
Received measles 2 vaccination	0.103	0.032	244	248	1.663	0.314	0.038	0.168
Received all age-appropriate vaccinations (24-35 months)	0.075	0.035	244	248	2.095	0.473	0.004	0.145
Height-for-age (-2SD)	0.262	0.033	1,236	1,338	2.561	0.127	0.195	0.329
Weight-for-height (-2SD)	0.054	0.009	1,259	1,350	1.354	0.165	0.036	0.072
Weight-for-age (-2SD)	0.151	0.017	1,248	1,347	1.624	0.114	0.117	0.185
Neonatal mortality (last 0-4 years)	21.119	7.328	1,329	1,366	1.549	0.347	6.462	35.775
Postneonatal mortality (last 0-4 years)	11.305	4.963	1,330	1,367	1.300	0.439	1.379	21.231
Infant mortality (last 0-4 years)	32.423	11.232	1,329	1,366	1.823	0.346	9.960	54.887
Child mortality (last 0-4 years)	14.181	4.563	1,295	1,323	1.540	0.322	5.055	23.307
Under-5 mortality (last 0-4 years)	46.145	10.873	1,337	1,376	1.622	0.236	24.399	67.890

na = Not applicable

Table B.4 Sampling errors: Rural sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.000	0.000	5,934	6,024	na	na	0.000	0.000
Literacy	0.386	0.018	5,934	6,024	2.827	0.046	0.350	0.421
No education	0.479	0.016	5,934	6,024	2.510	0.034	0.447	0.512
Secondary or higher education	0.103	0.009	5,934	6,024	2.203	0.084	0.086	0.121
Never married (never in union)	0.234	0.010	5,934	6,024	1.886	0.044	0.213	0.255
Currently married (in union)	0.703	0.012	5,934	6,024	1.943	0.016	0.680	0.726
Currently pregnant	0.083	0.006	5,934	6,024	1.599	0.069	0.072	0.095
Know any contraceptive method	0.955	0.005	4,170	4,237	1.400	0.005	0.946	0.964
Know a modern method	0.953	0.005	4,170	4,237	1.463	0.005	0.944	0.963
Currently using any method	0.382	0.020	4,170	4,237	2.635	0.052	0.343	0.422
Currently using a modern method	0.377	0.020	4,170	4,237	2.657	0.053	0.337	0.417
Currently using pill	0.008	0.002	4,170	4,237	1.481	0.248	0.004	0.013
Currently using IUD	0.015	0.005	4,170	4,237	2.832	0.360	0.004	0.025
Currently using condoms	0.001	0.001	4,170	4,237	1.210	0.659	0.000	0.002
Currently using injectables	0.258	0.016	4,170	4,237	2.371	0.062	0.226	0.290
Currently using implants	0.082	0.010	4,170	4,237	2.258	0.117	0.063	0.101
Currently using female sterilisation	0.004	0.002	4,170	4,237	1.821	0.454	0.000	0.007
Using public sector source	0.945	0.010	1,329	1,625	1.563	0.010	0.925	0.965
Births with skilled attendant at delivery	0.425	0.032	4,425	4,160	3.582	0.076	0.360	0.490
Vaccination card seen	0.343	0.033	741	715	1.818	0.095	0.278	0.409
Received BCG vaccination	0.660	0.032	741	715	1.822	0.049	0.595	0.725
Received DPT-HepB-Hib vaccination (3 doses)	0.543	0.032	741	715	1.719	0.059	0.478	0.608
Received polio 0 vaccination	0.281	0.026	741	715	1.546	0.093	0.229	0.334
Received polio vaccination (3 doses)	0.542	0.033	741	715	1.756	0.061	0.476	0.608
Received pneumococcal vaccination (3 doses)	0.519	0.034	741	715	1.801	0.065	0.451	0.587
Received rotavirus vaccination (2 doses)	0.606	0.034	741	715	1.879	0.057	0.538	0.675
Received measles vaccination	0.500	0.032	741	715	1.698	0.064	0.436	0.563
Received all basic vaccinations	0.361	0.028	741	715	1.526	0.076	0.306	0.417
Received all age-appropriate vaccinations (12-23 months)	0.136	0.017	741	715	1.317	0.125	0.102	0.169
Received measles 2 vaccination	0.088	0.016	849	780	1.607	0.186	0.055	0.120
Received all age-appropriate vaccinations (24-35 months)	0.028	0.012	849	780	2.050	0.436	0.004	0.052
Height-for-age (-2SD)	0.404	0.014	4,144	3,941	1.676	0.035	0.376	0.431
Weight-for-height (-2SD)	0.075	0.007	4,297	4,058	1.624	0.092	0.061	0.089
Weight-for-age (-2SD)	0.234	0.016	4,199	3,991	2.307	0.071	0.201	0.267
Neonatal mortality (last 0-4 years)	36.734	4.830	4,441	4,187	1.686	0.131	27.073	46.394
Postneonatal mortality (last 0-4 years)	14.352	2.845	4,461	4,200	1.482	0.198	8.661	20.042
Infant mortality (last 0-4 years)	51.085	5.604	4,446	4,194	1.528	0.110	39.877	62.294
Child mortality (last 0-4 years)	13.099	2.162	4,363	4,101	1.171	0.165	8.774	17.424
Under-5 mortality (last 0-4 years)	63.515	6.129	4,480	4,218	1.508	0.096	51.257	75.774

na = Not applicable

Table B.5 Sampling errors: Tigray sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.387	0.020	733	629	1.098	0.051	0.347	0.426
Literacy	0.596	0.027	733	629	1.488	0.045	0.542	0.650
No education	0.348	0.023	733	629	1.298	0.066	0.302	0.393
Secondary or higher education	0.344	0.036	733	629	2.018	0.103	0.273	0.415
Never married (never in union)	0.289	0.025	733	629	1.502	0.087	0.239	0.340
Currently married (in union)	0.588	0.028	733	629	1.550	0.048	0.531	0.644
Currently pregnant	0.081	0.007	733	629	0.728	0.090	0.067	0.096
Know any contraceptive method	0.984	0.004	452	370	0.727	0.004	0.975	0.992
Know a modern method	0.982	0.004	452	370	0.702	0.004	0.973	0.991
Currently using any method	0.373	0.032	452	370	1.409	0.086	0.309	0.437
Currently using a modern method	0.363	0.030	452	370	1.339	0.083	0.303	0.424
Currently using pill	0.038	0.016	452	370	1.780	0.421	0.006	0.070
Currently using IUD	0.010	0.005	452	370	1.085	0.512	0.000	0.020
Currently using condoms	0.004	0.002	452	370	0.878	0.694	0.000	0.008
Currently using injectables	0.150	0.018	452	370	1.042	0.117	0.115	0.186
Currently using implants	0.154	0.028	452	370	1.629	0.180	0.099	0.210
Currently using female sterilisation	0.000	0.000	452	370	na	na	0.000	0.000
Using public sector source	0.933	0.019	179	162	1.031	0.021	0.894	0.971
Births with skilled attendant at delivery	0.733	0.050	454	371	2.084	0.068	0.633	0.832
Vaccination card seen	0.690	0.069	93	77	1.433	0.100	0.552	0.829
Received BCG vaccination	0.917	0.037	93	77	1.302	0.041	0.842	0.992
Received DPT-HepB-Hib vaccination (3 doses)	0.844	0.049	93	77	1.295	0.058	0.746	0.942
Received polio 0 vaccination	0.546	0.063	93	77	1.210	0.115	0.420	0.671
Received polio vaccination (3 doses)	0.836	0.049	93	77	1.260	0.058	0.739	0.933
Received pneumococcal vaccination (3 doses)	0.784	0.059	93	77	1.379	0.076	0.665	0.902
Received rotavirus vaccination (2 doses)	0.780	0.062	93	77	1.438	0.080	0.656	0.905
Received measles vaccination	0.829	0.050	93	77	1.274	0.060	0.728	0.929
Received all basic vaccinations	0.730	0.065	93	77	1.399	0.089	0.601	0.860
Received all age-appropriate vaccinations (12-23 months)	0.389	0.059	93	77	1.155	0.151	0.272	0.506
Received measles 2 vaccination	0.172	0.047	78	61	1.051	0.271	0.078	0.265
Received all age-appropriate vaccinations (24-35 months)	0.074	0.031	78	61	1.017	0.422	0.012	0.137
Height-for-age (-2SD)	0.484	0.030	450	361	1.220	0.063	0.423	0.544
Weight-for-height (-2SD)	0.091	0.017	452	363	1.192	0.183	0.058	0.124
Weight-for-age (-2SD)	0.305	0.035	452	363	1.523	0.115	0.235	0.376
Neonatal mortality (last 0-9 years)	28.013	8.824	847	683	1.397	0.315	10.365	45.661
Postneonatal mortality (last 0-9 years)	9.575	2.953	854	688	0.878	0.308	3.669	15.480
Infant mortality (last 0-9 years)	37.588	9.612	848	684	1.316	0.256	18.364	56.811
Child mortality (last 0-4 years)	5.996	2.834	837	667	1.042	0.473	0.329	11.664
Under-5 mortality (last 0-4 years)	43.358	9.117	850	686	1.260	0.210	25.125	61.592

na = Not applicable

Table B.6 Sampling errors: Afar sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.310	0.064	641	85	3.487	0.207	0.182	0.439
Literacy	0.198	0.027	641	85	1.686	0.134	0.145	0.251
No education	0.643	0.042	641	85	2.199	0.065	0.559	0.727
Secondary or higher education	0.076	0.014	641	85	1.365	0.188	0.048	0.105
Never married (never in union)	0.134	0.016	641	85	1.151	0.116	0.103	0.165
Currently married (in union)	0.751	0.016	641	85	0.908	0.021	0.720	0.782
Currently pregnant	0.114	0.015	641	85	1.157	0.128	0.085	0.143
Know any contraceptive method	0.863	0.028	482	64	1.778	0.032	0.807	0.919
Know a modern method	0.861	0.028	482	64	1.747	0.032	0.806	0.916
Currently using any method	0.127	0.027	482	64	1.786	0.214	0.073	0.181
Currently using a modern method	0.127	0.027	482	64	1.786	0.214	0.073	0.181
Currently using pill	0.025	0.010	482	64	1.410	0.398	0.005	0.046
Currently using IUD	0.009	0.005	482	64	1.112	0.544	0.000	0.018
Currently using condoms	0.000	0.000	482	64	na	na	0.000	0.000
Currently using injectables	0.070	0.020	482	64	1.731	0.289	0.029	0.110
Currently using implants	0.016	0.007	482	64	1.239	0.437	0.002	0.031
Currently using female sterilisation	0.000	0.000	482	64	na	na	0.000	0.000
Using public sector source	0.818	0.065	59	9	1.282	0.080	0.687	0.948
Births with skilled attendant at delivery	0.306	0.041	652	86	1.829	0.134	0.223	0.388
Vaccination card seen	0.192	0.050	111	15	1.352	0.261	0.092	0.292
Received BCG vaccination	0.456	0.067	111	15	1.434	0.148	0.321	0.590
Received DPT-HepB-Hib vaccination (3 doses)	0.270	0.056	111	15	1.347	0.209	0.157	0.382
Received polio 0 vaccination	0.206	0.062	111	15	1.621	0.300	0.082	0.330
Received polio vaccination (3 doses)	0.250	0.063	111	15	1.541	0.251	0.125	0.376
Received pneumococcal vaccination (3 doses)	0.236	0.058	111	15	1.459	0.248	0.119	0.352
Received rotavirus vaccination (2 doses)	0.344	0.065	111	15	1.447	0.188	0.214	0.473
Received measles vaccination	0.296	0.054	111	15	1.261	0.183	0.187	0.404
Received all basic vaccinations	0.197	0.053	111	15	1.412	0.269	0.091	0.302
Received all age-appropriate vaccinations (12-23 months)	0.041	0.020	111	15	1.073	0.489	0.001	0.081
Received measles 2 vaccination	0.084	0.031	135	17	1.288	0.373	0.021	0.147
Received all age-appropriate vaccinations (24-35 months)	0.009	0.009	135	17	1.067	0.991	0.000	0.026
Height-for-age (-2SD)	0.422	0.027	588	77	1.222	0.064	0.368	0.476
Weight-for-height (-2SD)	0.135	0.022	613	79	1.412	0.160	0.092	0.179
Weight-for-age (-2SD)	0.311	0.026	598	78	1.245	0.084	0.259	0.363
Neonatal mortality (last 0-9 years)	22.308	5.418	1,155	151	1.101	0.243	11.473	33.143
Postneonatal mortality (last 0-9 years)	23.620	5.053	1,163	152	0.961	0.214	13.514	33.727
Infant mortality (last 0-9 years)	45.928	9.145	1,157	151	1.278	0.199	27.639	64.217
Child mortality (last 0-9 years)	12.509	4.229	1,139	148	0.917	0.338	4.052	20.967
Under-5 mortality (last 0-9 years)	57.863	10.309	1,158	151	1.326	0.178	37.246	78.481

