

Ethiopia



**Demographic and
Health Survey**

2016

Key Indicators

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ETHIOPIA

Demographic and Health Survey 2016

Key Indicators Report

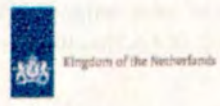
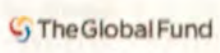
Central Statistical Agency
Addis Ababa, Ethiopia

The DHS Program
ICF
Rockville, Maryland, USA

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WORLD BANK



The 2016 Ethiopia Demographic and Health Survey (2016 EDHS) was implemented by the Central Statistical Agency (CSA) from January 18, 2016, to June 27, 2016. The funding for the 2016 EDHS was provided by the government of Ethiopia, the United States Agency for International Development (USAID), the government of the Netherlands, the Global Fund, Irish Aid, the World Bank, the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), and UN Women. 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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ACRONYMS

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ARI	Acute respiratory infections
BCG	Bacille Calmette-Guerin (vaccine)
CAPI	Computer-Assisted personal interview
CHTTS	CSPro HIV Test Tracking System
CPR	Contraceptive prevalence rate
CSA	Central Statistical Agency
CSPro	Census Survey Program
DBS	Dried blood spots
DPT	Diphtheria, pertussis, Tetanus vaccine
EAs	Enumeration areas
EDHS	Ethiopia Demographic and Health Survey
EPHC	Ethiopian Population and Housing Census
EPHI	Ethiopia Public Health Institute
FGC	Female genital cutting
FGM	Female genital mutilation
HepB	Hepatitis B (vaccine)
HEW	Health extension worker
HF	Health facility
Hib	Haemophilus influenzae type B (vaccine)
HIV	Human immunodeficiency virus
IFSS	Internet file streaming system
IUD	Intrauterine device
IYCF	Infant and Young Child Feeding
LAM	Lactational amenorrhoea method
MOFED	Ministry of Finance and Economic Development
MoH	Ministry of Health
NRERC	National Research Ethics Review Committee
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PBS	Promoting Basic Services (PROJECT)
PCV	Pneumococcal conjugate vaccine
PMTCT	Prevention of mother-to-child transmission
PNC	Postnatal care
RV1	Rotavirus vaccine
SDM	Standard days method
SNNPR	Southern nations, nationalities, and people's region
STDs	Sexually transmitted diseases
TFR	Total fertility rate
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UN Women	United Nations Entity on Gender Equality and the Empowerment of Women
USAID	United States Agency for International Development
VAW	Violence against women
VCT	Voluntary counselling and testing
WHO	World Health Organization

1 INTRODUCTION AND SURVEY OBJECTIVES

The 2016 Ethiopia Demographic and Health Survey (EDHS) is the fourth Demographic and Health Survey conducted in Ethiopia. It was implemented by the Central Statistical Agency (CSA) at the request of the Ministry of Health (MoH). Data collection took place from January 18, 2016, to June 27, 2016.

Financial support for the 2016 EDHS was provided by the government of Ethiopia, the United States Agency for International Development (USAID), the Government of the Netherlands, the Global Fund via the MoH and the Ministry of Finance and Economic Development (MOFED), the World Bank via MOFED and Promoting Basic Services (PBS), Irish Aid, the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), and UN Women. ICF provided technical assistance through The DHS Program, which is funded by the United States Agency for International Development (USAID), and offers support and technical assistance for the implementation of population and health surveys in countries worldwide.

This key indicators report presents selected findings of the 2016 EDHS. A comprehensive analysis of the data will be presented in a final report to be published in the first quarter of 2017.

The primary objective of the 2016 EDHS project is to provide up-to-date estimates of key demographic and health indicators. More specifically, the 2016 EDHS:

- Collected data at the national level that allowed the calculation of key demographic indicators
- Explored the direct and indirect factors that determine the levels and trends of fertility and childhood mortality
- Measured the levels of contraceptive knowledge and practice
- Collected data on key aspects of family health, including immunisation coverage among children, prevalence and treatment of diarrhoea and other diseases among children under age 5, and maternity care indicators, including antenatal visits and assistance at delivery
- Obtained data on child feeding practices, including breastfeeding
- Collected anthropometric measures to assess nutritional status of children under 5, women age 15-49 and men age 15-59
- Conducted haemoglobin testing on eligible children 6-59 months, women age 15-49, and men age 15-59 to provide information on the prevalence of anaemia among these groups
- Collected data on knowledge and attitudes of women and men about sexually-transmitted diseases and HIV/AIDS, evaluated potential exposure to the risk of HIV infection by exploring high risk behaviours and condom use
- Conducted HIV testing on dried blood spot (DBS) samples collected from women age 15-49 and men age 15-59 to provide information on the prevalence of HIV among adults of reproductive age
- Collected data on prevalence of injuries and accidents among all household members
- Collected data on knowledge and prevalence of fistula and female genital cutting or mutilation among women age 15-49 and their daughters age 0-14
- Obtained data on women's experience of emotional, physical, and sexual violence

As the fourth DHS conducted in Ethiopia, following the 2000, 2005, and 2011 EDHS surveys, the 2016 EDHS provides valuable information on trends in key demographic and health indicators over time. The information collected through the 2016 EDHS is intended to assist policy makers and programme managers in evaluating and designing programmes and strategies for improving the health of the country's population.

Additionally, the 2016 EDHS included a health facility component that recorded data on children's vaccinations, which were then combined with the household data on children's vaccinations (see Section 2.4).

2 SURVEY IMPLEMENTATION

2.1 Sample Design

The sampling frame used for the 2016 EDHS is the Ethiopia Population and Housing Census (PHC), which was conducted in 2007 by the Ethiopia Central Statistical Agency (CSA). The census frame is a complete list of 84,915 *enumeration areas* (EAs) created for the 2007 PHC. An EA is a geographic area covering on average of 181 households. The sampling frame contains information about the EA location, type of residence (urban or rural), and estimated number of residential households. With the exception of EAs in 6 zones of the Somali region, each EA has accompanying cartographic materials. These delineate geographic locations, boundaries, main access, and landmarks in or outside the EA that help to identify the EA. In Somali, cartographic frames were used in three zones, where a sketch map that delineates the EA geographic boundaries is available for each EA; in the remaining six zones, satellite image maps were used to provide a map for each EA.

Administratively, Ethiopia is divided into nine geographical regions and two administrative cities. The sample for the 2016 EDHS 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 2016 EDHS 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, a total of 645 EAs (202 EAs in urban areas and 443 EAs in rural areas) were selected with probability proportional to the EA size (based on the 2007 PHC) and with independent selection in each sampling stratum. A household listing operation was carried out in all the selected EAs from September to December 2015. The resulting lists of households served as a sampling frame for the selection of households in the second stage. Some of the selected EAs were large, with more than 300 households. To minimise the task of household listing, each large EA selected for the 2016 EDHS was segmented. Only one segment was selected for the survey, with probability proportional to the segment size. Household listing was conducted only in the selected segment, that is, a 2016 EDHS cluster is either an EA or a segment of an EA.

In the second stage of selection, a fixed number of 28 households per cluster were selected with an equal probability systematic selection from the newly created household listing. All women age 15-49 and all men age 15-59, who were either permanent residents of the selected households or visitors who stayed in the household the night before the survey, were eligible to be interviewed. In half of the selected households, all women age 15-49 were eligible for the female genital cutting (FGC) module, and only one woman per household was selected for the violence against women (VAW) module. In all the selected households, height and weight measurements were collected from children 0-59 months, women 15-49, and men 15-59. Anaemia testing was performed on consenting women 15-49, men 15-59, and on children age 6-59 months whose parent/guardian consented to the testing. In addition, dried blood spot (DBS) samples were collected for HIV testing in the laboratory from women 15-49 and men 15-59 who consented to testing.

2.2 Questionnaires

Five questionnaires were used for the 2016 EDHS: the Household Questionnaire, the Woman's Questionnaire, the Man's Questionnaire, the Biomarker Questionnaire, and the Health Facility Questionnaire. These questionnaires, based on The DHS Program's standard Demographic and Health Survey questionnaires, were adapted to reflect the population and health issues relevant to Ethiopia. Input was solicited from various stakeholders representing government ministries and agencies, nongovernmental

organisations, and international donors. After all questionnaires were finalised in English, they were translated into Amhariga, Tigrigna, and Oromiffa.

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

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

- Background characteristics (including age, education, and media exposure)
- Birth history and childhood mortality
- Family planning, including knowledge, use, and sources of contraceptive methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Women's work and husbands' background characteristics
- Knowledge, awareness, and behaviour regarding HIV/AIDS and other sexually transmitted infections (STIs)
- Knowledge, attitudes, and behaviours related to other health issues (e.g., injections, smoking, chat)
- Adult and maternal mortality
- Female genital cutting
- Fistula
- Violence against women

The Man's Questionnaire was administered to all eligible men age 15-59. The Man's Questionnaire collected much of the same information elicited from the Woman's Questionnaire but was shorter because it did not contain a detailed reproductive history, questions on maternal and child health, or questions on domestic violence.

The Biomarker Questionnaire was used to record biomarker data collected from respondents by health technicians.

For the first time, the 2016 EDHS also used a Health Facility Questionnaire. This questionnaire was used to record vaccination information for all children without a vaccination card identified during the individual Woman's Questionnaire.

The 2016 EDHS interviewers used tablet computers to record responses during the interviews. The tablets were equipped with Bluetooth technology to enable remote electronic transfer of files (transfer of assignment sheets from team supervisors to interviewers and transfer of completed questionnaires from interviewers to supervisors). The computer-assisted personal interviewing (CAPI) data collection system employed in the 2016 EDHS was developed by The DHS Program using the mobile version of CSPro. The CSPro software was developed jointly by the U.S. Census Bureau, The DHS Program, and Serpro S.A.

2.3 Anthropometry, Anaemia Testing, and HIV Testing

The 2016 EDHS incorporated the following biomarkers: anthropometry, anaemia, and HIV testing. These biomarkers were collected in all households. In contrast with the data collection procedures for the household and individual interviews, biomarker data were initially recorded on the paper-based Biomarker Questionnaire and subsequently entered into interviewers' tablet computers. The survey protocol, including biomarker collection, was reviewed and approved by the Federal Democratic Republic of Ethiopia Ministry of Science and Technology and the Institutional Review Board of ICF.

Anthropometry. Height and weight measurements were recorded for children age 0-59 months, for women age 15-49, and for men age 15-59.

Anaemia testing. Blood specimens for anaemia testing were collected from women age 15-49 and men age 15-59 who voluntarily consented to be tested, and from all children age 6-59 months for whom consent was obtained from their parents or other adults responsible for them. Blood samples were drawn from a drop of blood taken from a finger prick (or a heel prick in the case of children age 6-11 months) and collected in a microcuvette. Haemoglobin analysis was carried out on-site using a battery-operated portable HemoCue analyser. Results were provided verbally and in writing. Parents or responsible adults of children whose haemoglobin level was below 7 g/dl were instructed to take the child to a health facility for follow-up care. Likewise, nonpregnant women and pregnant women were referred for follow-up care if their haemoglobin levels were below 7 g/dl and 9 g/dl, respectively. All households in which anaemia testing was conducted were given a brochure explaining the causes and prevention of anaemia.

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

Interviewers explained the procedure, the confidentiality of the data, and the fact that the test results would not be made available to respondents. If a respondent consented to HIV testing, five blood spots from the finger prick were collected on a filter paper card to which a barcode label unique to the respondent was affixed. A duplicate label was attached to the Biomarker Data Collection Form. A third copy of the same barcode was affixed to the Dried Blood Spot Transmittal Sheet to track the blood samples from the field to the laboratory.

Respondents were also asked whether they would consent to having the laboratory store their blood sample for future testing of hepatitis B and C, rubella, and measles. If the respondent did not consent to future additional testing of their blood sample, their refusal was recorded on the Biomarker Data Collection Form and the words "no additional testing" were written on the filter paper card. All respondents, irrespective of whether they provided consent or not, were given an informational brochure on HIV and a list of nearby sites providing HIV counselling and testing (HCT) services.

Blood samples were dried overnight and packaged for storage the following morning. Samples were periodically collected from the field and transported to the laboratory at the Ethiopian Public Health Institute (EPHI) in Addis Ababa. Upon arrival at EPHI, each blood sample was logged into the CSPro HIV Test Tracking System database, given a laboratory number, and stored at -20°C until tested.

The HIV testing protocol stipulated that blood could be tested only after questionnaire data collection had been completed, data had been verified and cleaned, and all unique identifiers other than the anonymous barcode number had been removed from the data file. At the time of this report's release, HIV testing had not been completed.

2.4 Health Facility Visit

The Health Facility component of the survey was a separate activity conducted once the data collection in the clusters was completed. When all interviews in a cluster were finalised, and the data was sent to the central office by the supervisor, a program generated a file for the cluster with a list of all children for whom a vaccination card was not seen by the interviewers and whose vaccination records had to be checked at the health facilities.

For each identified child, the list included all identification information: cluster and household number, mother's full name and line number, father's full name, child's line number in the mother's birth history, name and age of the child, and the name and location of the health facility where vaccinations were administered. This file was transferred from the central office to the PC tablet of a health facility interviewer working with the survey team. If the mother gave consent, the health facility interviewer went to the health facility identified by the mother during the survey. He/she searched for the identified child in the family folder or in any other records available at the health facility. When the children's records were located, the immunisation information was recorded for each child in the Health Facility Questionnaire.

As a result, two sources of immunisation information were available for each child: the vaccinations recorded in the Woman's Questionnaire (obtained from vaccination card or mother's recall) and those recorded from the health facility. The household survey data were complemented by the health facility data to provide a more complete estimate of the vaccination coverage.

2.5 Pretest

The pretest for the 2016 EDHS was conducted from October 1-28, 2015, in Bishoftu at the Asham African Training Centre. It consisted of in-class training, a biomarker training, and field practice days. The field practice was conducted in clusters surrounding Bishoftu that were not included in the 2016 EDHS sample. A total of 60 trainees attended the pretest. Some of the trainees had some experience with household surveys, either involvement in previous Ethiopian DHS surveys or in other similar surveys. Following field practice, a debriefing session was held with the pretest field staff, and modifications to the questionnaires were made based on lessons drawn from the exercise.

2.6 Training of Field Staff

CSA recruited and trained 294 people for the main fieldwork to serve as team leaders, field editors, interviewers, secondary editors, and reserve interviewers. The training took place from December 14, 2015, to January 17, 2016, at the Debre Zeit Management Institute in Bishoftu. The training course consisted of instruction regarding interviewing techniques and field procedures, a detailed review of questionnaire content, instruction on how to administer the paper and electronic questionnaires, mock interviews between participants in the classroom, and practice interviews with real respondents in areas outside the survey sample.

In addition, 72 individuals were recruited and trained on how to collect biomarker data, including taking height and weight measurements, testing for anaemia by measuring haemoglobin level, and preparing dried blood spots (DBS) for HIV testing in the laboratory. The biomarker training was held from January 2-11, 2016, and consisted of lectures, demonstrations of biomarker measurement or testing procedures, and field practice with children at the training centre.