na = Not applicable

Table B.7 Sampling errors: Amhara sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			Lower (R-2SE)	Upper (R+2SE)
Urban residence	0.276	0.026	948	2,026	1.812	0.096	0.223	0.328
Literacy	0.498	0.036	948	2,026	2.191	0.072	0.426	0.569
No education	0.464	0.030	948	2,026	1.830	0.064	0.405	0.524
Secondary or higher education	0.155	0.020	948	2,026	1.687	0.128	0.116	0.195
Never married (never in union)	0.237	0.027	948	2,026	1.977	0.116	0.182	0.291
Currently married (in union)	0.648	0.027	948	2,026	1.714	0.041	0.595	0.701
Currently pregnant	0.054	0.009	948	2,026	1.165	0.158	0.037	0.072
Know any contraceptive method	0.962	0.009	630	1,313	1.156	0.009	0.945	0.980
Know a modern method	0.962	0.009	630	1,313	1.156	0.009	0.945	0.980
Currently using any method	0.495	0.030	630	1,313	1.500	0.060	0.435	0.555
Currently using a modern method	0.495	0.030	630	1,313	1.500	0.060	0.435	0.555
Currently using pill	0.017	0.008	630	1,313	1.471	0.452	0.002	0.032
Currently using IUD	0.012	0.006	630	1,313	1.293	0.462	0.001	0.024
Currently using condoms	0.000	0.000	630	1,313	na	na	0.000	0.000
Currently using injectables	0.361	0.024	630	1,313	1.265	0.067	0.312	0.409
Currently using implants	0.101	0.016	630	1,313	1.311	0.156	0.069	0.132
Currently using female sterilisation	0.002	0.002	630	1,313	0.988	1.009	0.000	0.005
Using public sector source	0.863	0.041	317	694	2.113	0.048	0.781	0.946
Births with skilled attendant at delivery	0.557	0.046	511	1,050	1.856	0.083	0.465	0.650
Vaccination card seen	0.524	0.091	99	218	1.859	0.174	0.342	0.706
Received BCG vaccination	0.792	0.051	99	218	1.285	0.064	0.690	0.894
Received DPT-HepB-Hib vaccination (3 doses)	0.778	0.054	99	218	1.325	0.069	0.670	0.886
Received polio 0 vaccination	0.373	0.069	99	218	1.459	0.185	0.235	0.511
Received polio vaccination (3 doses)	0.754	0.059	99	218	1.399	0.078	0.636	0.872
Received pneumococcal vaccination (3 doses)	0.778	0.054	99	218	1.325	0.069	0.670	0.886
Received rotavirus vaccination (2 doses)	0.779	0.059	99	218	1.457	0.076	0.660	0.897
Received measles vaccination	0.713	0.056	99	218	1.274	0.079	0.600	0.826
Received all basic vaccinations	0.629	0.073	99	218	1.548	0.117	0.482	0.775
Received all age-appropriate vaccinations (12-23 months)	0.234	0.065	99	218	1.563	0.277	0.104	0.363
Received measles 2 vaccination	0.133	0.047	91	192	1.326	0.353	0.039	0.227
Received all age-appropriate vaccinations (24-35 months)	0.084	0.036	91	192	1.250	0.430	0.012	0.156
Height-for-age (-2SD)	0.415	0.032	494	1,001	1.362	0.078	0.350	0.480
Weight-for-height (-2SD)	0.076	0.012	500	1,012	1.003	0.156	0.052	0.100
Weight-for-age (-2SD)	0.271	0.032	498	1,009	1.493	0.116	0.208	0.334
Neonatal mortality (last 0-9 years)	45.648	8.350	989	2,032	1.139	0.183	28.948	62.348
Postneonatal mortality (last 0-9 years)	12.466	3.746	988	2,028	0.866	0.301	4.974	19.959
Infant mortality (last 0-9 years)	58.115	8.806	990	2,033	0.992	0.152	40.503	75.727
Child mortality (last 0-9 years)	11.438	3.666	995	2,046	0.994	0.320	4.106	18.770
Under-5 mortality (last 0-9 years)	68.888	10.251	993	2,039	1.054	0.149	48.386	89.390

na = Not applicable

Table B.8 Sampling errors: Oromia sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.261	0.020	1,052	3,347	1.488	0.077	0.221	0.301
Literacy	0.471	0.036	1,052	3,347	2.343	0.077	0.399	0.544
No education	0.372	0.029	1,052	3,347	1.938	0.078	0.314	0.430
Secondary or higher education	0.147	0.017	1,052	3,347	1.517	0.113	0.113	0.180
Never married (never in union)	0.258	0.019	1,052	3,347	1.431	0.075	0.220	0.297
Currently married (in union)	0.689	0.019	1,052	3,347	1.340	0.028	0.651	0.727
Currently pregnant	0.083	0.011	1,052	3,347	1.249	0.128	0.062	0.104
Know any contraceptive method	0.985	0.005	729	2,306	1.085	0.005	0.975	0.995
Know a modern method	0.982	0.007	729	2,306	1.355	0.007	0.969	0.995
Currently using any method	0.407	0.036	729	2,306	1.989	0.089	0.335	0.480
Currently using a modern method	0.389	0.034	729	2,306	1.862	0.087	0.322	0.457
Currently using pill	0.020	0.006	729	2,306	1.217	0.319	0.007	0.032
Currently using IUD	0.016	0.009	729	2,306	2.004	0.591	0.000	0.034
Currently using condoms	0.000	0.000	729	2,306	na	na	0.000	0.000
Currently using injectables	0.261	0.025	729	2,306	1.557	0.097	0.210	0.312
Currently using implants	0.074	0.015	729	2,306	1.508	0.198	0.045	0.103
Currently using female sterilisation	0.007	0.004	729	2,306	1.156	0.520	0.000	0.014
Using public sector source	0.852	0.043	280	896	2.004	0.050	0.767	0.938
Births with skilled attendant at delivery	0.437	0.058	719	2,211	2.613	0.133	0.321	0.554
Vaccination card seen	0.352	0.056	127	405	1.298	0.158	0.241	0.464
Received BCG vaccination	0.697	0.054	127	405	1.324	0.077	0.590	0.805
Received DPT-HepB-Hib vaccination (3 doses)	0.529	0.064	127	405	1.414	0.121	0.401	0.657
Received polio 0 vaccination	0.208	0.046	127	405	1.276	0.221	0.116	0.299
Received polio vaccination (3 doses)	0.538	0.056	127	405	1.235	0.104	0.427	0.649
Received pneumococcal vaccination (3 doses)	0.526	0.057	127	405	1.266	0.109	0.412	0.640
Received rotavirus vaccination (2 doses)	0.674	0.053	127	405	1.274	0.078	0.569	0.780
Received measles vaccination	0.487	0.065	127	405	1.449	0.133	0.358	0.616
Received all basic vaccinations	0.292	0.051	127	405	1.250	0.173	0.190	0.393
Received all age-appropriate vaccinations (12-23 months)	0.099	0.034	127	405	1.269	0.338	0.032	0.167
Received measles 2 vaccination	0.052	0.022	140	429	1.135	0.417	0.009	0.095
Received all age-appropriate vaccinations (24-35 months)	0.021	0.020	140	429	1.629	0.963	0.000	0.060
Height-for-age (-2SD)	0.353	0.024	698	2,134	1.176	0.067	0.306	0.401
Weight-for-height (-2SD)	0.043	0.008	715	2,186	1.041	0.195	0.026	0.060
Weight-for-age (-2SD)	0.163	0.026	707	2,161	1.681	0.157	0.112	0.214
Neonatal mortality (last 0-9 years)	38.885	7.280	1,488	4,570	1.341	0.187	24.325	53.445
Postneonatal mortality (last 0-9 years)	22.933	4.155	1,481	4,549	0.976	0.181	14.624	31.242
Infant mortality (last 0-9 years)	61.818	8.671	1,489	4,573	1.238	0.140	44.475	79.161
Child mortality (last 0-9 years)	10.755	2.535	1,500	4,606	0.843	0.236	5.685	15.824
Under-5 mortality (last 0-9 years)	71.907	9.741	1,492	4,584	1.287	0.135	52.426	91.389

na = Not applicable

Table B.9 Sampling errors: Somali sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.381	0.036	640	420	1.873	0.095	0.309	0.454
Literacy	0.123	0.031	640	420	2.348	0.249	0.062	0.184
No education	0.717	0.034	640	420	1.877	0.047	0.650	0.784
Secondary or higher education	0.088	0.021	640	420	1.906	0.243	0.045	0.131
Never married (never in union)	0.247	0.031	640	420	1.801	0.125	0.185	0.309
Currently married (in union)	0.676	0.041	640	420	2.197	0.060	0.594	0.757
Currently pregnant	0.140	0.017	640	420	1.249	0.123	0.106	0.174
Know any contraceptive method	0.667	0.035	446	284	1.569	0.053	0.597	0.737
Know a modern method	0.665	0.035	446	284	1.577	0.053	0.595	0.736
Currently using any method	0.034	0.016	446	284	1.903	0.484	0.001	0.066
Currently using a modern method	0.034	0.016	446	284	1.903	0.484	0.001	0.066
Currently using pill	0.003	0.003	446	284	1.137	0.975	0.000	0.009
Currently using IUD	0.000	0.000	446	284	na	na	0.000	0.000
Currently using condoms	0.000	0.000	446	284	na	na	0.000	0.000
Currently using injectables	0.020	0.012	446	284	1.805	0.602	0.000	0.044
Currently using implants	0.004	0.003	446	284	0.876	0.679	0.000	0.009
Currently using female sterilisation	0.000	0.000	446	284	na	na	0.000	0.000
Using public sector source	0.555	0.280	12	10	1.702	0.505	0.000	1.116
Births with skilled attendant at delivery	0.260	0.055	637	409	2.304	0.212	0.150	0.371
Vaccination card seen	0.214	0.049	85	56	1.071	0.229	0.116	0.312
Received BCG vaccination	0.395	0.073	85	56	1.342	0.184	0.250	0.541
Received DPT-HepB-Hib vaccination (3 doses)	0.262	0.068	85	56	1.392	0.259	0.126	0.398
Received polio 0 vaccination	0.156	0.043	85	56	1.052	0.277	0.069	0.242
Received polio vaccination (3 doses)	0.268	0.069	85	56	1.406	0.258	0.130	0.406
Received pneumococcal vaccination (3 doses)	0.229	0.064	85	56	1.365	0.279	0.101	0.357
Received rotavirus vaccination (2 doses)	0.356	0.069	85	56	1.312	0.194	0.218	0.495
Received measles vaccination	0.309	0.062	85	56	1.215	0.201	0.185	0.433
Received all basic vaccinations	0.185	0.049	85	56	1.115	0.263	0.088	0.282
Received all age-appropriate vaccinations (12-23 months)	0.045	0.024	85	56	0.895	0.523	0.000	0.092
Received measles 2 vaccination	0.014	0.014	120	74	1.298	1.018	0.000	0.043
Received all age-appropriate vaccinations (24-35 months)	0.000	0.000	120	74	na	na	0.000	0.000
Height-for-age (-2SD)	0.306	0.031	566	359	1.474	0.102	0.243	0.368
Weight-for-height (-2SD)	0.214	0.018	605	380	1.029	0.085	0.178	0.251
Weight-for-age (-2SD)	0.319	0.034	574	363	1.529	0.106	0.252	0.387
Neonatal mortality (last 0-9 years)	44.959	7.753	1,322	853	1.166	0.172	29.454	60.465
Postneonatal mortality (last 0-9 years)	26.513	6.420	1,330	860	1.295	0.242	13.673	39.353
Infant mortality (last 0-9 years)	71.472	11.338	1,323	854	1.429	0.159	48.797	94.148
Child mortality (last 0-9 years)	31.916	6.099	1,332	860	0.966	0.191	19.719	44.113
Under-5 mortality (last 0-9 years)	101.107	11.542	1,339	864	1.158	0.114	78.024	124.191

na = Not applicable

Table B.10 Sampling errors: Benishangul-Gumuz sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.327	0.032	747	98	1.886	0.099	0.262	0.392
Literacy	0.455	0.055	747	98	3.026	0.122	0.345	0.566
No education	0.398	0.042	747	98	2.346	0.106	0.314	0.483
Secondary or higher education	0.186	0.060	747	98	4.145	0.321	0.066	0.305
Never married (never in union)	0.255	0.017	747	98	1.056	0.066	0.221	0.288
Currently married (in union)	0.680	0.023	747	98	1.362	0.034	0.633	0.726
Currently pregnant	0.081	0.015	747	98	1.516	0.187	0.051	0.111
Know any contraceptive method	0.954	0.016	530	67	1.716	0.016	0.923	0.985
Know a modern method	0.953	0.015	530	67	1.677	0.016	0.922	0.984
Currently using any method	0.385	0.032	530	67	1.509	0.083	0.321	0.449
Currently using a modern method	0.367	0.030	530	67	1.450	0.083	0.306	0.428
Currently using pill	0.010	0.008	530	67	1.742	0.752	0.000	0.025
Currently using IUD	0.022	0.009	530	67	1.403	0.406	0.004	0.040
Currently using condoms	0.000	0.000	530	67	na	na	0.000	0.000
Currently using injectables	0.168	0.032	530	67	1.936	0.187	0.105	0.232
Currently using implants	0.158	0.025	530	67	1.555	0.156	0.109	0.207
Currently using female sterilisation	0.000	0.000	530	67	na	na	0.000	0.000
Using public sector source	0.925	0.041	202	26	2.186	0.044	0.842	1.007
Births with skilled attendant at delivery	0.650	0.078	530	67	3.044	0.121	0.493	0.807
Vaccination card seen	0.457	0.071	83	11	1.290	0.156	0.314	0.599
Received BCG vaccination	0.856	0.041	83	11	1.054	0.048	0.775	0.938
Received DPT-HepB-Hib vaccination (3 doses)	0.773	0.060	83	11	1.302	0.078	0.652	0.893
Received polio 0 vaccination	0.610	0.065	83	11	1.194	0.106	0.481	0.740
Received polio vaccination (3 doses)	0.747	0.059	83	11	1.228	0.079	0.629	0.865
Received pneumococcal vaccination (3 doses)	0.746	0.063	83	11	1.307	0.084	0.621	0.872
Received rotavirus vaccination (2 doses)	0.800	0.050	83	11	1.143	0.063	0.699	0.901
Received measles vaccination	0.767	0.054	83	11	1.155	0.070	0.660	0.875
Received all basic vaccinations	0.661	0.059	83	11	1.129	0.089	0.543	0.779
Received all age-appropriate vaccinations (12-23 months)	0.417	0.070	83	11	1.283	0.168	0.277	0.557
Received measles 2 vaccination	0.016	0.010	102	13	0.829	0.648	0.000	0.036
Received all age-appropriate vaccinations (24-35 months)	0.016	0.010	102	13	0.829	0.648	0.000	0.036
Height-for-age (-2SD)	0.407	0.063	478	62	2.587	0.154	0.282	0.533
Weight-for-height (-2SD)	0.064	0.014	490	63	1.171	0.217	0.036	0.092
Weight-for-age (-2SD)	0.320	0.077	490	63	3.289	0.239	0.167	0.474
Neonatal mortality (last 0-9 years)	54.868	12.035	1,055	132	1.347	0.219	30.798	78.939
Postneonatal mortality (last 0-9 years)	19.072	4.697	1,068	133	1.083	0.246	9.679	28.466
Infant mortality (last 0-9 years)	73.940	10.899	1,056	132	1.133	0.147	52.142	95.739
Child mortality (last 0-9 years)	17.136	4.354	1,069	133	0.894	0.254	8.428	25.843
Under-5 mortality (last 0-9 years)	89.809	11.717	1,060	133	1.062	0.130	66.375	113.243