The interviewer training also included presentations given by various specialists and experts from the Ministry of Health covering Ethiopia-specific policies and programmes on HIV/AIDS, child immunisations, family planning, child nutrition, childhood diseases, and VAW.

A four-day field practice was organised, from January 12-15, 2016, to provide trainees with additional hands-on experience before the actual fieldwork. A total of 36 teams were formed for field

practice Each team consisted of a team leader, a field editor, three female interviewers, one male interviewer, and two biomarker technicians.

Training participants were evaluated through homework, in-class exercises, quizzes, and observations made during field practice. Ultimately, 132 individuals were selected as interviewers, 66 as biomarker technicians, 33 as field editors, and 33 as team leaders. The selection of team leaders and field editors was based on their experience in leading survey teams and their performance during the pretest and the main training. Team leaders and field editors received additional instructions and practice using the CAPI system to perform supervisory activities. Supervisory activities included assigning households and receiving completed interviews from interviewers, recognising and dealing with error messages, receiving a system update and distributing updates to interviewers, completing biomarker questionnaires and DBS transmittal sheets, dealing with duplicated cases, closing clusters, and transferring interviews to the central office via a secure Internet file streaming system (IFSS). In addition to the CAPI material, team leaders and field editors received additional training on their roles and responsibilities and how to fulfill them.

Fifteen individuals were trained for two days on the Health Facility (HF) Questionnaire. The training included a brief introduction to the 2016 EDHS survey and an overview of their tasks, including a detailed training on the vaccination section of the woman's questionnaire. Data from the field practice was used to generate the list of children without vaccination cards, to be used as part of the training. In addition, the team visited health facilities in order to see the various systems that exist in different health facilities.

2.7 Fieldwork

Data collection took place over a 5.5-month period, from January 18, 2016, to June 27, 2016. Fieldwork was carried out by 33 field teams, each consisting of one team leader, one field editor, three female interviewers, one male interviewer, two biomarker technicians, and one driver. In addition, 28 quality controllers (14 for interviews and 14 for biomarkers) were dispatched during data collection to support and monitor fieldwork. Electronic data files were transferred to the CSA central office in Addis Ababa every few days via the secured IFSS. Staff from CSA, MoH, and EPHI, and specialists from The DHS Program, coordinated and supervised fieldwork activities.

2.8 Data Processing

All electronic data files for the 2016 EDHS were transferred via IFSS to the CSA 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 two individuals who took part in the main fieldwork training; they were supervised by two senior staff from CSA. Data editing was accomplished using CSPro software. During the duration of fieldwork, tables were generated to check various data quality parameters and specific feedback was given to the teams to improve performance. Secondary editing and data processing were initiated in January 2016 and completed in August 2016.

3 KEY FINDINGS

3.1 Response Rates

Table 1 shows response rates for the 2016 EDHS. A total of 18,008 households were selected for the sample, of which 17,067 were occupied. Of the occupied households, 16,650 were successfully interviewed, yielding a response rate of 98 percent.

In the interviewed households, 16,583 eligible women were identified for individual interviews; interviews were completed with 15,683 women, yielding a response rate of 95 percent. A total of 14,795 eligible men were identified in the sampled households and 12,688 were successfully interviewed, yielding a response rate of 86 percent. In general, response rates were higher in rural than in urban areas, especially for men.

Table 1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Ethiopia 2016

Result	Residence		
	Urban	Rural	Total
Household interviews			
Households selected	5,659	12,349	18,008
Households occupied	5,411	11,656	17,067
Households interviewed	5,232	11,418	16,650
Household response rate ¹	96.7	98.0	97.6
Interviews with women age 15-49			
Number of eligible women	5,720	10,863	16,583
Number of eligible women interviewed	5,348	10,335	15,683
Eligible women response rate ²	93.5	95.1	94.6
Interviews with men age 15-59			
Number of eligible men	4,801	9,994	14,795
Number of eligible men interviewed	3,866	8,822	12,688
Eligible men response rate ²	80.5	88.3	85.8

¹ Households interviewed/households occupied

² Respondents interviewed/eligible respondents

3.2 Household Drinking Water and Sanitation Facilities

Increasing household access to safe drinking water and sanitation facilities is a long-standing development goal that Ethiopia and other countries have adopted. Table 2 includes a number of indicators that are useful in monitoring household access to improved drinking water sources. The source of drinking water is an indicator of whether it is suitable for drinking. Sources that are likely to provide water suitable for drinking are identified as improved sources in Table 2. They include a piped source within the dwelling, yard, or plot; a public tap or standpipe; tubewell/borehole; a protected well or spring; and rain water or bottled water (WHO and UNICEF, 2014). Lack of ready access to a water source may limit the quantity of suitable drinking water that is available to a household. Even if the water is obtained from an improved source, water that must be fetched from a source that is not immediately accessible to the household may be contaminated during transport or storage. Another factor in considering the accessibility of water sources is that the burden of going for water often falls disproportionately on female members of the household. Finally, home water treatment can be effective in improving the quality of household drinking water.

Table 2 indicates that about two-thirds of households in Ethiopia (65 percent) obtain their drinking water from an improved source. This is an improvement since the 2011 EDHS, when 54 percent of households obtained drinking water from an improved source. Use of improved drinking water sources is more common among households in urban areas (97 percent) than among those in rural areas (57 percent). The most common source of drinking water in urban areas is water piped into the dwelling, yard, or plot (63 percent), to a neighbor (12 percent) or to a public tap or standpipe (13 percent), resulting in about 9 in 10 urban households (88 percent) using piped water. In rural areas, the most common sources of drinking water are public tap or standpipe (19 percent), a tube well or borehole (13 percent), and a protected spring (14 percent).

Table 2 Household drinking water

Percent distribution of households by source of drinking water, time to obtain drinking water, person who usually collects drinking water, and treatment of drinking water, according to residence, Ethiopia 2016

Characteristic	Residence		Total
	Urban	Rural	
Source of drinking water			
Improved source	97.3	56.5	64.8
Piped into dwelling/yard/plot	63.0	1.8	14.3
Piped to neighbour	12.3	1.1	3.4
Public tap/standpipe	13.1	18.9	17.7
Tubewell/borehole	3.2	13.1	11.1
Protected dug well	1.5	7.0	5.9
Protected spring	3.3	13.9	11.7
Rain water	0.0	0.7	0.5
Bottled water, improved source for drinking ¹	0.9	0.0	0.2
Unimproved source	2.7	43.4	35.1
Unprotected dug well	0.2	5.1	4.1
Unprotected spring	1.3	24.7	20.0
Tanker truck/cart with small tank	0.5	0.4	0.4
Surface water	0.7	13.2	10.7
Bottled water, unimproved source for drinking ¹	0.0	0.0	0.0
Other source	0.0	0.1	0.1
Total	100.0	100.0	100.0
Time to obtain drinking water (round trip)			
Water on premises	76.8	5.6	20.1
Less than 30 minutes	10.2	41.7	35.3
30 minutes or longer	12.6	52.6	44.5
Don't know/missing	0.4	0.2	0.2
Total	100.0	100.0	100.0
Person who usually collects drinking water			
Adult woman	16.6	68.2	57.7
Adult man	2.8	8.3	7.2
Female child under 15 years old	1.9	12.5	10.4
Male child under 15 years old	0.9	4.1	3.5
Other	1.0	1.3	1.2
Water on premises	76.8	5.6	20.1
Total	100.0	100.0	100.0
Water treatment prior to drinking²			
Boil	2.8	2.0	2.2
Bleach/chlorine added	6.1	2.5	3.2
Strained through cloth	0.5	1.9	1.7
Ceramic, sand, composite, or other filter	1.6	0.9	1.0
Solar disinfection	0.0	0.1	0.1
Let it stand and settle	0.0	0.3	0.3
Other	0.4	0.1	0.2
No treatment	88.4	92.1	91.3
Percentage using an appropriate treatment method³	10.5	5.5	6.5
Number	3,384	13,266	16,650

¹ Because the quality of bottled water is not known, households using bottled water for drinking are classified as using an improved or unimproved source according to their water source for cooking and washing.

² Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.

³ Appropriate water treatment methods include boiling, bleaching, filtering, and solar disinfection.

Overall, 20 percent of households in Ethiopia have water on their premises, 77 percent in urban areas versus only 6 percent in rural areas. Forty-five percent of households spend 30 minutes or longer to obtain their drinking water, 53 percent in rural areas, as compared with only 13 percent in urban households.

Adult women (58 percent) are more likely than adult men (7 percent) to collect drinking water. In rural households, adult women are more than eight times as likely as adult men to fetch the water for the household (68 percent versus 8 percent). Female children under age 15 are more than two times as likely as male children of the same age to collect drinking water (10 percent versus 4 percent).

More than 9 in 10 households (91 percent) do not treat their drinking water; this is more common in rural than in urban areas (92 percent versus 88 percent). The most commonly used method of water

treatment is adding bleach or chlorine (3 percent). Overall, 7 percent of households use an appropriate treatment method.

Table 3 presents the percent distribution of households by type of toilet or latrine facilities according to residence. Six percent of households in Ethiopia use an improved and not shared toilet or latrine facility. Another 9 percent of households (35 percent in urban areas and 2 percent in rural areas) use facilities that would be considered improved if they were not shared by two or more households. Half of households in urban areas (50 percent) use an unimproved toilet facility, compared with more than 9 in 10 (94 percent) of households in rural areas. The most common type of toilet facility in both urban and rural households is a pit latrine without a slab or open pit (41 percent in urban areas and 55 percent in rural areas). Overall, 32 percent of households have no toilet facility at all; they are almost exclusively rural, accounting for 39 percent of rural households. There has been an improvement since the 2011 EDHS, when 45 percent of all households in rural areas did not have a toilet facility.

Table 3 Household sanitation facilities			
Percent distribution of households by type of toilet/latrine facilities, according to residence, Ethiopia 2016			
Type of toilet/latrine facility	Residence		Total
	Urban	Rural	
Improved, not shared facility			
Flush/pour flush to piped sewer system	1.8	0.0	0.4
Flush/pour flush to septic tank	2.8	0.1	0.7
Flush/pour flush to a pit latrine	1.4	0.4	0.6
Ventilated improved pit (VIP) latrine	0.4	0.0	0.1
Pit latrine with a slab	9.4	2.3	3.8
Composting toilet	0.1	1.0	0.8
Total	15.9	3.9	6.3
Shared facility¹			
Flush/pour flush to piped sewer system	0.5	0.0	0.1
Flush/pour flush to septic tank	1.7	0.0	0.3
Flush/pour flush to pit latrine	3.0	0.2	0.7
Ventilated improved pit (VIP) latrine	1.1	0.0	0.2
Pit latrine with slab	27.7	1.4	6.7
Composting toilet	0.5	0.2	0.2
Total	34.6	1.8	8.5
Unimproved facility			
Flush/pour flush not to sewer/septic tank/pit latrine	0.8	0.0	0.2
Pit latrine without slab/open pit	40.5	55.2	52.2
Bucket	0.0	0.0	0.0
Hanging toilet/hanging latrine	0.6	0.0	0.1
No facility/bush/field	6.9	38.8	32.3
Other	0.8	0.3	0.4
Total	49.5	94.3	85.2
Total	100.0	100.0	100.0
Number	3,384	13,266	16,650

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

3.3 Characteristics of Respondents

Table 4 shows the weighted and unweighted numbers and the weighted percent distributions of women and men age 15-49 interviewed in the 2016 EDHS, by background characteristics. About 6 respondents in 10 were under age 30 (58 percent of women and 55 percent of men), reflecting the young age structure of the population. The majority of respondents are Orthodox (43 percent of women and 45 percent of men), followed by Muslims (31 percent of women and men). Regarding ethnic self-identification, Oromo is the largest ethnic group, making up 34 percent of women and 36 percent of men, followed by Amhara (30 percent of women and men). Eight percent of women and 7 percent of men are Tigray, constituting the third largest ethnic group.

One-fourth of women (26 percent) and two-fifths of men (42 percent) have never married. Women are more often married or living together with a partner (i.e., in union) than men (65 percent and 56 percent, respectively). Women are also more likely than men to report that they are divorced or separated (6 percent and 2 percent, respectively). Three percent of women report they are widowed, as compared with less than 1 percent of men.

Table 4 Background characteristics of respondents

Percent distribution of women and men age 15-49 by selected background characteristics, Ethiopia 2016

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	21.6	3,381	3,498	22.2	2,572	2,533
20-24	17.6	2,762	2,903	16.2	1,883	1,969
25-29	18.9	2,957	2,845	17.0	1,977	2,030
30-34	15.0	2,345	2,241	14.1	1,635	1,585
35-39	12.3	1,932	1,917	11.9	1,386	1,375
40-44	8.2	1,290	1,302	10.4	1,206	1,217
45-49	6.5	1,017	977	8.2	947	869
Religion						
Orthodox	43.3	6,786	6,413	44.5	5,160	4,956
Catholic	0.8	120	91	0.7	78	94
Protestant	23.4	3,674	2,814	22.1	2,561	1,970
Muslim	31.2	4,893	6,209	31.4	3,649	4,440
Traditional	0.8	123	84	0.3	31	28
Other	0.6	87	72	1.1	128	90
Ethnic group						
Afar	0.7	107	947	0.5	63	527
Amhara	29.8	4,671	3,688	30.1	3,497	2,824
Gurage	2.8	444	655	2.7	311	481
Hadiya	2.4	372	230	1.9	217	169
Oromo	34.0	5,340	3,611	36.0	4,175	2,740
Sidama	4.0	627	355	4.2	490	304
Somali	2.8	441	1,463	2.6	299	1,042
Tigray	7.7	1,204	1,905	6.7	778	1,317
Welaita	3.1	494	322	2.8	321	222
Other	12.6	1,984	2,507	12.5	1,455	1,952
Marital status						
Never married	25.7	4,036	4,278	42.1	4,882	5,084
Married	63.9	10,014	9,602	52.1	6,045	5,987
Living together	1.3	209	222	3.4	397	190
Divorced/separated	6.3	994	1,130	2.2	254	283
Widowed	2.7	429	451	0.2	28	34
Residence						
Urban	22.2	3,476	5,348	19.8	2,303	3,559
Rural	77.8	12,207	10,335	80.2	9,302	8,019
Region						
Tigray	7.2	1,129	1,682	6.1	708	1,130
Afar	0.8	128	1,128	0.7	82	665
Amhara	23.7	3,714	1,719	25.1	2,914	1,514
Oromiya	36.4	5,701	1,892	38.0	4,409	1,595
Somali	2.9	459	1,391	2.6	301	927
Benishangul-Gumuz	1.0	160	1,126	1.0	118	902
SNNP	21.0	3,288	1,849	20.4	2,371	1,465
Gambela	0.3	44	1,035	0.3	35	810
Harari	0.2	38	906	0.2	29	620
Addis Adaba	5.9	930	1,824	4.9	573	1,132
Dire Dawa	0.6	90	1,131	0.6	66	818
Education						
No education	47.8	7,498	7,033	27.6	3,203	2,904
Primary	35.0	5,490	5,213	48.3	5,608	5,036
Secondary	11.6	1,817	2,238	15.4	1,785	2,142
More than secondary	5.6	877	1,199	8.7	1,010	1,496
Wealth quintile						
Lowest	17.2	2,694	4,116	16.4	1,909	2,835
Second	17.9	2,801	2,099	18.0	2,088	1,664
Middle	19.1	3,001	1,947	20.3	2,359	1,655
Fourth	19.3	3,031	1,849	20.3	2,351	1,554
Highest	26.5	4,156	5,672	25.0	2,899	3,870
Total 15-49	100.0	15,683	15,683	100.0	11,606	11,578
Men 50-59	na	na	na	na	1,082	1,110
Total 15-59	na	na	na	na	12,688	12,688

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

The large majority of respondents live in rural areas (78 percent of women and 80 percent of men). By region, the majority of women and men live in Oromiya region (36 percent of women and 38 percent of men) followed by Amhara region (24 percent of women and 25 percent of men).

Women are less educated than men, 48 percent of women have no education compared with 28 percent of their male counterparts. Fifteen percent of men reported attending at least some secondary school, compared with 12 percent of women; and 9 percent have more than secondary education compared with 6 percent of women.

3.4 Fertility

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

Table 5 shows age-specific fertility rates (ASFRs) among women by 5-year age groups for the 3-year period preceding the survey. Age-specific and total fertility rates were calculated directly from the birth history data. The sum of age-specific fertility rates (known as the total fertility rate, or TFR) is a summary measure of the level of fertility. It can be interpreted as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the current observed age-specific rates. If fertility were to remain constant at current levels, a woman from Ethiopia would bear an average of 4.6 children in her lifetime. Trends in fertility since the early 2000s can be examined by observing a time series of estimates produced from demographic surveys conducted in Ethiopia over the last 16 years, beginning with the 2000 EDHS. The trends in TFRs since 2000 are presented in Figure 1. The data indicate that fertility in Ethiopia has been declining since the 2000s. The TFR has declined from 5.5 children per woman in 2000, to 5.4 children per woman in 2005, to 4.8 children per woman in 2011, and to 4.6 children per woman in 2016.

Table 5 further indicates that fertility is notably higher among rural women than urban women. On average, rural women will give birth to nearly three more children during their reproductive years than urban women (5.2 versus 2.3 children per woman).

Table 5 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Ethiopia 2016

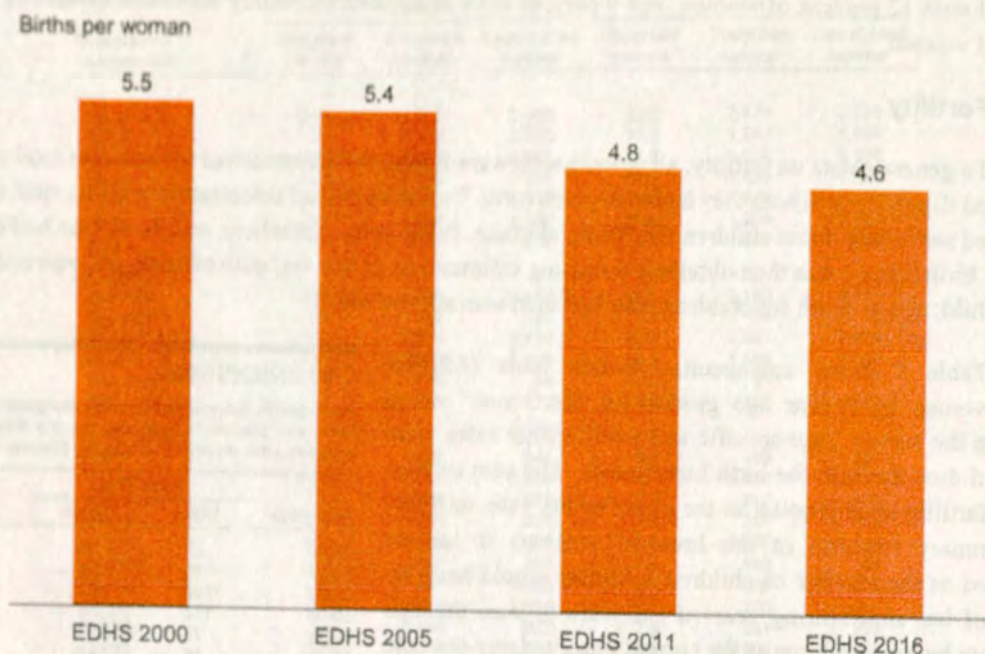
Age group	Residence		Total
	Urban	Rural	
15-19	20	98	80
20-24	113	230	200
25-29	120	243	214
30-34	112	210	190
35-39	77	153	138
40-44	14	80	69
45-49	0	27	22
TFR (15-49)	2.3	5.2	4.6
GFR	81	177	156
CBR	23.9	33.2	31.8

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

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

CBR: Crude birth rate, expressed per 1,000 population

Figure 1 Trends in total fertility rate, 2000-2016



3.5 Teenage Pregnancy and Motherhood

The issue of adolescent fertility is important on both health and social grounds. Children born to very young mothers are at increased risk of sickness and death. Teenage mothers are more likely to experience adverse pregnancy outcomes and are more constrained in their ability to pursue educational opportunities than young women who delay childbearing.

Table 6 shows that 13 percent of women age 15-19 in Ethiopia have begun childbearing: 10 percent have had a live birth, and 2 percent were pregnant with their first child at the time of interview. As expected, the proportion of women age 15-19 who have begun childbearing rises rapidly with age, from 2 percent among women age 15 to 28 percent among those age 19. Teenage childbearing is more common in rural than in urban areas (15 versus 5 percent, respectively) and among women in Afar (23 percent) and Somali regions (19 percent) compared with Addis Ababa (3 percent). The proportion of teenagers who have started childbearing decreases with increasing level of education: nearly 3 in 10 women age 15-19 with no education (28 percent) have begun childbearing compared with 12 percent of teenagers who have attained primary education and 4 percent of those who have attained secondary education. Teenagers childbearing also decreases steadily with wealth; 22 percent of teenagers in the lowest wealth quintile have begun childbearing compared with 5 percent of those in the highest quintile.

Table 6 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, by background characteristics, Ethiopia 2016

Background characteristic	Percentage of women age 15-19 who:		Percentage who have begun childbearing	Number of women
	Have had a live birth	Are pregnant with first child		
Age				
15	0.6	1.0	1.6	708
16	3.5	0.9	4.4	701
17	11.2	2.1	13.2	641
18	14.7	4.9	19.6	913
19	25.1	2.6	27.7	417
Residence				
Urban	2.2	2.7	4.9	805
Rural	12.5	2.3	14.8	2,576
Region				
Tigray	9.4	2.5	12.0	276
Afar	20.0	3.3	23.4	30
Amhara	7.0	1.3	8.3	767
Oromiya	14.5	2.5	17.0	1,234
Somali	13.1	5.6	18.7	105
Benishangul-Gumuz	11.5	2.1	13.6	34
SNNP	7.2	3.4	10.7	681
Gambela	14.7	1.5	16.2	9
Harari	15.3	1.6	16.9	8
Addis Ababa	1.9	1.1	3.0	217
Dire Dawa	9.3	3.2	12.5	20
Education				
No education	24.1	3.8	27.9	469
Primary	9.8	2.3	12.1	2,148
Secondary	2.0	2.1	4.1	678
More than secondary	3.4	0.0	3.4	87
Wealth quintile				
Lowest	16.4	5.3	21.8	511
Second	19.9	1.5	21.4	538
Middle	13.0	2.3	15.2	656
Fourth	5.3	1.3	6.6	678
Highest	2.8	2.3	5.1	998
Total	10.1	2.4	12.5	3,381

3.6 Fertility Preferences

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

Overall, nearly 1 in 4 married women age 15-49 (37 percent) do not want any more children or are sterilised. The proportion of women who want to stop childbearing or are sterilised increases rapidly with the number of living children, from 9 percent of women with one child to 67 percent of those with six or more children. On the other hand, the proportion of women who want to have another child soon decreases sharply with the number of living children, from 57 percent among women with no living children to 22 percent among women with one living child, and to 10 percent among those with five or more living children. Thus, the vast majority of married women want to either space their next birth or cease childbearing altogether.