na = Not applicable

Table B.11 Sampling errors: SNNPR sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			Lower (R-2SE)	Upper (R+2SE)
Urban residence	0.260	0.046	1,008	1,705	3.337	0.178	0.167	0.353
Literacy	0.422	0.026	1,008	1,705	1.691	0.062	0.369	0.475
No education	0.407	0.029	1,008	1,705	1.848	0.070	0.350	0.465
Secondary or higher education	0.135	0.025	1,008	1,705	2.285	0.183	0.085	0.184
Never married (never in union)	0.250	0.016	1,008	1,705	1.151	0.063	0.219	0.282
Currently married (in union)	0.690	0.025	1,008	1,705	1.698	0.036	0.641	0.740
Currently pregnant	0.077	0.011	1,008	1,705	1.274	0.139	0.056	0.099
Know any contraceptive method	0.983	0.006	709	1,177	1.237	0.006	0.971	0.995
Know a modern method	0.982	0.006	709	1,177	1.208	0.006	0.970	0.994
Currently using any method	0.450	0.038	709	1,177	2.009	0.084	0.375	0.526
Currently using a modern method	0.446	0.038	709	1,177	2.009	0.084	0.371	0.522
Currently using pill	0.013	0.005	709	1,177	1.123	0.373	0.003	0.022
Currently using IUD	0.015	0.005	709	1,177	1.124	0.344	0.005	0.025
Currently using condoms	0.002	0.002	709	1,177	1.107	0.989	0.000	0.005
Currently using injectables	0.335	0.028	709	1,177	1.552	0.082	0.280	0.391
Currently using implants	0.077	0.025	709	1,177	2.460	0.321	0.028	0.127
Currently using female sterilisation	0.002	0.002	709	1,177	0.917	0.704	0.000	0.006
Using public sector source	0.934	0.017	313	531	1.219	0.018	0.900	0.969
Births with skilled attendant at delivery	0.501	0.060	660	1,106	2.538	0.119	0.382	0.620
Vaccination card seen	0.296	0.103	116	199	2.380	0.349	0.089	0.503
Received BCG vaccination	0.714	0.043	116	199	1.017	0.061	0.627	0.801
Received DPT-HepB-Hib vaccination (3 doses)	0.563	0.074	116	199	1.596	0.132	0.414	0.712
Received polio 0 vaccination	0.347	0.052	116	199	1.159	0.150	0.243	0.451
Received polio vaccination (3 doses)	0.530	0.078	116	199	1.655	0.147	0.374	0.685
Received pneumococcal vaccination (3 doses)	0.540	0.074	116	199	1.579	0.137	0.392	0.688
Received rotavirus vaccination (2 doses)	0.544	0.061	116	199	1.315	0.113	0.422	0.667
Received measles vaccination	0.582	0.066	116	199	1.420	0.114	0.449	0.714
Received all basic vaccinations	0.435	0.079	116	199	1.702	0.182	0.277	0.593
Received all age-appropriate vaccinations (12-23 months)	0.182	0.039	116	199	1.097	0.216	0.104	0.260
Received measles 2 vaccination	0.153	0.037	119	196	1.113	0.245	0.078	0.227
Received all age-appropriate vaccinations (24-35 months)	0.042	0.030	119	196	1.607	0.719	0.000	0.101
Height-for-age (-2SD)	0.364	0.027	645	1,078	1.415	0.075	0.310	0.419
Weight-for-height (-2SD)	0.063	0.017	679	1,116	1.708	0.269	0.029	0.097
Weight-for-age (-2SD)	0.203	0.019	652	1,090	1.144	0.093	0.165	0.241
Neonatal mortality (last 0-9 years)	21.627	6.273	1,467	2,414	1.569	0.290	9.081	34.173
Postneonatal mortality (last 0-9 years)	15.211	3.936	1,472	2,414	1.014	0.259	7.338	23.084
Infant mortality (last 0-9 years)	36.838	7.863	1,468	2,416	1.456	0.213	21.113	52.563
Child mortality (last 0-9 years)	20.149	3.267	1,521	2,471	0.887	0.162	13.615	26.684
Under-5 mortality (last 0-9 years)	56.245	8.452	1,469	2,417	1.331	0.150	39.341	73.148

Table B.12 Sampling errors: Gambela sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.548	0.036	723	40	1.937	0.066	0.476	0.620
Literacy	0.382	0.041	723	40	2.258	0.107	0.300	0.464
No education	0.211	0.030	723	40	2.001	0.144	0.150	0.272
Secondary or higher education	0.280	0.026	723	40	1.537	0.092	0.228	0.331
Never married (never in union)	0.198	0.021	723	40	1.404	0.105	0.156	0.239
Currently married (in union)	0.622	0.026	723	40	1.429	0.042	0.570	0.673
Currently pregnant	0.076	0.018	723	40	1.843	0.239	0.040	0.113
Know any contraceptive method	0.947	0.017	458	25	1.628	0.018	0.913	0.981
Know a modern method	0.944	0.017	458	25	1.580	0.018	0.910	0.978
Currently using any method	0.338	0.069	458	25	3.072	0.203	0.201	0.475
Currently using a modern method	0.332	0.065	458	25	2.915	0.195	0.203	0.462
Currently using pill	0.022	0.008	458	25	1.183	0.373	0.005	0.038
Currently using IUD	0.004	0.002	458	25	0.743	0.551	0.000	0.008
Currently using condoms	0.002	0.002	458	25	0.873	1.008	0.000	0.005
Currently using injectables	0.295	0.060	458	25	2.775	0.202	0.176	0.414
Currently using implants	0.010	0.005	458	25	1.164	0.538	0.000	0.021
Currently using female sterilisation	0.000	0.000	458	25	na	na	0.000	0.000
Using public sector source	0.470	0.064	176	9	1.694	0.137	0.341	0.598
Births with skilled attendant at delivery	0.699	0.041	450	25	1.610	0.059	0.617	0.781
Vaccination card seen	0.535	0.070	77	4	1.196	0.130	0.396	0.675
Received BCG vaccination	0.818	0.058	77	4	1.298	0.071	0.702	0.934
Received DPT-HepB-Hib vaccination (3 doses)	0.604	0.059	77	4	1.032	0.098	0.486	0.722
Received polio 0 vaccination	0.614	0.099	77	4	1.729	0.161	0.416	0.811
Received polio vaccination (3 doses)	0.572	0.053	77	4	0.910	0.092	0.467	0.677
Received pneumococcal vaccination (3 doses)	0.608	0.061	77	4	1.062	0.100	0.487	0.730
Received rotavirus vaccination (2 doses)	0.658	0.104	77	4	1.861	0.158	0.450	0.866
Received measles vaccination	0.576	0.053	77	4	0.923	0.093	0.470	0.683
Received all basic vaccinations	0.398	0.054	77	4	0.956	0.136	0.290	0.507
Received all age-appropriate vaccinations (12-23 months)	0.226	0.069	77	4	1.433	0.308	0.087	0.365
Received measles 2 vaccination	0.215	0.061	79	4	1.260	0.285	0.092	0.337
Received all age-appropriate vaccinations (24-35 months)	0.118	0.065	79	4	1.707	0.552	0.000	0.249
Height-for-age (-2SD)	0.173	0.027	412	21	1.463	0.156	0.119	0.227
Weight-for-height (-2SD)	0.131	0.015	420	22	0.878	0.117	0.101	0.162
Weight-for-age (-2SD)	0.176	0.029	415	21	1.531	0.167	0.117	0.234
Neonatal mortality (last 0-9 years)	33.257	8.490	937	50	1.374	0.255	16.276	50.237
Postneonatal mortality (last 0-9 years)	16.869	5.168	942	50	1.106	0.306	6.534	27.204
Infant mortality (last 0-9 years)	50.126	11.330	938	50	1.416	0.226	27.465	72.786
Child mortality (last 0-9 years)	38.226	8.711	956	50	1.137	0.228	20.803	55.648
Under-5 mortality (last 0-9 years)	86.435	11.564	945	51	1.012	0.134	63.308	109.563

na = Not applicable

Table B.13 Sampling errors: Harari sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	0.566	0.039	763	27	2.189	0.070	0.488	0.645
Literacy	0.538	0.034	763	27	1.894	0.064	0.469	0.606
No education	0.326	0.032	763	27	1.853	0.097	0.263	0.389
Secondary or higher education	0.294	0.034	763	27	2.078	0.117	0.225	0.362
Never married (never in union)	0.281	0.028	763	27	1.729	0.100	0.225	0.338
Currently married (in union)	0.611	0.026	763	27	1.469	0.043	0.559	0.663
Currently pregnant	0.111	0.011	763	27	1.006	0.103	0.088	0.134
Know any contraceptive method	0.982	0.007	457	16	1.158	0.007	0.967	0.996
Know a modern method	0.982	0.007	457	16	1.158	0.007	0.967	0.996
Currently using any method	0.324	0.024	457	16	1.104	0.075	0.276	0.373
Currently using a modern method	0.303	0.027	457	16	1.243	0.088	0.250	0.357
Currently using pill	0.035	0.009	457	16	1.074	0.262	0.017	0.054
Currently using IUD	0.014	0.008	457	16	1.429	0.564	0.000	0.030
Currently using condoms	0.008	0.004	457	16	0.884	0.452	0.001	0.016
Currently using injectables	0.104	0.011	457	16	0.776	0.107	0.082	0.126
Currently using implants	0.110	0.024	457	16	1.635	0.218	0.062	0.158
Currently using female sterilisation	0.002	0.002	457	16	0.956	1.003	0.000	0.006
Using public sector source	0.867	0.030	138	5	1.017	0.034	0.808	0.926
Births with skilled attendant at delivery	0.647	0.065	447	16	2.362	0.101	0.516	0.778
Vaccination card seen	0.485	0.079	73	3	1.306	0.162	0.328	0.642
Received BCG vaccination	0.696	0.071	73	3	1.260	0.102	0.554	0.838
Received DPT-HepB-Hib vaccination (3 doses)	0.536	0.070	73	3	1.158	0.130	0.397	0.675
Received polio 0 vaccination	0.444	0.060	73	3	1.009	0.136	0.323	0.564
Received polio vaccination (3 doses)	0.509	0.070	73	3	1.156	0.137	0.370	0.648
Received pneumococcal vaccination (3 doses)	0.538	0.070	73	3	1.164	0.130	0.398	0.678
Received rotavirus vaccination (2 doses)	0.481	0.066	73	3	1.094	0.137	0.350	0.613
Received measles vaccination	0.599	0.076	73	3	1.280	0.127	0.446	0.751
Received all basic vaccinations	0.447	0.064	73	3	1.077	0.144	0.318	0.576
Received all age-appropriate vaccinations (12-23 months)	0.163	0.035	73	3	0.800	0.216	0.092	0.233
Received measles 2 vaccination	0.072	0.032	94	4	1.211	0.438	0.009	0.135
Received all age-appropriate vaccinations (24-35 months)	0.000	0.000	94	4	na	na	0.000	0.000
Height-for-age (-2SD)	0.364	0.034	416	15	1.363	0.093	0.296	0.432
Weight-for-height (-2SD)	0.041	0.010	433	16	1.025	0.247	0.021	0.061
Weight-for-age (-2SD)	0.202	0.022	418	16	1.087	0.108	0.158	0.245
Neonatal mortality (last 0-9 years)	36.631	5.006	874	33	0.763	0.137	26.619	46.643
Postneonatal mortality (last 0-9 years)	12.683	4.884	881	33	1.250	0.385	2.915	22.450
Infant mortality (last 0-9 years)	49.314	7.614	876	33	1.018	0.154	34.087	64.541
Child mortality (last 0-9 years)	15.866	6.158	887	33	1.155	0.388	3.551	28.181
Under-5 mortality (last 0-9 years)	64.397	10.780	879	33	1.083	0.167	42.838	85.956

Table B.14 Sampling errors: Addis Ababa sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits: Lower (R-2SE)	Confidence limits: Upper (R+2SE)
Urban residence	1.000	0.000	818	442	na	na	1.000	1.000
Literacy	0.840	0.023	818	442	1.786	0.027	0.794	0.885
No education	0.133	0.018	818	442	1.486	0.133	0.098	0.169
Secondary or higher education	0.540	0.041	818	442	2.366	0.077	0.457	0.622
Never married (never in union)	0.444	0.028	818	442	1.604	0.063	0.388	0.500
Currently married (in union)	0.467	0.029	818	442	1.651	0.062	0.409	0.524
Currently pregnant	0.069	0.011	818	442	1.217	0.156	0.047	0.091
Know any contraceptive method	0.994	0.004	385	206	1.007	0.004	0.986	1.002
Know a modern method	0.994	0.004	385	206	1.007	0.004	0.986	1.002
Currently using any method	0.499	0.031	385	206	1.198	0.061	0.438	0.560
Currently using a modern method	0.476	0.031	385	206	1.223	0.066	0.413	0.538
Currently using pill	0.086	0.020	385	206	1.395	0.232	0.046	0.127
Currently using IUD	0.052	0.010	385	206	0.863	0.188	0.032	0.071
Currently using condoms	0.011	0.005	385	206	0.949	0.461	0.001	0.021
Currently using injectables	0.170	0.029	385	206	1.517	0.171	0.112	0.228
Currently using implants	0.133	0.019	385	206	1.074	0.140	0.095	0.170
Currently using female sterilisation	0.000	0.000	385	206	na	na	0.000	0.000
Using public sector source	0.600	0.046	201	107	1.328	0.077	0.507	0.692
Births with skilled attendant at delivery	0.957	0.009	291	156	0.773	0.010	0.939	0.976
Vaccination card seen	0.859	0.061	64	34	1.389	0.071	0.738	0.981
Received BCG vaccination	0.963	0.024	64	34	1.019	0.025	0.914	1.011
Received DPT-HepB-Hib vaccination (3 doses)	0.931	0.030	64	34	0.945	0.032	0.871	0.991
Received polio 0 vaccination	0.749	0.052	64	34	0.959	0.070	0.645	0.854
Received polio vaccination (3 doses)	0.858	0.044	64	34	1.000	0.051	0.771	0.946
Received pneumococcal vaccination (3 doses)	0.931	0.030	64	34	0.945	0.032	0.871	0.991
Received rotavirus vaccination (2 doses)	0.944	0.028	64	34	0.964	0.029	0.889	1.000
Received measles vaccination	0.906	0.033	64	34	0.904	0.037	0.840	0.972
Received all basic vaccinations	0.833	0.049	64	34	1.049	0.059	0.735	0.931
Received all age-appropriate vaccinations (12-23 months)	0.549	0.069	64	34	1.108	0.126	0.411	0.688
Received measles 2 vaccination	0.034	0.024	61	32	1.007	0.699	0.000	0.081
Received all age-appropriate vaccinations (24-35 months)	0.034	0.024	61	32	1.007	0.699	0.000	0.081
Height-for-age (-2SD)	0.150	0.030	271	144	1.359	0.202	0.089	0.211
Weight-for-height (-2SD)	0.022	0.008	272	145	0.904	0.364	0.006	0.039
Weight-for-age (-2SD)	0.049	0.015	279	149	1.147	0.301	0.020	0.078
Neonatal mortality (last 0-9 years)	17.238	5.111	477	258	0.855	0.297	7.015	27.461
Postneonatal mortality (last 0-9 years)	3.792	2.805	474	256	0.981	0.740	0.000	9.401
Infant mortality (last 0-9 years)	21.030	6.498	477	258	0.981	0.309	8.034	34.026
Child mortality (last 0-9 years)	4.724	3.240	456	247	0.956	0.686	0.000	11.203
Under-5 mortality (last 0-9 years)	25.655	7.069	477	258	0.886	0.276	11.517	39.794