Table 7 Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Ethiopia 2016

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another soon ²	57.0	21.5	18.2	16.0	13.0	10.4	9.5	17.5
Have another later ³	28.1	63.1	51.7	41.1	34.7	26.4	10.5	35.7
Have another, undecided when	6.0	3.8	3.2	4.4	2.3	2.3	2.3	3.2
Undecided	2.6	2.2	4.4	5.2	5.6	7.2	7.2	5.2
Want no more	3.8	8.5	21.7	32.3	42.8	51.0	66.5	36.3
Sterilised ⁴	0.0	0.0	0.1	0.2	0.6	0.9	0.8	0.4
Declare infecund	2.5	0.8	0.7	0.8	1.0	1.7	3.2	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	709	1,625	1,531	1,482	1,348	1,201	2,328	10,223

¹ The number of living children includes current pregnancy² Wants next birth within 2 years³ Wants to delay next birth for 2 or more years⁴ Includes both female and male sterilisation

3.7 Family Planning

Family planning refers to a conscious effort by a couple to limit or space the number of children they have through the use of contraceptive methods. Contraceptive methods are classified as modern or traditional methods. Modern methods include female sterilisation, male sterilisation, the intrauterine contraceptive device (IUD), implants, injectables, the pill, male condoms, female condoms, emergency contraception, standard days method (SDM), and lactational amenorrhoea method (LAM). Methods such as rhythm, withdrawal, and folk methods are grouped as traditional.

Table 8 shows the percent distribution of currently married women and sexually active unmarried women, by contraceptive method they currently use and according to background characteristics. Overall, 36 percent of currently married women are using a method of family planning: 35 percent are using a modern method, and 1 percent are using a traditional method. Among currently married women, the most popular methods are injectables (23 percent), implants (8 percent), IUD, and the pill (2 percent each). The contraceptive prevalence rate (CPR) among married women increases with age, peaking at age 25-29 (41 percent) before declining steadily to 19 percent among women age 45-49. Urban women are much more likely than their rural counterparts to use any method of contraception (52 percent versus 33 percent). By region, contraceptive prevalence rate ranges from 2 percent in Somali to 56 percent in Addis Ababa. Contraceptive use increases with women's education and household wealth. For instance, 31 percent of women with no education are using a contraceptive method compared with 55 percent of women with more than a secondary education. Women with no living children (30 percent) and those with five or more children (28 percent) are the least likely to use any method of contraception.

Among sexually active unmarried women, 58 percent are currently using a contraceptive method: 55 percent are using a modern method and 3 percent are using a traditional method. The most commonly used methods among sexually active unmarried women are injectables (35 percent), implants (11 percent), the male condom, and emergency contraception (4 percent each).

Table 8 Current use of contraception by background characteristics

Percent distribution of currently married women and sexually active unmarried women age 15-49, by contraceptive method currently used, according to background characteristics, Ethiopia 2016

Background characteristic	Modern method											Traditional method			Total	Number of women	
	Any method	Any modern method	Female sterilisation	IUD	Im-plants	Inject-ables	Pill	Male condom	Emergency contra-ception	SDM	LAM	Any tradi-tional method	Rhythm	With-drawal			Not cur-rently using
CURRENTLY MARRIED WOMEN																	
Age																	
15-19	31.9	31.8	0.0	0.9	4.9	24.0	2.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	68.1	100.0	588
20-24	38.8	38.5	0.0	1.2	8.7	26.2	2.2	0.0	0.0	0.0	0.1	0.3	0.3	0.0	61.2	100.0	1,710
25-29	41.0	40.2	0.0	2.6	9.8	24.9	2.6	0.1	0.1	0.0	0.1	0.8	0.7	0.2	59.0	100.0	2,402
30-34	37.3	36.9	0.2	3.1	8.4	23.3	1.3	0.0	0.1	0.0	0.4	0.5	0.3	0.1	62.7	100.0	2,049
35-39	34.7	33.5	0.8	2.3	8.4	20.2	1.5	0.2	0.0	0.1	0.0	1.2	1.1	0.1	65.3	100.0	1,613
40-44	33.4	32.7	1.2	1.2	6.1	22.2	1.7	0.0	0.0	0.3	0.0	0.6	0.3	0.4	66.6	100.0	1,064
45-49	19.3	18.7	1.5	0.9	2.6	12.6	0.9	0.0	0.0	0.0	0.3	0.5	0.5	0.0	80.7	100.0	798
Residence																	
Urban	52.0	49.8	0.4	4.6	11.0	26.4	6.5	0.3	0.1	0.3	0.1	2.2	1.9	0.3	48.0	100.0	1,658
Rural	32.8	32.4	0.4	1.5	7.3	22.1	0.9	0.0	0.0	0.0	0.2	0.3	0.2	0.1	67.2	100.0	8,565
Region																	
Tigray	36.3	35.2	0.2	1.0	10.7	19.3	3.6	0.1	0.0	0.1	0.1	1.1	1.0	0.1	63.7	100.0	658
Afar	11.6	11.6	0.0	0.2	1.4	9.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	88.4	100.0	96
Amhara	47.3	46.9	0.5	3.0	12.1	29.3	2.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	52.7	100.0	2,414
Oromiya	28.6	28.1	0.2	1.7	5.1	19.6	1.2	0.0	0.0	0.1	0.2	0.5	0.4	0.1	71.4	100.0	3,987
Somali	1.5	1.4	0.0	0.1	0.1	0.6	0.4	0.0	0.0	0.0	0.1	0.2	0.0	0.2	98.5	100.0	324
Benishangul- Gumuz	28.5	28.4	0.2	1.5	6.3	19.5	1.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	71.5	100.0	114
SNNP	39.9	39.6	0.9	1.3	8.0	27.7	1.6	0.0	0.1	0.0	0.2	0.3	0.2	0.1	60.1	100.0	2,173
Gambela	34.9	34.9	0.0	0.5	1.9	28.9	2.9	0.5	0.0	0.3	0.0	0.0	0.0	0.0	65.1	100.0	29
Harari	29.5	29.3	0.0	2.5	7.5	12.6	5.0	0.6	0.0	0.9	0.2	0.2	0.2	0.0	70.5	100.0	25
Addis Ababa	55.9	50.1	0.5	8.5	14.1	17.4	7.8	1.2	0.0	0.3	0.3	5.9	4.8	1.0	44.1	100.0	355
Dire Dawa	30.3	29.1	0.0	1.2	12.0	11.0	3.4	0.7	0.4	0.0	0.5	1.2	1.2	0.0	69.7	100.0	50
Education																	
No education	31.2	30.9	0.5	1.8	7.7	19.9	0.9	0.0	0.0	0.0	0.1	0.3	0.2	0.1	68.8	100.0	6,253
Primary	39.6	39.0	0.4	1.9	7.2	27.3	1.9	0.1	0.0	0.0	0.2	0.6	0.5	0.0	60.4	100.0	2,895
Secondary	52.4	50.6	0.0	3.2	8.9	32.9	5.0	0.2	0.0	0.1	0.2	1.8	1.6	0.2	47.6	100.0	654
More than secondary	55.0	50.7	0.7	4.8	14.3	18.8	10.2	0.6	0.4	0.8	0.2	4.3	3.9	0.4	45.0	100.0	421
Wealth quintile																	
Lowest	22.0	21.9	0.0	0.7	5.4	14.2	1.4	0.0	0.0	0.1	0.1	0.1	0.1	0.0	78.0	100.0	1,980
Second	29.5	29.2	0.1	1.4	7.3	19.4	1.0	0.0	0.0	0.0	0.1	0.3	0.3	0.0	70.5	100.0	2,024
Middle	38.1	37.9	0.6	1.9	8.9	25.0	1.2	0.0	0.0	0.0	0.3	0.2	0.2	0.0	61.9	100.0	2,112
Fourth	41.4	40.8	1.0	2.1	7.8	29.3	0.6	0.0	0.0	0.0	0.0	0.6	0.3	0.3	58.6	100.0	2,011
Highest	47.6	45.7	0.5	4.1	9.9	25.5	4.9	0.3	0.1	0.2	0.3	1.9	1.7	0.2	52.4	100.0	2,096
Number of living children																	
0	30.1	29.4	0.0	1.1	4.7	20.5	2.8	0.1	0.2	0.0	0.0	0.6	0.6	0.0	69.9	100.0	925
1-2	43.2	42.2	0.1	2.7	10.5	25.8	2.9	0.1	0.0	0.0	0.1	1.1	1.0	0.1	56.8	100.0	3,137
3-4	38.9	38.4	0.4	2.1	8.8	24.7	2.0	0.0	0.0	0.1	0.3	0.5	0.3	0.2	61.1	100.0	2,761
5+	28.3	27.9	0.9	1.6	5.6	19.0	0.5	0.0	0.0	0.1	0.2	0.4	0.3	0.1	71.7	100.0	3,401
Total	35.9	35.3	0.4	2.0	7.9	22.8	1.8	0.1	0.0	0.1	0.1	0.6	0.5	0.1	64.1	100.0	10,223
SEXUALLY ACTIVE UNMARRIED WOMEN																	
Residence																	
Urban	56.4	50.4	0.0	1.7	9.9	25.2	1.4	7.6	4.6	0.0	0.0	5.9	3.4	2.5	43.6	100.0	93
Rural	60.1	60.1	0.0	0.0	11.4	46.1	0.0	0.0	2.4	0.2	0.0	0.0	0.0	0.0	39.9	100.0	83
Total	58.1	55.0	0.0	0.9	10.6	35.1	0.7	4.0	3.6	0.1	0.0	3.1	1.8	1.3	41.9	100.0	176