na = Not applicable

Table B.15 Sampling errors: Dire Dawa sample, Ethiopia Mini-DHS 2019

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative standard error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			Lower (R-2SE)	Upper (R+2SE)
Urban residence	0.673	0.049	812	64	2.987	0.073	0.574	0.772
Literacy	0.601	0.039	812	64	2.286	0.066	0.522	0.680
No education	0.269	0.030	812	64	1.921	0.111	0.209	0.329
Secondary or higher education	0.371	0.034	812	64	1.983	0.091	0.303	0.438
Never married (never in union)	0.321	0.031	812	64	1.912	0.098	0.258	0.384
Currently married (in union)	0.552	0.028	812	64	1.589	0.050	0.497	0.608
Currently pregnant	0.086	0.008	812	64	0.816	0.093	0.070	0.102
Know any contraceptive method	0.955	0.015	464	36	1.572	0.016	0.925	0.985
Know a modern method	0.955	0.015	464	36	1.572	0.016	0.925	0.985
Currently using any method	0.305	0.026	464	36	1.214	0.085	0.253	0.357
Currently using a modern method	0.303	0.026	464	36	1.228	0.087	0.251	0.356
Currently using pill	0.049	0.011	464	36	1.067	0.218	0.028	0.070
Currently using IUD	0.009	0.006	464	36	1.261	0.603	0.000	0.021
Currently using condoms	0.005	0.004	464	36	1.082	0.677	0.000	0.013
Currently using injectables	0.082	0.015	464	36	1.157	0.180	0.052	0.111
Currently using implants	0.126	0.020	464	36	1.277	0.156	0.087	0.166
Currently using female sterilisation	0.004	0.003	464	36	0.935	0.707	0.000	0.009
Using public sector source	0.864	0.036	133	11	1.215	0.042	0.791	0.937
Births with skilled attendant at delivery	0.708	0.050	402	30	1.745	0.071	0.607	0.808
Vaccination card seen	0.546	0.068	80	6	1.208	0.124	0.411	0.681
Received BCG vaccination	0.955	0.023	80	6	0.983	0.024	0.909	1.001
Received DPT-HepB-Hib vaccination (3 doses)	0.736	0.054	80	6	1.095	0.074	0.627	0.844
Received polio 0 vaccination	0.651	0.049	80	6	0.912	0.075	0.553	0.749
Received polio vaccination (3 doses)	0.690	0.050	80	6	0.961	0.072	0.591	0.790
Received pneumococcal vaccination (3 doses)	0.682	0.056	80	6	1.060	0.081	0.571	0.793
Received rotavirus vaccination (2 doses)	0.792	0.048	80	6	1.045	0.060	0.697	0.888
Received measles vaccination	0.745	0.064	80	6	1.304	0.086	0.617	0.873
Received all basic vaccinations	0.564	0.077	80	6	1.381	0.137	0.410	0.719
Received all age-appropriate vaccinations (12-23 months)	0.281	0.060	80	6	1.196	0.215	0.160	0.402
Received measles 2 vaccination	0.171	0.044	74	5	0.968	0.256	0.083	0.258
Received all age-appropriate vaccinations (24-35 months)	0.077	0.032	74	5	0.994	0.412	0.013	0.140
Height-for-age (-2SD)	0.254	0.023	362	26	0.941	0.092	0.207	0.300
Weight-for-height (-2SD)	0.059	0.013	377	27	1.003	0.222	0.033	0.086
Weight-for-age (-2SD)	0.158	0.027	364	26	1.261	0.171	0.104	0.212
Neonatal mortality (last 0-9 years)	31.045	6.315	816	60	0.948	0.203	18.416	43.674
Postneonatal mortality (last 0-9 years)	29.708	13.543	819	60	1.506	0.456	2.621	56.794
Infant mortality (last 0-9 years)	60.753	13.182	817	60	1.185	0.217	34.388	87.117
Child mortality (last 0-9 years)	19.806	10.152	796	58	1.458	0.513	0.000	40.110
Under-5 mortality (last 0-9 years)	79.356	21.743	820	60	1.592	0.274	35.870	122.841

DATA QUALITY TABLES

Appendix C

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Ethiopia Mini-DHS 2019

	Female		Male			Female		Male	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	478	2.4	557	2.7	36	109	0.5	101	0.5
1	550	2.8	480	2.4	37	135	0.7	100	0.5
2	551	2.8	534	2.6	38	213	1.1	201	1.0
3	578	2.9	623	3.1	39	92	0.5	90	0.4
4	525	2.6	583	2.9	40	408	2.0	603	3.0
5	441	2.2	480	2.4	41	41	0.2	42	0.2
6	598	3.0	633	3.1	42	129	0.6	109	0.5
7	727	3.6	726	3.6	43	81	0.4	51	0.3
8	690	3.4	712	3.5	44	45	0.2	30	0.1
9	526	2.6	486	2.4	45	327	1.6	419	2.1
10	693	3.5	753	3.7	46	32	0.2	57	0.3
11	543	2.7	492	2.4	47	54	0.3	72	0.4
12	631	3.2	722	3.6	48	72	0.4	108	0.5
13	771	3.9	534	2.6	49	69	0.3	37	0.2
14	419	2.1	573	2.8	50	189	0.9	403	2.0
15	528	2.6	627	3.1	51	76	0.4	26	0.1
16	473	2.4	556	2.7	52	156	0.8	52	0.3
17	343	1.7	371	1.8	53	129	0.6	29	0.1
18	617	3.1	652	3.2	54	81	0.4	37	0.2
19	282	1.4	250	1.2	55	321	1.6	185	0.9
20	517	2.6	575	2.8	56	89	0.4	47	0.2
21	176	0.9	180	0.9	57	64	0.3	51	0.3
22	304	1.5	312	1.5	58	74	0.4	68	0.3
23	274	1.4	219	1.1	59	18	0.1	19	0.1
24	226	1.1	212	1.0	60	361	1.8	298	1.5
25	665	3.3	526	2.6	61	18	0.1	24	0.1
26	208	1.0	222	1.1	62	38	0.2	48	0.2
27	268	1.3	209	1.0	63	26	0.1	32	0.2
28	418	2.1	336	1.7	64	25	0.1	17	0.1
29	136	0.7	112	0.6	65	147	0.7	179	0.9
30	653	3.3	638	3.1	66	7	0.0	17	0.1
31	69	0.3	75	0.4	67	25	0.1	38	0.2
32	187	0.9	189	0.9	68	29	0.1	61	0.3
33	131	0.7	97	0.5	69	2	0.0	8	0.0
34	113	0.6	71	0.3	70+	466	2.3	634	3.1
35	527	2.6	603	3.0	Don't know/ missing	18	0.1	64	0.3
					Total	20,004	100.0	20,276	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, Ethiopia Mini-DHS 2019

Age group	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percentage	
10-14	3,057	na	na	na
15-19	2,243	2,180	24.9	97.2
20-24	1,497	1,474	16.8	98.5
25-29	1,694	1,672	19.1	98.7
30-34	1,153	1,133	12.9	98.2
35-39	1,076	1,067	12.2	99.2
40-44	704	697	7.9	99.0
45-49	554	544	6.2	98.3
50-54	630	na	na	na
15-49	8,921	8,768	100.0	98.3

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both the 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), Ethiopia Mini-DHS 2019

Subject	Reference group	Percentage with information missing	Number of cases
Birth date	Births in the 15 years preceding the survey		
Day only		7.63	16,413
Month only		4.83	16,413
Month and year		0.83	16,413
Age at death	Deceased children born in the 15 years preceding the survey	0.00	1,218
Age/date at first union[1]	Ever-married women age 15-49	0.00	6,560
Respondent's education	All women age 15-49	0.00	8,885
Anthropometry of children	Women age 15-49 (from the Biomarker Questionnaire)		
Height		1.48	5,512
Weight		1.13	5,512
Height or weight		1.48	5,512

[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), Ethiopia Mini-DHS 2019

Calendar year	Number of births			Percentage with year and month of birth given			Sex ratio at birth[1]			Calendar year ratio[2]		
	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2019	658	35	693	100.0	100.0	100.0	104.5	375.9	110.6	na	na	na
2018	1,060	42	1,101	99.6	95.0	99.4	101.1	79.8	100.2	na	na	na
2017	1,076	61	1,137	99.5	99.1	99.5	103.3	187.7	106.5	100.8	131.3	102.1
2016	1,076	51	1,127	99.3	95.7	99.2	103.1	94.5	102.7	98.5	88.9	98.0
2015	1,108	54	1,162	97.9	99.4	98.0	115.4	118.0	115.6	110.5	84.7	108.9
2014	929	77	1,006	99.4	99.6	99.4	109.2	153.6	112.0	88.3	85.2	88.1
2013	997	126	1,123	93.0	88.9	92.5	115.3	158.9	119.5	93.8	162.3	98.5
2012	1,195	79	1,273	94.6	80.6	93.7	93.2	106.3	94.0	107.2	74.5	104.4
2011	1,232	85	1,317	91.3	71.1	90.0	103.0	232.1	108.2	117.3	100.4	116.0
2010	906	91	997	93.4	90.6	93.2	90.1	94.8	90.5	78.7	121.9	81.4
2015-2019	4,977	243	5,220	99.2	97.9	99.1	105.5	136.3	106.8	na	na	na
2010-2014	5,259	458	5,716	94.2	86.3	93.5	101.6	141.6	104.3	na	na	na
2005-2009	4,787	465	5,252	90.7	87.6	90.5	100.5	159.4	104.7	na	na	na
2000-2004	3,433	495	3,928	90.2	82.7	89.2	114.8	145.3	118.2	na	na	na
<2000	3,242	893	4,135	86.4	72.2	83.4	101.6	119.5	105.2	na	na	na
All	21,698	2,554	24,252	92.8	82.0	91.6	104.2	136.4	107.2	na	na	na

na = Not applicable
[1] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[2] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under age 1 month by age at death in days and percentage of neonatal deaths reported to occur at age 0-6 days, for 5-year periods preceding the survey (weighted), Ethiopia Mini-DHS 2019

Age at death (days)	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	Total 0-19
<1	72	96	71	45	284
1	37	53	49	40	180
2	14	15	15	14	58
3	18	12	7	12	48
4	1	0	5	7	13
5	5	0	0	2	7
6	0	1	2	0	3
7	9	7	10	1	27
8	0	3	0	2	5
9	3	0	1	0	3
10	4	2	2	2	9
11	0	0	0	0	0
12	3	0	2	0	5
13	0	0	3	0	3
14	3	9	4	2	17
15	2	9	22	17	50
16	4	0	0	0	4
17	0	0	0	1	1
18	0	0	0	1	1
19	0	4	0	0	4
20	2	3	2	0	8
21	2	7	0	3	12
22	0	0	6	1	7
25	0	0	0	0	0
30	8	7	18	7	40
Total 0-30	187	230	216	158	790
Percentage early neonatal[1]	78.5	77.3	68.5	76.7	75.1

[1] 0-6 days/0-30 days

Table C.6 Reporting of age at death in months

Distribution of reported deaths under age 2 by age at death in months and percentage of infant deaths reported to occur under age 1 month, for 5-year periods preceding the survey (weighted), Ethiopia Mini-DHS 2019

Age at death (months)	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	Total 0-19
<1	187	230	216	158	790
1	7	33	21	23	84
2	6	12	21	18	57
3	4	16	10	15	44
4	5	7	15	3	30
5	7	10	6	4	28
6	14	14	17	14	59
7	4	7	13	5	29
8	2	8	8	7	25
9	4	6	10	13	33
10	5	7	6	3	21
11	1	1	4	8	13
12	5	16	18	29	68
13	0	1	2	3	5
14	0	2	2	0	5
15	1	0	1	2	5
16	0	0	0	0	0
17	0	0	0	0	0
18	0	9	2	1	12
19	0	0	1	0	1
20	0	0	0	0	0
22	0	2	2	1	5
23	0	0	0	0	0
Total 0-11	246	352	345	270	1,213
Percentage neonatal[1]	75.9	65.3	62.5	58.6	65.2

[1] Under 1 month/under 1 year

Table C.7 Height and weight data completeness and quality for children

Among children under age 5 (age 0-59 months) who were eligible for anthropometry, percentage with incomplete or missing height and/or weight measurements and/or date of birth; percentage with implausible height-for-age, and/or weight-for-height, and/or weight-for-age data; and percentage with valid data, according to background characteristics (unweighted), Ethiopia Mini-DHS 2019