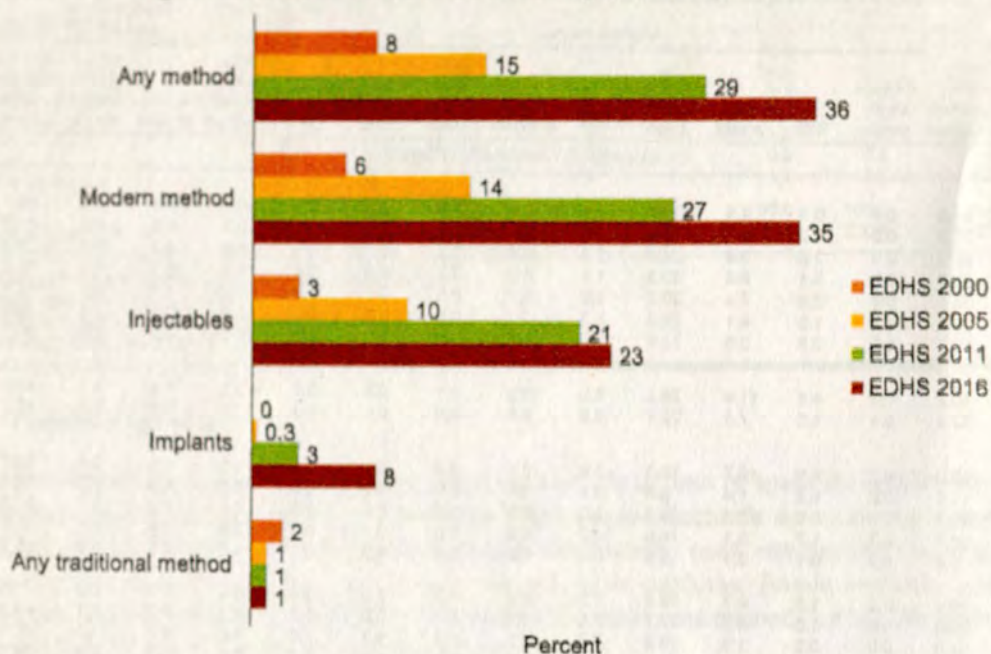
Note: If more than one method is used, only the most effective method is considered in this tabulation.

SDM = Standard days method

LAM = Lactational amenorrhoea method

A comparison of results from the past EDHS surveys reveals that the CPR among currently married women in Ethiopia has increased steadily from 8 percent in 2000 to 36 percent in 2016 (Figure 2). The largest increase is observed in the use of injectables, which increased from 3 percent in 2000 to 23 percent in 2016. The use of implants has also increased during the same period, from less than 1 percent in 2005 to 8 percent in 2016.

Figure 2 Trends in the use of family planning, 2000-2016



3.8 Need and Demand for Family Planning

Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone their next birth (*spacing*) or stop childbearing altogether (*limiting*). This section discusses the size and composition of the population of women who have an unmet need for family planning services. This information is useful for planning reproductive health programmes.

The criteria used within The DHS Program to identify women with an unmet need for family planning have recently been revised (Bradley et al. 2012). The revised definition was employed in determining which women have an unmet need for family planning (Table 9).

Specifically, women are considered to have an unmet need for spacing if they are:

- At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next 2 years or are unsure if or when they want to become pregnant
- Pregnant with a mistimed pregnancy
- Postpartum amenorrhoeic for up to 2 years following a mistimed birth and not using contraception

Women are considered to have an unmet need for limiting if they are:

- At risk of becoming pregnant, not using contraception, and want no (more) children
- Pregnant with an unwanted pregnancy
- Postpartum amenorrhoeic for up to 2 years following an unwanted birth and not using contraception

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant.

Women using contraception are considered to have a met need. Women using contraception who say they want no (more) children are considered to have a met need for limiting, and women who are using contraception and say they want to delay having a child or are unsure if or when they want a (another) child are considered to have a met need for spacing.

Finally, total demand for family planning, percentage of demand satisfied, and percentage of demand satisfied by modern methods are defined as follows:

- **Total demand for family planning:** the sum of unmet need (for spacing and limiting) and total contraceptive use
- **Percentage of demand satisfied:** total contraceptive use divided by the sum of unmet need and total contraceptive use
- **Percentage of demand satisfied by modern methods:** use of modern contraceptive methods divided by the sum of unmet need and total contraceptive use

Table 9 presents data on unmet need, met need, and total demand for family planning among currently married women and sexually active unmarried women. Data shows that 22 percent of currently married women have an unmet need for family planning services, 13 percent for spacing and 9 percent for limiting. As mentioned above, 36 percent of married women are currently using a contraceptive method; that is, they have a met need for family planning. Therefore, nearly six in ten currently married women in Ethiopia (58 percent) have a demand for family planning. At present, 62 percent of the potential demand for family planning is being met, almost entirely by modern methods. Thus, if all married women who said they want to space or limit their children were to use family planning methods, the CPR would increase from the current level of 36 percent to 58 percent.