	Percentage with data missing or incomplete:			Percentage with implausible data for[4]:			Percentage with valid data for[8]:			
Background characteristic	Height[1]	Weight[2]	Age in months[3]	Height-for-age[5]	Weight-for-height[6]	Weight-for-age[7]	Height-for-age	Weight-for-height	Weight-for-age	Number of children
Age in months										
<6	2.8	1.3	0.8	1.7	1.3	1.0	94.7	95.9	96.9	605
6-8	2.6	1.8	0.4	1.1	0.0	0.0	96.0	97.4	97.8	274
9-11	0.8	0.8	2.3	0.8	0.8	0.0	96.5	98.5	97.3	259
12-17	0.9	0.7	2.0	1.2	0.2	0.2	95.9	99.0	97.1	587
18-23	2.2	1.5	1.5	0.4	0.2	0.0	96.1	97.6	97.2	458
24-35	1.7	1.3	2.3	0.9	0.6	0.1	95.1	97.7	96.3	1,151
36-47	1.8	1.5	4.1	0.6	0.3	0.2	93.6	97.9	94.3	1,165
48-59	1.7	1.6	4.9	1.1	1.3	0.0	92.4	97.1	93.6	1,196
Sex										
Male	2.0	1.5	2.8	0.8	0.5	0.1	94.5	97.5	95.6	2,902
Female	1.5	1.2	3.0	1.1	0.8	0.2	94.5	97.6	95.7	2,793
Mother's interview status										
Interviewed	1.6	1.2	1.2	1.0	0.5	0.2	96.2	97.9	97.4	5,262
Not interviewed but in household	0.0	0.0	0.0	2.7	2.7	0.0	97.3	97.3	100.0	37
Not interviewed and not in the household[9]	4.0	3.8	25.5	0.8	3.0	0.0	70.7	92.9	71.7	396
Region										
Tigray	0.5	0.5	0.2	0.5	0.2	0.0	98.9	99.3	99.3	442
Afar	1.6	1.3	3.5	1.7	1.1	0.5	93.4	97.3	95.0	634
Amhara	1.9	1.7	1.2	0.6	0.2	0.0	96.7	97.9	97.5	518
Oromia	1.5	1.1	1.7	0.8	0.1	0.0	96.0	98.3	97.2	720
Somali	2.6	1.7	7.1	0.8	1.5	0.2	89.7	95.8	91.2	648
Benishangul-Gumuz	2.2	1.8	0.6	2.2	0.4	0.4	95.0	97.4	97.2	500
SNNPR	1.2	1.2	4.3	0.9	0.4	0.0	93.6	98.4	94.5	691
Gambela	2.1	2.1	2.5	1.4	1.6	0.7	94.0	96.3	94.7	432
Harari	0.9	0.5	3.9	0.2	0.5	0.0	95.2	98.6	95.9	435
Addis Ababa	4.8	2.4	1.7	0.0	0.0	0.0	93.4	95.2	95.8	289
Dire Dawa	1.4	1.4	3.3	0.8	1.1	0.3	94.6	97.5	95.1	367
Mother's education										
No education	1.4	1.1	1.7	1.2	0.4	0.2	95.7	98.2	97.0	2,941
Primary	1.6	1.0	0.8	0.8	0.7	0.1	96.8	97.7	98.0	1,635
Secondary	1.8	1.8	0.0	0.7	0.5	0.5	97.5	97.7	97.7	441
More than secondary	3.0	1.5	0.0	0.0	0.0	0.0	97.0	97.0	98.5	133
Total	1.8	1.4	2.9	0.9	0.7	0.2	94.5	97.6	95.6	5,695

[1] Child's height in centimetres is missing, child was not present, child refused, and "other" result codes
[2] Child's weight in kilograms is missing, child was not present, child refused, and "other" result codes
[3] Incomplete date of birth; a complete date of birth is month/day/year or month/year.
[4] Cases with missing or incomplete data are not considered to be implausible cases.
[5] Implausible cases for height-for-age are defined as more than 6 standard deviations (SD) above or below the standard population median (Z-scores) based on the WHO Child Growth Standards.
[6] Implausible cases for weight-for-height are defined as more than 5 SD above or below the standard population median (Z-scores) based on the WHO Child Growth Standards.
[7] Implausible cases for weight-for-age are defined as more than 6 SD below or 5 SD above the standard population median (Z-scores) based on the WHO Child Growth Standards.
[8] No missing data, incomplete data, or implausible data.
[9] Includes children whose mothers are deceased.

Table C.8 Number of enumeration areas completed by month, according to region, Ethiopia Mini-DHS 2019

Region	Month					Total
	July	August	September	October	November	
Tigray	7	11	7	0	0	25
Afar	13	9	3	0	0	25
Amhara	11	17	6	0	1	35
Oromia	13	16	6	0	0	35
Somali	10	10	5	0	0	25
Benishangul-Gumuz	6	10	4	4	1	25
SNNPR	11	20	4	0	0	35
Gambela	6	15	4	0	0	25
Harari	7	11	7	0	0	25
Addis Ababa	0	9	16	0	0	25
Dire Dawa	7	10	8	0	0	25
Percent	29.8	45.2	23.0	1.3	0.7	100.0
Total	91	138	70	4	2	305

Note: Enumeration areas are classified by month according to the date by which the last biomarker questionnaire in the enumeration area was completed.

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QUESTIONNAIRES

Appendix **E**

FORMATTING DATE: 25 Feb 2019
ENGLISH LANGUAGE: 02 Jan 2019

ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEY 2019
HOUSEHOLD QUESTIONNAIRE

ETHIOPIA
ETHIOPIAN PUBLIC HEALTH INSTITUTE

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . . . | | | | |

HOUSEHOLD NUMBER . . . . . | | | | |

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY
				MONTH
				YEAR
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** 0 4 | LANGUAGE OF INTERVIEW** | NATIVE LANGUAGE OF RESPONDENT** | TRANSLATOR USED (YES = 1, NO = 2)

LANGUAGE OF QUESTIONNAIRE** ENGLISH

**LANGUAGE CODES:
01 AMARIGNA
02 OROMIGNA
03 TIGRIGNA
04 ENGLISH
06 OTHER _____

SUPERVISOR		FIELD EDITOR		OFFICE EDITOR	KEYED BY
NAME	NUMBER	NAME	NUMBER	NUMBER	NUMBER

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INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with the Ethiopian Public Health Institute. We are conducting a survey about health and other topics all over Ethiopia. The information we collect will help the government to plan health services. Your household was selected for the survey. I would like to ask you some questions about your household. The questions usually take about 15 to 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. In case you need more information about the survey, you may contact the person listed on this card.

GIVE CARD WITH CONTACT INFORMATION

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER _____ DATE _____

RESPONDENT AGREES TO BE INTERVIEWED . . 1 ↓

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . 2 → END

100	RECORD THE TIME.	HOURS	
		MINUTES	

HOUSEHOLD SCHEDULE

									IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS	
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBILITY		EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE	
1	2	3	4	5	6	7	9	11	16	17	18	19
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-20 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF LESS THAN 1 YEAR, RECORD '00' IF 95 OR MORE, RECORD '95'.	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? What is the highest grade or year (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school at any time during the 2011 E.C. school year?	During [this/that] school year, what level and grade or year [is/was] (NAME) attending? SEE CODES BELOW.
01			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS	01	01	Y N 1 2 ↓ NEXT LINE	LEVEL GRADE	Y N 1 2 ↓ NEXT LINE	LEVEL GRADE
02			1 2	1 2	1 2		02	02	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
03			1 2	1 2	1 2		03	03	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
04			1 2	1 2	1 2		04	04	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
05			1 2	1 2	1 2		05	05	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
06			1 2	1 2	1 2		06	06	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
07			1 2	1 2	1 2		07	07	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
08			1 2	1 2	1 2		08	08	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
09			1 2	1 2	1 2		09	09	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
10			1 2	1 2	1 2		10	10	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	

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 HH

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 = NIECE/NEPHEW
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
98 = DON'T KNOW

CODES FOR Qs. 17 AND 19: EDUCATION

LEVEL
0 = PRESCHOOL
1 = PRIMARY
2 = SECONDARY
3 = TECHNICAL/ VOCATIONAL
4 = HIGHER
98 = DON'T KNOW

GRADE
00 = LESS THAN 1 YEAR COMPLETED
(USE '00' FOR Q. 17 ONLY. THIS CODE IS NOT ALLOWED FOR Q. 19.)

11			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS	11	11	Y N 1 2 ↓ NEXT LINE	LEVEL GRADE	Y N 1 2 ↓ NEXT LINE	LEVEL GRADE
12			1 2	1 2	1 2		12	12	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
13			1 2	1 2	1 2		13	13	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
14			1 2	1 2	1 2		14	14	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
15			1 2	1 2	1 2		15	15	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
16			1 2	1 2	1 2		16	16	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
17			1 2	1 2	1 2		17	17	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
18			1 2	1 2	1 2		18	18	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
19			1 2	1 2	1 2		19	19	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	
20			1 2	1 2	1 2		20	20	1 2 ↓ NEXT LINE		1 2 ↓ NEXT LINE	

TICK HERE IF CONTINUATION SHEET USED ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HH

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN_LAW
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07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = NIECE/NEPHEW
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
98 = DON'T KNOW

CODES FOR Qs. 17 AND 19: EDUCATION

LEVEL
0 = PRESCHOOL
1 = PRIMARY
2 = SECONDARY
3 = TECHNICAL/ VOCATIONAL
4 = HIGHER
8 = DON'T KNOW

GRADE
00 = LESS THAN 1 YEAR COMPLETED
(USE '00' FOR Q. 17 ONLY. THIS CODE IS NOT ALLOWED FOR Q. 19.)
98 = DON'T KNOW

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 OTHER _____ 96 (SPECIFY)	109 109
103	Where is that water source located?	IN OWN DWELLING . . . . . 1 IN OWN YARD/PLOT . . . . . 2 ELSEWHERE 3	109
104	How long does it take to go there, get water, and come back?	MINUTES . . . . . [ ][ ][ ] DON'T KNOW 998	
109	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 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)	113
110	Do you share this toilet facility with other households?	YES . . . . . 1 NO 2	112
111	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	
112	Where is this toilet facility located?	IN OWN DWELLING . . . . . 1 IN OWN YARD/PLOT . . . . . 2 ELSEWHERE 3	
113	What type of fuel does your household mainly use for cooking?	ELECTRICITY . . . . . 01 LPG . . . . . 02 NATURAL GAS . . . . . 03 BIOGAS . . . . . 04 KEROSENE . . . . . 05 CHARCOAL . . . . . 06 WOOD . . . . . 07 STRAW/SHRUBS/GRASS . . . . . 08 AGRICULTURAL CROP . . . . . 09 ANIMAL DUNG . . . . . 10 NO FOOD COOKED IN HOUSEHOLD . . . . . 95 OTHER _____ 96 (SPECIFY)	116
114	Is the cooking usually done in the house, in a separate building, or outdoors?	IN THE HOUSE . . . . . 1 IN A SEPARATE BUILDING . . . . . 2 OUTDOORS . . . . . 3 OTHER _____ 6 (SPECIFY)	116
115	Do you have a separate room which is used as a kitchen?	YES . . . . . 1 NO 2	
116	How many rooms in this household are used for sleeping?	ROOMS . . . . . [ ][ ]	
117	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . . 1 NO 2	119
118	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 or bulls? b) Other cattle? c) Horses, donkeys, or mules? d) Camels? e) Goats? f) Sheep? g) Chickens or other poultry? h) Beehives?	a) COWS/BULLS . . . . . [ ][ ] b) OTHER CATTLE . . . . . [ ][ ] c) HORSES/DONKEYS/MULES . . . . . [ ][ ] d) CAMELS . . . . . [ ][ ] e) GOATS . . . . . [ ][ ] f) SHEEP . . . . . [ ][ ] g) CHICKENS/POULTRY . . . . . [ ][ ] h) BEEHIVES . . . . . [ ][ ]	
119	Does any member of this household own any agricultural land?	YES . . . . . 1 NO 2	121
120	How many hectares of agricultural land do members of this household own? IF 95 OR MORE, CIRCLE '950'.	HECTARES . . . . . [ ][ ] . [ ][ ] 95 OR MORE HECTARES . . . . . 950 DON'T KNOW 998	
121 (7)	Does your household have: a) Electricity? b) A radio? c) A television? d) A non-mobile telephone? e) A computer? f) A refrigerator? g) A table? h) A chair? i) A bed with cotton/sponge/spring mattress? j) An electric mitad? k) A kerosene lamp or pressure lamp?	YES NO a) ELECTRICITY . . . . . 1 2 b) RADIO . . . . . 1 2 c) TELEVISION . . . . . 1 2 d) NON-MOBILE TELEPHONE . . 1 2 e) COMPUTER . . . . . 1 2 f) REFRIGERATOR . . . . . 1 2 g) TABLE . . . . . 1 2 h) CHAIR . . . . . 1 2 i) BED WITH MATTRESS . . . . . 1 2 j) ELECTRIC MITAD . . . . . 1 2 k) KEROSENE/PRESSURE LAMP 1 2	
122	Does any member of this household own: a) A watch? b) A mobile phone? c) A bicycle? d) A motorcycle or motor scooter? e) An animal-drawn cart? f) A car or truck? g) A bajaja?	YES NO a) WATCH . . . . . 1 2 b) MOBILE PHONE . . . . . 1 2 c) BICYCLE . . . . . 1 2 d) MOTORCYCLE/SCOOTER . . . . . 1 2 e) ANIMAL-DRAWN CART . . . . . 1 2 f) CAR/TRUCK . . . . . 1 2 g) BAJAJA 1 2	
123	Does any member of this household have a bank account or microfinance savings account?	YES . . . . . 1 NO 2	
124	Is your household receiving cash or food from the Safety Net Program?	YES . . . . . 1 NO 2	
125	Is your household enrolled in a Community Based Health Insurance scheme?	YES . . . . . 1 NO 2	
126	Does your household own this dwelling, occupy this dwelling free of charge (or subsidized ????), or rent this dwelling from the kebele, an agency, an employer, or from individuals?	OWNED . . . . . 1 FREE OF CHARGE OR SUBSIDIZED . . . . . 2 RENTED FROM KEBELE/AGENCY/EMPLOYER/ INDIVIDUALS . . . . . 3 OTHER _____ 6 (SPECIFY)	

ADDITIONAL HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
142	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 TILES . . . . . 33 CEMENT . . . . . 34 CARPET . . . . . 35 OTHER _____ 96 (SPECIFY)	
143	OBSERVE MAIN MATERIAL OF THE ROOF OF THE DWELLING. RECORD OBSERVATION.	**NATURAL ROOFING** NO ROOF . . . . . 11 THATCH/PALM LEAF . . . . . 12 SOD . . . . . 13 **RUDIMENTARY ROOFING** RUSTIC MAT . . . . . 21 PALM/BAMBOO . . . . . 22 WOOD PLANKS . . . . . 23 CARDBOARD . . . . . 24 **FINISHED ROOFING** CORRUGATED IRON/METAL . . . . . 31 WOOD . . . . . 32 CALAMINE/CEMENT FIBER . . . . . 33 CERAMIC TILES . . . . . 34 CEMENT . . . . . 35 ROOFING SHINGLES . . . . . 36 OTHER _____ 96 (SPECIFY)	
144	OBSERVE MAIN MATERIAL OF THE EXTERIOR WALLS OF THE DWELLING. RECORD OBSERVATION.	**NATURAL WALLS** NO WALLS . . . . . 11 CANE/PALM/TRUNKS/BAMBOO/REED . . . . . 12 DIRT . . . . . 13 **RUDIMENTARY WALLS** BAMBOO/WOOD WITH . . . . . 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)	
146	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

EDITOR'S OBSERVATIONS

FORMATTING DATE: 19 Mar 2019
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ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEY 2019
WOMAN'S QUESTIONNAIRE

ETHIOPIA
ETHIOPIAN PUBLIC HEALTH INSTITUTE

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . . . | | | | |

HOUSEHOLD NUMBER . . . . . | | | | |

NAME AND LINE NUMBER OF WOMAN _____ | |

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY | | MONTH | | YEAR | | | |
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 4 | LANGUAGE OF INTERVIEW** \| \| | NATIVE LANGUAGE OF RESPONDENT** \| \| | TRANSLATOR USED (YES = 1, NO = 2) \|

LANGUAGE OF QUESTIONNAIRE** **ENGLISH**

**LANGUAGE CODES:
01 AMARIGNA; 02 OROMIGNA; 03 TIGRIGNA; 04 ENGLISH; 06 OTHER _____

SUPERVISOR		FIELD EDITOR		OFFICE EDITOR	KEYED BY
NAME	NUMBER	NAME	NUMBER	NUMBER	NUMBER
_____	| | | |	_____	| | | |	| |	| |

INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with the Ethiopian Public Health Institute. We are conducting a survey about health and other topics all over Ethiopia. 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.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	
101A	Before I begin the interview, could you please bring your and your children's Birth Certificate, Maternal and Child Immunisation Card, and any immunisation record from a private health provider, or any other document where the date of birth is officially registered for your self or your children? We will need to refer to those documents.		
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, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 TECHNICAL/VOCATIONAL . . . . . 3 HIGHER 4	
109	What is the highest grade or number of years you completed at that level? IF ATTENDED PRIMARY OR SECONDARY, RECORD COMPLETED GRADE COMPLETED AT THAT LEVEL. IF ATTENDED TECHNICAL/VOCATIONAL OR IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE/NUMBER OF YEARS . . . . . ☐☐	
110	CHECK 108: PRIMARY OR SECONDARY ☐ ↓ TECHNICAL/VOCATIONAL OR HIGHER ☐ →		122
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	
122	What is your religion?	ORTHODOX . . . . . 1 CATHOLIC . . . . . 2 PROTESTANT . . . . . 3 MUSLIM . . . . . 4 TRADITIONAL . . . . . 5 OTHER _____ 96 (SPECIFY)	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES . . . . . 1 NO 2	→ 206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES . . . . . 1 NO 2	→ 204
203	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	→ 208
207	a) How many boys have died? b) And how many girls have died? IF NONE, RECORD '00'.	a) BOYS DEAD . . . . . [ ][ ] b) GIRLS DEAD . . . . . [ ][ ]	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL BIRTHS . . . . . [ ][ ]	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES → [ ] NO → [ ] → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS → [ ] NO BIRTHS → [ ] → 226		

SECTION 2. REPRODUCTION

211 Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had. RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE ROWS. IF THERE ARE MORE THAN 10 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW.

212 What name was given to your (first/ next) baby? RECORD NAME. BIRTH HISTORY NUMBER.	213 Is (NAME) a boy or a girl?	214 Were any of these births twins?	215 On what day, month, and year was (NAME) born?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at (NAME)'s last birthday? RECORD AGE IN COMP-LETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD. RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD.	220 IF DEAD: 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.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	
02	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
03	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
04	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
05	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
06	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
07	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
08	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
09	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵
10	BOY 1 GIRL 2	SING 1 MULT 2	DAY ☐☐ MONTH ☐☐ ☐☐☐☐ YEAR	YES 1 NO 2 → (SKIP TO 220)	AGE IN YEARS ☐☐	YES 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (SKIP TO 221)	DAYS 1 ☐☐ MONTHS 2 ☐☐ YEARS 3 ☐☐	YES 1 (ADD BIRTH) ↵ NO 2 (NEXT BIRTH) ↵

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
222	Have you had any live births since the birth of (NAME OF LAST BIRTH)?	YES . . . . . 1 → (RECORD BIRTH(S) IN TABLE) NO 2	
223	COMPARE 208 WITH NUMBER OF BIRTHS IN BIRTH HISTORY NUMBERS ARE SAME NUMBERS ARE DIFFERENT → (PROBE AND RECONCILE)		
224	CHECK 215: ENTER THE NUMBER OF BIRTHS IN 2006-2011 E.C.	NUMBER OF BIRTHS . . . . . [ ] NONE 0	
226	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 301
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS.	MONTHS . . . . . [ ][ ]	

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD)?	
01	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	YES . . . . . 1 NO 2
02	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	YES . . . . . 1 NO 2
03	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse 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 three months.	YES . . . . . 1 NO 2
05	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . . 1 NO 2
06	Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES . . . . . 1 NO 2
07	Male Condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . . 1 NO 2
08	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	YES . . . . . 1 NO 2
09 (1)	Emergency Contraception. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . . 1 NO 2
10 (2)	Standard Days Method. PROBE: A woman uses a string of colored beads to know the days she can get pregnant. On the days she can get pregnant, she uses a condom or does not have sexual intercourse.	YES . . . . . 1 NO 2
11 (3)	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
12	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
13	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES . . . . . 1 NO 2
14	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. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B IUD . . . . . C INJECTABLES . . . . . D IMPLANTS . . . . . E → 304A PILL . . . . . F MALE CONDOM . . . . . G FEMALE CONDOM . . . . . H EMERGENCY CONTRACEPTION . . . . . I STANDARD DAYS METHOD . . . . . J LACTATIONAL AMENORRHEA METHOD . . . . . K → 304B RHYTHM METHOD . . . . . L WITHDRAWAL . . . . . M OTHER MODERN METHOD . . . . . X → 305 OTHER TRADITIONAL METHOD . . . . . Y	
304A	Where did you obtain (METHOD FROM Q.304) the last time? IF MORE THAN ONE METHOD CIRCLED IN Q.304 ASK ABOUT THE METHOD THAT IS HIGHEST IN 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** GOVERNMENT HOSPITAL . . . . . 11 GOVERNMENT HEALTH CENTER . . . . . 12 GOVERNMENT HEALTH POST . . . . . 13 PUBLIC PHARMACY . . . . . 14 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **NGO** NGO HEALTH FACILITY . . . . . 21 OTHER NGO _____ 26 (SPECIFY)	
304B	Where did you learn to use the (METHOD FROM Q.304)?	**PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL . . . . . 31 PRIVATE CLINIC . . . . . 32 PHARMACY . . . . . 33 OTHER PRIVATE MEDICAL SECTOR _____ 36 (SPECIFY) **OTHER SOURCE** SHOP . . . . . 41 FRIEND/RELATIVE . . . . . 42 OTHER _____ 96 (SPECIFY)	
305	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 → 401	
306	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 → 401	
307	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . . 1 DIVORCED . . . . . 2 SEPARATED 3	

SECTION 4. PREGNANCY AND POSTNATAL CARE

401	CHECK 224: ONE OR MORE BIRTHS IN 2006-2011 E.C. ☐ ↓ NO BIRTHS IN 2006-2011 E.C. ☐ → 615		
402	CHECK 215. RECORD THE BIRTH HISTORY NUMBER IN 403 AND THE NAME AND SURVIVAL STATUS IN 404 FOR EACH BIRTH IN 2006-2011 E.C. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. IF THERE ARE MORE THAN 2 BIRTHS, USE LAST COLUMN OF ADDITIONAL QUESTIONNAIRE(S). Now I would like to ask some questions about your children born in the last five years. (We will talk about each separately.)		
403	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY.	LAST BIRTH BIRTH HISTORY NUMBER . . . . . ☐☐	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER . . . . . ☐☐
404	FROM 212 AND 216:	NAME _____ LIVING ☐ ↓ DEAD ☐ ↓	NAME _____ LIVING ☐ ↓ DEAD ☐ ↓
408	Did you see anyone for antenatal care for this pregnancy?	YES . . . . . 1 NO . . . . . 2 → (SKIP TO 420)	
409	Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED.	**HEALTH PERSONNEL** DOCTOR . . . . . A NURSE . . . . . B MIDWIFE . . . . . C HEALTH OFFICER . . . . . D HEALTH EXTENSION WORKER . . . . . E **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . F OTHER _____ X (SPECIFY)	
410	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** GOVERNMENT HOSPITAL . . C GOVERNMENT HEALTH CENTER . . . . . D GOVERNMENT HEALTH POST . . . . . E OTHER PUBLIC SECTOR _____ F (SPECIFY) **NGO** HEALTH FACILITY G OTHER NGO HEALTH FACILITY _____ H (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL . . . . . I PRIVATE CLINIC . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) OTHER _____ X (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
411	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS . . . . . [ ][ ] DON'T KNOW 98	
412	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES . . . . . [ ][ ] DON'T KNOW 98	
413	As part of your antenatal care during this pregnancy, were any of the following done at least once: a) Was your blood pressure measured? b) Did you give a urine sample? c) Did you give a blood sample? d) Did any health worker counsel you about nutrition?	YES NO a) BP . . . . . 1 2 b) URINE . . . . . 1 2 c) BLOOD . . . . . 1 2 d) NUTRITIONAL COUNSELING 1 2	
414	During (any of) your antenatal care visits(s), were you told about the signs of pregnancy complications?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 420) DON'T KNOW 8	
415	Which signs of pregnancy complications were you told about?	VAGINAL BLEEDIN(. . . . . A VAGINAL GUSH OF FLUID . . . . . B SEVERE HEAD ACHE . . . . . C BLURRED VISION . . . . . D FEVER . . . . . E ABDOMINAL PAIN . . . . . F CONVULSION . . . . . G OTHER _____ X (SPECIFY)	
420	During this pregnancy, were you given or did you buy any iron tablets? SHOW TABLETS.	YES . . . . . 1 NO . . . . . 2 (SKIP TO 429) DON'T KNOW 8	
421	During the whole pregnancy, for how many days did you take the tablets? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	DAYS . . . . . [ ][ ][ ] DON'T KNOW 998	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
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 . . . . . B MIDWIFE . . . . . C HEALTH OFFICER . . . . . D HEALTH EXTENSION WORKER . . . . . E **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . F OTHER _____ X (SPECIFY) NO ONE ASSISTED . . . . . Y	**HEALTH PERSONNEL** DOCTOR . . . . . A NURSE . . . . . B MIDWIFE . . . . . C HEALTH OFFICER . . . . . D HEALTH EXTENSION WORKER . . . . . E **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . F OTHER _____ X (SPECIFY) 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 (SKIP TO 449) OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAI . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 449)	**HOME** HER HOME . . . . . 11 (SKIP TO 464) OTHER HOME . . . . . 12 **PUBLIC SECTOR** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAI . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 464)
432	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby out?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
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 (SKIP TO 438)	
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 . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 OTHER _____ 96 (SPECIFY)	
438	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 (SKIP TO 441) DON'T KNOW 8	
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	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
440	Who checked on (NAME)'s health at that time? PROBE FOR MOST QUALIFIED PERSON.	**HEALTH PERSONNEL** DOCTOR . . . . . 11 NURSE . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 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 (SKIP TO 445) ←	
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	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
443	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	**HEALTH PERSONNEL** DOCTOR . . . . . 11 NURSE . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 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** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
445	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 (SKIP TO 457) DON'T KNOW 8	
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 . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 OTHER _____ 96 (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
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** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 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 (SKIP TO 453)	
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	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
451	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	**HEALTH PERSONNEL** DOCTOR . . . . . 11 NURSE . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 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** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAl . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
453	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 (SKIP TO 457) DON'T KNOW 8	
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 AFTER BIRTH . . . . . 1 DAYS AFTER BIRTH . . . . . 2 WEEKS AFTER BIRTH . . . . . 3 DON'T KNOW 998	
455	Who checked on (NAME)'s health at that time? PROBE FOR MOST QUALIFIED PERSON.	**HEALTH PERSONNEL** DOCTOR . . . . . 11 NURSE . . . . . 12 MIDWIFE . . . . . 13 HEALTH OFFICER . . . . . 14 HEALTH EXTENSION WORKER . . . . . 15 **OTHER PERSON** TRADITIONAL BIRTH ATTENDANT . . . . . 21 OTHER _____ 96 (SPECIFY)	

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
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** GOVERNMENT HOSPITAL . . 21 GOVERNMENT HEALTH CENTER . . . . . 22 GOVERNMENT HEALTH POST . . . . . 23 OTHER PUBLIC SECTOR _____ 26 (SPECIFY) **NGO** HEALTH FACILITY . . . . . 31 OTHER NGO HEALTH FACILITY _____ 36 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAl . . . . . 41 PRIVATE CLINIC . . . . . 42 OTHER PRIVATE MEDICAL SECTOR _____ 46 (SPECIFY) OTHER _____ 96 (SPECIFY)	
457	During the first two days after (NAME)'s birth, did any health care provider do the following:	YES NO DK	
	a) Examine the cord?	a) CORD 1 2 8	
	b) Measure (NAME)'s temperature?	b) TEMP. 1 2 8	
	c) Counsel you on danger signs for newborns?	c) SIGNS 1 2 8	
	d) Counsel you on breastfeeding?	d) COUNSEL BREAST-FEED 1 2 8	
	e) Observe (NAME) breastfeeding?	e) OBSERVE BREAST-FEED 1 2 8	
464	Did you ever breastfeed (NAME)?	YES . . . . . 1 → (SKIP TO 466) NO 2	YES . . . . . 1 NO 2

SECTION 4. PREGNANCY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
465	CHECK 404: IS CHILD LIVING?	LIVING ☐ (SKIP TO 470) DEAD ☐ (SKIP TO 471)	
466	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS; IF LESS THAN 24 HOURS, RECORD HOURS; OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . . . 000 HOURS . . . . . 1 ☐☐ DAYS . . . . . 2 ☐☐	
467	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES . . . . . 1 NO 2	
468	CHECK 404: IS CHILD LIVING?	LIVING ☐↓ DEAD ☐ (SKIP TO 471)	LIVING ☐↓ DEAD ☐ (SKIP TO 471)
469	Are you still breastfeeding (NAME)?	YES . . . . . 1 NO 2	
470	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
471		GO BACK TO 429 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 479.	GO BACK TO 429 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 479.

SECTION 4. CHILD NUTRITION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
479	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2009-2011 E.C. LIVING WITH THE RESPONDENT ONE OR MORE ☐ ↓ (NAME OF YOUNGEST CHILD LIVING WITH HER) ↓	NONE ☐ → 501A	
480	Now I would like to ask you about liquids or foods that (NAME FROM 479) had yesterday during the day or at night. I am interested in whether your child had the item I mention even if it was combined with other foods. Did (NAME FROM 479) drink or eat:	YES NO DK	
	a) Plain water?	a) 1 2 8	
	b) Juice or juice drinks?	b) 1 2 8	
	c) Clear broth?	c) 1 2 8	
	d) Milk such as tinned, powdered, or fresh animal milk? IF YES: How many times did (NAME) drink milk? IF 7 OR MORE TIMES, RECORD '7'.	d) . . . . . 1 2 8 NUMBER OF TIMES DRANK ☐	
	e) Infant formula such as Plan, S-26? IF YES: How many times did (NAME) drink infant formula? IF 7 OR MORE TIMES, RECORD '7'.	e) . . . . . 1 2 8 NUMBER OF TIMES DRANK ☐	
	f) Any other liquids?	f) 1 2 8	
	g) Yogurt? IF YES: How many times did (NAME) eat yogurt? IF 7 OR MORE TIMES, RECORD '7'.	g) . . . . . 1 2 8 NUMBER OF TIMES ATE ☐	
	h) Any commercially fortified baby food such as Fafa, Hilina, Cerilak, Cerifam, Mother Choice?	h) 1 2 8	
	i) Injera, bread, rice, noodles, porridge, or other foods made from grains such as tef, oats, maize, barley,	i) 1 2 8	
	j) Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside?	j) 1 2 8	
	k) White potatoes, white yams, manioc, cassava, or any other foods made from roots?	k) 1 2 8	
	l) Any dark green, leafy vegetables?	l) 1 2 8	
	m) Ripe mangoes or papayas?	m) 1 2 8	
	n) Any other fruits or vegetables?	n) 1 2 8	
	o) Liver, kidney, heart, or other organ meats?	o) 1 2 8	
	p) Any meat, such as beef, pork, lamb, goat, chicken, or duck?	p) 1 2 8	
	q) Eggs?	q) 1 2 8	
	r) Fresh or dried fish or shellfish?	r) 1 2 8	
	s) Any foods made from beans, peas, lentils, or nuts?	s) 1 2 8	
	t) Cheese or other food made from milk?	t) 1 2 8	
	u) Any other solid, semi-solid, or soft food?	u) 1 2 8	
481	CHECK 480 (CATEGORIES 'g' THROUGH 'u'): NOT A SINGLE 'YES' ☐ ↓	AT LEAST ONE 'YES' ☐ → 483	
482	Did (NAME FROM 479) eat any solid, semi-solid, or soft foods yesterday during the day or at night? IF 'YES' PROBE: What kind of solid, semi-solid or soft foods did (NAME) eat?	YES . . . . . 1 ← (GO BACK TO 480 TO RECORD FOOD EATEN YESTERDAY) ← (THEN CONTINUE TO 483) NO . . . . . 2 → 501A	
483	How many times did (NAME FROM 479) eat solid, semi-solid, or soft foods yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8	

SECTION 5A. CHILD IMMUNIZATION (LAST BIRTH)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501A	CHECK 215 IN THE BIRTH HISTORY: ANY BIRTHS IN 2008-2011 E.C.? ONE OR MORE BIRTHS IN 2008-2011 E.C. ☐ NO BIRTHS IN 2008-2011 E.C. ☐ → 616		
502A	RECORD THE NAME AND BIRTH HISTORY NUMBER FROM 212 OF THE LAST CHILD BORN IN 2008-2011 E.C. NAME OF LAST BIRTH _____ BIRTH HISTORY NUMBER. . . . . ☐☐		
503A	CHECK 216 FOR CHILD: LIVING ☐ DEAD ☐ → 501B		
504A	Do you have a card, mother and child book, or other document where (NAME)'s vaccinations are written down?	YES, HAS ONLY A CARD . . . . . 1 → 507A YES, HAS ONLY AN OTHER DOCUMENT . . . . 2 YES, HAS CARD AND OTHER DOCUMENT . . . . 3 → 507A NO, NO CARD AND NO OTHER DOCUMENT . . 4	
505A	Did you ever have a vaccination card or mother and child book for (NAME)?	YES . . . . . 1 NO 2	
506A	CHECK 504A: CODE '2' CIRCLED ☐ CODE '4' CIRCLED ☐ → 511A		
507A	May I see the card, mother and child book or other document where (NAME)'s vaccinations are written down?	YES, ONLY CARD SEEN . . . . . 1 YES, ONLY OTHER DOCUMENT SEEN . . . . . 2 YES, CARD AND OTHER DOCUMENT SEEN . . 3 NO CARD AND NO OTHER DOCUMENT SEEN. . 4 → 511A	

SECTION 5A. CHILD IMMUNIZATION (LAST BIRTH)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	NAME OF LAST BIRTH _____ BIRTH HISTORY NUMBER. . . . . ☐☐		
508A	COPY DATES FROM THE CARD. WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.		
	BCG ORAL POLIO VACCINE (OPV) 0 (BIRTH DOSE) ORAL POLIO VACCINE (OPV) 1 ORAL POLIO VACCINE (OPV) 2 ORAL POLIO VACCINE (OPV) 3 INACTIVATED POLIO VACCINE (IPV) DPT-HEP.B-HIB/Pentavalent 1 DPT-HEP.B-HIB/Pentavalent 2 DPT-HEP.B-HIB/Pentavalent 3 PCV/Pneumoccal 1 PCV/Pneumoccal 2 PCV/Pneumoccal 3 ROTAVIRUS 1 ROTAVIRUS 2 MEASLES 1 MEASLES 2 VITAMIN A (MOST RECENT)	DAY ☐☐ MONTH ☐☐ YEAR ☐☐☐☐	
509A	CHECK 508A: 'BCG' TO 'MEASLES 2' ALL RECORDED? NO ☐ YES ☐ → 525A		
510A	In addition to what is recorded on (this document/these documents), did (NAME) receive any other vaccinations, including vaccinations received in campaigns or immunization days or child health days? RECORD 'YES' ONLY IF THE RESPONDENT MENTIONS AT LEAST ONE OF THE VACCINATIONS IN 508A THAT ARE NOT RECORDED AS HAVING BEEN GIVEN.	YES . . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 508A THEN WRITE '00' IN THE CORRESPONDING DAY COLUMN FOR ALL (THEN SKIP TO 525A) NO . . . . . 2 DON'T KNOW . . . . . 8 (WRITE '00' IN THE CORRESPONDING DAY COLUMN FOR ALL VACCINATIONS NOT GIVEN) (THEN SKIP TO 525A)	
511A	Did (NAME) ever receive any vaccinations to prevent (NAME) from getting diseases, including vaccinations received in campaigns or immunization days or child health days?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 525A	
512A	Has (NAME) ever received a BCG vaccination against tuberculosis, that is, an injection in the right arm or shoulder that usually causes a scar?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
514A	Has (NAME) ever received oral polio vaccine, that is, about two drops in the mouth to prevent polio?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 517A	
515A	Did (NAME) receive the first oral polio vaccine in the first two weeks after birth or later?	FIRST TWO WEEKS . . . . . 1 LATER 2	
516A	How many times did (NAME) receive the oral polio vaccine?	NUMBER OF TIMES . . . . . ☐	
516A1	The last time (NAME) received the polio drops, did (NAME) also get an IPV injection in the right thigh to protect against polio?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
517A	Has (NAME) ever received a DPT-HEP.B-HIB/Pentavalent vaccination, that is, an injection given in the left thigh sometimes at the same time as polio	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 519A	
518A	How many times did (NAME) receive the DPT-HEP.B-HIB/Pentavalent vaccine?	NUMBER OF TIMES . . . . . ☐	
519A	Has (NAME) ever received a PCV/Pneumoccal vaccination, that is, an injection in the right thigh to prevent pneumonia?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 521A	
520A	How many times did (NAME) receive the PCV/Pneumoccal vaccine?	NUMBER OF TIMES . . . . . ☐	
521A	Has (NAME) ever received a rotavirus vaccination, that is, liquid in the mouth to prevent diarrhea?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 523A	
522A	How many times did (NAME) receive the rotavirus vaccine?	NUMBER OF TIMES . . . . . ☐	
523A	Has (NAME) ever received a measles vaccination, that is, an injection in the left arm to prevent measles?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . . . 8 → 525A	
524A	How many times did (NAME) receive the measles vaccine?	NUMBER OF TIMES . . . . . ☐	
525A	In the last six months, was (NAME) given a vitamin A dose like [this/any of these]?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
526A	CONTINUE WITH 501B.		

SECTION 5B. CHILD IMMUNIZATION (NEXT-TO-LAST BIRTH)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501B	CHECK 215 IN THE BIRTH HISTORY: ANY MORE BIRTHS IN 2008-2011 E.C.? MORE BIRTHS IN 2008-2011 E.C. ☐ NO MORE BIRTHS IN 2008-2011 E.C. ☐ → 600		
502B	RECORD THE NAME AND BIRTH HISTORY NUMBER FROM 212 OF THE NEXT-TO-LAST CHILD BORN IN 2008-2011 E.C. NAME OF NEXT-TO-LAST BIRTH _____ BIRTH HISTORY NUMBER ..... ☐☐		
503B	CHECK 216 FOR CHILD: LIVING ☐ DEAD ☐ → 526B		
504B	Do you have a card, mother and child book, or other document where (NAME)'s vaccinations are written down?	YES, HAS ONLY A CARD ..... 1 YES, HAS ONLY AN OTHER DOCUMENT ..... 2 YES, HAS CARD AND OTHER DOCUMENT ..... 3 NO, NO CARD AND NO OTHER DOCUMENT .. 4	→ 507B → 507B
505B	Did you ever have a vaccination card or mother and child book for (NAME)?	YES ..... 1 NO 2	
506B	CHECK 504B: CODE '2' CIRCLED ☐ CODE '4' CIRCLED ☐ → 511B		
507B	May I see the card, mother and child book, or other document where (NAME)'s vaccinations are written down?	YES, ONLY CARD SEEN ..... 1 YES, ONLY OTHER DOCUMENT SEEN ..... 2 YES, CARD AND OTHER DOCUMENT SEEN .. 3 NO CARD AND NO OTHER DOCUMENT SEEN .. 4	→ 511B

SECTION 5B. CHILD IMMUNIZATION (NEXT-TO-LAST BIRTH)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	NAME OF NEXT-TO-LAST BIRTH _____ BIRTH HISTORY NUMBER ..... ☐☐		
508B	COPY DATES FROM THE CARD. WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.		

	DAY	MONTH	YEAR
BCG	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 0 (BIRTH DOSE)	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 1	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 2	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 3	☐☐	☐☐	☐☐☐☐
INACTIVATED POLIO VACCINE (IPV)	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB/Pentavalent 1	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB/Pentavalent 2	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB/Pentavalent 3	☐☐	☐☐	☐☐☐☐
PCV/Pneumoccal 1	☐☐	☐☐	☐☐☐☐
PCV/Pneumoccal 2	☐☐	☐☐	☐☐☐☐
PCV/Pneumoccal 3	☐☐	☐☐	☐☐☐☐
ROTAVIRUS 1	☐☐	☐☐	☐☐☐☐
ROTAVIRUS 2	☐☐	☐☐	☐☐☐☐
MEASLES 1	☐☐	☐☐	☐☐☐☐
MEASLES 2	☐☐	☐☐	☐☐☐☐
VITAMIN A (MOST RECENT)	☐☐	☐☐	☐☐☐☐

509B	CHECK 508B: 'BCG' TO 'MEASLES 2' ALL RECORDED? NO ☐ YES ☐ → 525B		
510B	In addition to what is recorded on (this document/these documents), did (NAME) receive any other vaccinations, including vaccinations received in campaigns or immunization days or child health days? RECORD 'YES' ONLY IF THE RESPONDENT MENTIONS AT LEAST ONE OF THE VACCINATIONS IN 508B THAT ARE NOT RECORDED AS HAVING BEEN GIVEN.	YES ..... 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 508B THEN WRITE '00' IN THE CORRESPONDING (THEN SKIP TO 525B) NO ..... 2 DON'T KNOW ..... 8 (WRITE '00' IN THE CORRESPONDING DAY COLUMN FOR ALL VACCINATIONS NOT GIVEN) (THEN SKIP TO 525B)	
511B	Did (NAME) ever receive any vaccinations to prevent (NAME) from getting diseases, including vaccinations received in campaigns or immunization days or child health days?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 525B
512B	Has (NAME) ever received a BCG vaccination against tuberculosis, that is, an injection in the right arm or shoulder that usually causes a scar?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
514B	Has (NAME) ever received oral polio vaccine, that is, about two drops in the mouth to prevent polio?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 517B
515B	Did (NAME) receive the first oral polio vaccine in the first two weeks after birth or later?	FIRST TWO WEEKS ..... 1 LATER 2	
516B	How many times did (NAME) receive the oral polio vaccine?	NUMBER OF TIMES ..... ☐	
516B1	The last time (NAME) received the polio drops, did (NAME) also get an IPV injection in the right thigh to protect against polio?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
517B	Has (NAME) ever received a DPT-HEP.B-HIB/Pentavalent vaccination, that is, an injection given in the left thigh sometimes at the same time as polio	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 519B
518B	How many times did (NAME) receive the DPT-HEP.B-HIB/Pentavalent vaccine?	NUMBER OF TIMES ..... ☐	
519B	Has (NAME) ever received a PCV/Pneumoccal vaccination, that is, an injection in the right thigh to prevent pneumonia?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 521B
520B	How many times did (NAME) receive the PCV/Pneumoccal vaccine?	NUMBER OF TIMES ..... ☐	
521B	Has (NAME) ever received a rotavirus vaccination, that is, liquid in the mouth to prevent diarrhea?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 523B
522B	How many times did (NAME) receive the rotavirus vaccine?	NUMBER OF TIMES ..... ☐	
523B	Has (NAME) ever received a measles vaccination, that is, an injection in the left arm to prevent measles?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 525B
524B	How many times did (NAME) receive the measles vaccine?	NUMBER OF TIMES ..... ☐	
525B	In the last six months, was (NAME) given a vitamin A dose like [this/any of these]?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
526B	CHECK 215 IN BIRTH HISTORY: ANY MORE BIRTHS IN 2008-2011 E.C.? MORE BIRTHS IN 2008-2011 E.C. ☐ (GO TO 502B IN AN ADDITIONAL QUESTIONNAIRE) NO MORE BIRTHS IN 2008-2011 E.C. ☐ → 600		

SECTION 6. INFORMATION ABOUT HEALTH FACILITY WHERE VACCINATION CARDS ARE KEPT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
600	CHECK 504A, 507A, 504B AND 507B: VACCINATION CARD SEEN? NO CARD AND NO OTHER DOCUMENT SEEN ☐ CARD OR OTHER DOCUMENT SEEN ☐		→ 616
601	Did any of your children born in 2008 E.C. or later ever receive any vaccination at a health faciltiy (including governement hospitals, health centers/posts, NGO facilities, or private hospitals/clinics)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 616
602	ASK RESPONDENT FOR CONSENT TO COPY VACCINATION DATES FROM THE CHILDREN'S HEALTH CARDS OR FAMILY FOLDER OR IMMUNISATION REGISTRATION BOOK KEPT IN A HEALTH FACILITY As part of this survey, we would like to visit the health facility in which your children got vaccinated. With your permission, our health facility team will visit the health center and copy the vaccination records from the health cards, family folder or immunisation registration book directly to the same questionnaire I am using right now for our interview. The information will be kept confidential and will not be shared with anyone other than members of our survey team. We hope you will allow access to the health card, family folder or immunisation registration book because information about your children's vaccinations is very important. The information will complement the information that we obtained from you in this interview. Many dangerous childhood illnesses such as measles or tetanus can be prevented through timely and effective vaccination. The information from the cards will assist the government to develop programs to protect children from vaccine preventable diseases and reduce childhood mortality and morbidity in Ethiopia. Do you have any questions? Will you allow (NAME OF CHILD) to have his/her vaccination records copied from his/her health card, family folder or immunisation registration book kept at the health facility?		
603	CIRCLE THE CODE AND SIGN YOUR NAME.	(LAST BIRTH) GRANTED 1 (SIGN) REFUSED 2 (THEN SKIP TO 615)	(NEXT-TO-LAST BIRTH) GRANTED 1 (SIGN) REFUSED 2 (THEN SKIP TO 615)

RECORD CHILD'S FULL NAME, MOTHER'S FULL NAME, FATHER'S FULL NAME, CHILD'S KEBELE, TOWN, AND REGION, AND NAME OF HEALTH FACILITY WHERE CHILD'S LAST VACCINATION WAS ADMINISTERED. BE SURE TO TAKE ADDRESS AND LOCATION DESCRIPTION OF HEALTH FACILITY.

604	BIRTH HISTORY NUMBER OF EACH CHILD BORN IN 2008 E.C. OR LATER FROM 212 IN BIRTH HISTORY.	BIRTH HISTORY NUMBER ☐☐	BIRTH HISTORY NUMBER ☐☐
605	CHILD'S FULL NAME FROM 212		
606	CHILD'S DATE OF BIRTH FROM 215	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . ☐☐☐☐
607	CHILD'S AGE FROM 217	AGE . . . . . ☐☐	AGE . . . . . ☐☐
607A	Insert health card number for (NAME OF CHILD) IF UNAVAILABLE WRITE '00'		
608	What name was used at the health facility where (NAME) was last vaccinated?		
609	What is your first and last name?		
610	What is the first and last name of (NAME's) father?		
611	What is the name of the health facility where (NAME's) last vaccination was administered?		
612	What is the location (Kebele, Town, Woreda), where (NAME's) last vaccination was administered?	KEBELE . . . . . ☐☐ TOWN WOREDA	KEBELE . . . . . ☐☐ TOWN WOREDA
613	Can you describe the location of the health facility? ADD TO THE DESCRIPTION ALL LANDMARKS (SUCH AS A PARK), PUBLIC STRUCTURES (SUCH AS SCHOOL OR CHURCH), AND STREETS OR ROADS.		
614	What is the name of the Doctor/health officer that vaccinated (NAME) at the health facility?		
615		GO BACK TO 604 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 616.	GO TO 604 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE CHILD GO TO 616.
616	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

EDITOR'S OBSERVATIONS

FORMATTING DATE: 19 Mar 2019
ENGLISH LANGUAGE: 02 Jan 2019

ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEYS 2019
ANTHROPOMETRY QUESTIONNAIRE

ETHIOPIA
ETHIOPIAN PUBLIC HEALTH INSTITUTE

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . . . [ ][ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ][ ]

IS THIS A FIRST VISIT OR A REMEASUREMENT?

FIRST VISIT 1
REMEASUREMENT 2

FIELDWORKER VISITS

	1	2	3	FINAL VISIT
DATE				DAY [ ][ ]
FIELDWORKER'S NAME				MONTH [ ][ ]
				YEAR [ ][ ][ ][ ]
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS [ ]
TIME				

NOTES:

TOTAL ELIGIBLE CHILDREN [ ][ ]

LANGUAGE OF QUESTIONNAIRE** [0][4] LANGUAGE OF INTERVIEW** [ ][ ] NATIVE LANGUAGE OF RESPONDENT** [ ][ ] TRANSLATOR (YES = 1, NO = 2) [ ]

LANGUAGE OF QUESTIONNAIRE** **ENGLISH**

**LANGUAGE CODES:
01 AMARIGNA
02 OROMIGNA
03 TIGRIGNA
04 ENGLISH
06 OTHER _____

FIELD SUPERVISOR		CAPI SUPERVISOR		OFFICE EDITOR	KEYED BY
NAME	NUMBER [ ][ ][ ][ ]	NAME	NUMBER [ ][ ][ ][ ]	NUMBER [ ][ ]	NUMBER [ ][ ]

WEIGHT AND HEIGHT MEASUREMENT FOR CHILDREN AGE 0-5

101	CHECK COLUMN 11 IN HOUSEHOLD QUESTIONNAIRE. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE CHILDREN 0-5 YEARS IN QUESTION 102; IF MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S).			
		CHILD 1	CHILD 2	CHILD 3
102	CHECK HOUSEHOLD QUESTIONNAIRE: LINE NUMBER FROM COLUMN 11.	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
103	What is (NAME)'s date of birth?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐
104	CHECK 103: CHILD BORN IN 2006-2011 E.C.?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114)	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114)
105	WEIGHT IN KILOGRAMS.	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996
106	HEIGHT IN CENTIMETERS.	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108)	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108)	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108)
107	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
108	MEASURER: ENTER YOUR FIELDWORKER NUMBER.	☐☐☐☐ FIELDWORKER NUMBER	☐☐☐☐ FIELDWORKER NUMBER	☐☐☐☐ FIELDWORKER NUMBER
114	GO BACK TO 103 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE NEXT PAGE; IF NO MORE CHILDREN, END INTERFVIEW.			

WEIGHT AND HEIGHT MEASUREMENT FOR CHILDREN AGE 0-5

		CHILD 4	CHILD 5	CHILD 6
102	CHECK HOUSEHOLD QUESTIONNAIRE: LINE NUMBER FROM COLUMN 11.	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
103	What is (NAME)'s date of birth?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . ☐☐☐☐
104	CHECK 103: CHILD BORN IN 2006-2011 E.C.?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114) ←	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114) ←	YES . . . . . 1 NO . . . . . 2 (SKIP TO 114) ←
105	WEIGHT IN KILOGRAMS.	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. . . . ☐☐.☐☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER 9996
106	HEIGHT IN CENTIMETERS.	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108) ←	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108) ←	CM. . . . ☐☐☐.☐ NOT PRESENT . . . . 9994 REFUSED . . . . . 9995 OTHER . . . . . 9996 (SKIP TO 108) ←
107	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2	LYING DOWN . . . . . 1 STANDING UP 2
108	MEASURER: ENTER YOUR FIELDWORKER NUMBER.	☐☐☐☐ FIELDWORKER NUMBER	☐☐☐☐ FIELDWORKER NUMBER	☐☐☐☐ FIELDWORKER NUMBER
114	GO BACK TO 103 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE; IF NO MORE CHILDREN, END INTERVIEW.			

FIELDWORKER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING BIOMARKERS

SUPERVISOR'S OBSERVATIONS

EDITOR'S OBSERVATIONS

ENGLISH

FORMATTING DATE: 19 Mar 2019
ENGLISH LANGUAGE: 02 Jan 2019

ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEY 2019
HEALTH FACILITY QUESTIONNAIRE

ETHIOPIA
ETHIOPIAN PUBLIC HEALTH INSTITUTE

IDENTIFICATION

NAME OF HEALTH FACILITY _____

HEALTH FACILITY LOCATION

KEBELE _____

TOWN _____

WOREDA _____

ZONE _____

REGION _____

LOCATION DESCRIPTION _____

CLUSTER NUMBER . . . . . | | | | |

HOUSEHOLD NUMBER . . . . . | | | | |

LINE NUMBER OF WOMAN . . . . . | | |

BIRTH HISTORY NUMBER OF CHILD . . . . . | | |

NAME OF CHILD _____

HEALTH CARD NUMBER OF CHILD _____

CHILD'S DATE OF BIRTH (DAY, MONTH, AND YEAR) . . . . . DAY | | |

MONTH | | |

YEAR | | | | |

NAME OF MOTHER _____

NAME OF FATHER _____

HEALTH FACILITY VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY | | MONTH | | YEAR | | | |
INTERVIEWER'S NAME	_____	_____	_____	INT. NO. | | | |
RESULT*	_____	_____	_____	RESULT* |
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS |
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 FACILITY NOT FOUND
3 HEALTH FACILITY PERMANENTLY CLOSED
4 TOO FAR TO BE VISITED
5 HEALTH FACILITY TEMPORARILY CLOSED
6 HEALTH FACILITY PERSONNEL NOT AVAILABLE
7 ACCESS TO RECORDS DENIED
8 RECORD NOT FOUND FOR THIS CHILD
9 OTHER _____ SPECIFY

HEALTH FACILITY PERSONNEL SIGNATURE: _____

HEALTH FACILITY PERSONNEL TITLE: _____ DATE: _____

INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with the Ethiopian Public Health Institute. We are conducting a survey about health and other topics all over Ethiopia. As part of this survey, we would like to visit health facilities in which children born in 2008 E.C. or later were vaccinated. We have already recieved consent from the parent of the child, and with your permission, we would like to copy the vaccination records from the health card, family folder or immunization registration book to the questionnaire for the following child.

In case you need more information about the survey, you may contact the person listed on the letter that has already been shown to you.

Do you have any questions?
May I have access to the vaccination records of (CHILD'S NAME)?

SIGNATURE OF HEALTH FACILITY INTERVIEWER _____ DATE _____

HEALTH FACILITY GIVES ACCESS . . 1 ↓

HEALTH FACILITY PERSONNEL DENIES ACCESS . . 2 → END

SECTION 1. HEALTH FACILITY FORM

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	Have you located the vaccination records of (NAME OF CHILD)?	YES CHILD'S INFORMATION SEEN . . . . . 1 → 103 YES VACCINATION RECORDS LOCATED , BUT NO RECORD OF CHILD'S INFORMATIO . . 2 NO, VACCINATION RECORDS NOT FOUND . . . . . 3 → 105 OTHER _____ 6 (SPECIFY)	

IMMUNIZATION RECORDS FROM HEALTH FACILITY

103	COPY CHILD'S DATE OF BIRTH (DAY, MONTH, AND YEAR) FROM HEALTH FACILITY RECORD.	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐	
104	COPY DATA ABOUT EACH VACCINE FROM IMMUNIZATION RECORDS WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.		

	DAY	MONTH	YEAR
BCG	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 0 (BIRTH DOSE)	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 1	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 2	☐☐	☐☐	☐☐☐☐
ORAL POLIO VACCINE (OPV) 3	☐☐	☐☐	☐☐☐☐
INACTIVATED POLIO VACCINE (IPV)	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB (PENTAVALENT) 1	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB (PENTAVALENT) 2	☐☐	☐☐	☐☐☐☐
DPT-HEP.B-HIB (PENTAVALENT) 3	☐☐	☐☐	☐☐☐☐
PNEUMOCOCCAL 1	☐☐	☐☐	☐☐☐☐
PNEUMOCOCCAL 2	☐☐	☐☐	☐☐☐☐
PNEUMOCOCCAL 3	☐☐	☐☐	☐☐☐☐
ROTAVIRUS 1	☐☐	☐☐	☐☐☐☐
ROTAVIRUS 2	☐☐	☐☐	☐☐☐☐
MEASLES 1	☐☐	☐☐	☐☐☐☐
MEASLES 2	☐☐	☐☐	☐☐☐☐
VITAMIN A (MOST RECENT)	☐☐	☐☐	☐☐☐☐

105	In what type of facility did the visit take place? IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____	PUBLIC SECTOR . . . . . 1 NGO . . . . . 2 PRIVATE SECTOR . . . . . 3 OTHER _____ 6 (SPECIFY)	
106	RECORD THE TIME.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	

ETHIOPIA MINI DEMOGRAPHIC AND HEALTH SURVEY 2019
FIELDWORKER QUESTIONNAIRE

ETHIOPIA
ETHIOPIAN PUBLIC HEALTH INSTITUTE

LANGUAGE OF QUESTIONNAIRE ENGLISH

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
100	What is your name?	NAME _____	
101	RECORD FIELDWORKER NUMBER	NUMBER . . . . . [ ][ ][ ][ ]	
	INSTRUCTIONS Information on all EMDHS field workers is collected as part of the EMDHS survey. Please fill out the questions below. The information you provide will be part of the survey data file; however, your name will be removed and will not be part of the data file. Thank you for providing the information needed.		
102	In what region and zone do you live in?	REGION CODE [ ][ ] ZONE CODE [ ][ ]	
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, secondary, technical/vocational, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 TECHNICAL/VOCATIONAL . . . . . 3 HIGHER 4	
110	What is the highest grade or year you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	GRADE/YEAR . . . . . [ ][ ]	
111	What is your religion?	ORTHODOX . . . . . 01 CATHOLIC . . . . . 02 PROTESTANT . . . . . 03 MUSLIM . . . . . 04 TRADITIONAL . . . . . 05 NO RELIGION . . . . . 95 OTHER _____ 96 (SPECIFY)	
113	What languages can you speak? RECORD ALL LANGUAGES YOU CAN SPEAK.	AMARIGNA . . . . . A TIGRIGNA . . . . . B OROMIFFA . . . . . C AFARIGNA . . . . . D SOMALIGNA . . . . . E OTHER _____ X (SPECIFY)	
114	What is your mother tongue/native language (language spoken at home growing up)?	AMARIGNA . . . . . 01 TIGRIGNA . . . . . 02 OROMIFFA . . . . . 03 AFARIGNA . . . . . 04 SOMALIGNA . . . . . 05 OTHER _____ 96 (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 EPHI or CSA at the time you were employed to work on this DHS?	YES, EPHI . . . . . 1 YES, CSA . . . . . 2 NO . . . . . 3 → 119	
118	Are you a permanent or temporary employee of EPHI or CSA?	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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Facebook www.facebook.com/DHSprogram		**LinkedIn** www.linkedin.com/company/dhs-program	
YouTube www.youtube.com/DHSprogram		**Blog** Blog.DHSprogram.com	
Twitter www.twitter.com/DHSprogram			