Among unmarried sexually active women, 26 percent have an unmet need for family planning, almost all for spacing. About six in ten (58 percent) are currently using a contraceptive method. The total demand for family planning among unmarried sexually active women is 85 percent. Currently, 69 percent of the potential demand for family planning is being met, almost entirely by modern methods (65 percent). If all of the unmarried sexually active women who said they want to space or limit their births were to use family planning methods, the CPR would increase from 58 percent to 85 percent.

Table 9 Need and demand for family planning among currently married women and sexually active unmarried women

Percentage of currently married women and sexually active unmarried women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Ethiopia 2016

Background characteristic	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning ¹			Percentage of demand satisfied ²	Percentage of demand satisfied by modern methods ³	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total			
CURRENTLY MARRIED WOMEN												
Age												
15-19	18.7	1.9	20.5	29.3	2.7	31.9	48.0	4.5	52.5	60.9	60.7	588
20-24	15.8	2.7	18.5	34.2	4.5	38.8	50.0	7.2	57.3	67.7	67.1	1,710
25-29	16.5	4.5	21.0	30.5	10.5	41.0	47.0	15.0	62.0	66.1	64.8	2,402
30-34	14.8	10.0	24.9	20.9	16.5	37.3	35.7	26.5	62.2	60.0	59.2	2,049
35-39	10.2	16.6	26.8	12.3	22.4	34.7	22.5	39.0	61.5	56.4	54.5	1,613
40-44	5.2	18.8	24.1	6.7	26.7	33.4	11.9	45.5	57.5	58.1	57.0	1,064
45-49	3.1	14.4	17.5	2.0	17.3	19.3	5.1	31.7	36.8	52.4	51.0	798
Residence												
Urban	5.7	5.7	11.3	36.9	15.1	52.0	42.5	20.8	63.3	82.1	78.6	1,658
Rural	14.4	10.0	24.4	18.6	14.2	32.8	33.0	24.2	57.2	57.3	56.7	8,565
Region												
Tigray	11.8	6.2	18.0	25.3	11.0	36.3	37.1	17.1	54.3	66.9	64.8	658
Afar	12.9	4.3	17.2	9.7	1.9	11.6	22.6	6.3	28.9	40.3	40.3	96
Amhara	8.4	9.0	17.4	29.9	17.4	47.3	38.2	26.4	64.7	73.2	72.5	2,414
Oromiya	17.1	11.8	28.9	15.7	12.9	28.6	32.8	24.7	57.5	49.8	48.9	3,987
Somali	9.4	3.2	12.6	1.4	0.1	1.5	10.8	3.3	14.1	10.8	9.6	324
Benishangul-Gumuz	11.6	9.5	21.1	17.9	10.6	28.5	29.6	20.0	49.6	57.5	57.2	114
SNNP	12.7	8.1	20.8	22.6	17.2	39.9	35.4	25.4	60.7	65.7	65.3	2,173
Gambela	13.1	9.9	23.0	22.6	12.3	34.9	35.7	22.2	57.9	60.3	60.3	29
Harari	12.3	9.0	21.3	19.8	9.6	29.5	32.1	18.6	50.7	58.1	57.7	25
Addis Ababa	6.0	4.5	10.5	39.4	16.5	55.9	45.4	21.0	66.4	84.2	75.4	355
Dire Dawa	10.1	9.3	19.4	21.0	9.3	30.3	31.1	18.6	49.8	61.0	58.6	50
Education												
No education	13.3	11.1	24.4	15.1	16.0	31.2	28.4	27.2	55.6	56.0	55.5	6,253
Primary	14.1	7.4	21.5	26.5	13.1	39.6	40.6	20.5	61.1	64.8	63.9	2,895
Secondary	9.7	3.4	13.1	44.1	8.3	52.4	53.8	11.7	65.5	80.0	77.3	654
More than secondary	5.5	5.3	10.8	47.9	7.1	55.0	53.4	12.4	65.8	83.6	77.1	421
Wealth quintile												
Lowest	15.1	9.4	24.5	13.6	8.4	22.0	28.7	17.9	46.5	47.4	47.1	1,980
Second	16.7	10.8	27.4	17.1	12.3	29.5	33.8	23.1	56.9	51.8	51.3	2,024
Middle	14.4	9.7	24.1	21.6	16.5	38.1	36.0	26.2	62.2	61.2	61.0	2,112
Fourth	11.9	9.1	21.0	22.7	18.7	41.4	34.6	27.8	62.4	66.4	65.4	2,011
Highest	7.1	7.6	14.7	32.1	15.5	47.6	39.2	23.1	62.3	76.4	73.3	2,096
Total	13.0	9.3	22.3	21.5	14.3	35.9	34.5	23.7	58.2	61.7	60.6	10,223
SEXUALLY ACTIVE UNMARRIED WOMEN												
Residence												
Urban	22.1	0.0	22.1	48.8	7.6	56.4	70.9	7.6	78.5	71.8	64.3	93
Rural	29.8	1.4	31.2	40.0	20.1	60.1	69.8	21.5	91.3	65.8	65.8	83
Total	25.8	0.6	26.4	44.6	13.5	58.1	70.4	14.1	84.5	68.8	65.1	176

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

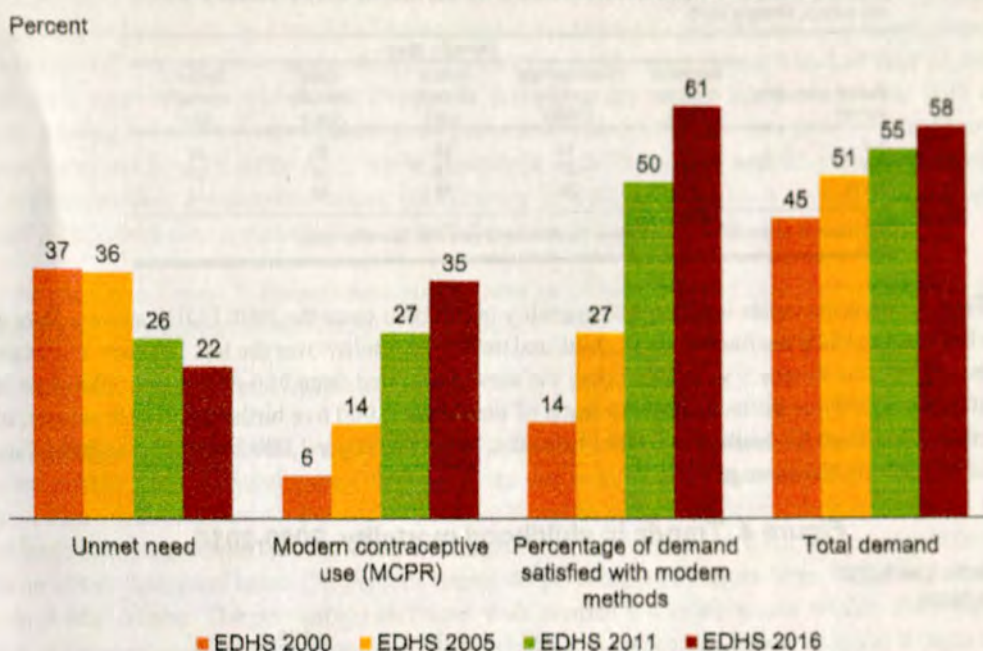
¹ Total demand is the sum of unmet need and met need.

² Percentage of demand satisfied is met need divided by total demand.

³ Modern methods include female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom, female condom, emergency contraception, standard days method (SDM), lactational amenorrhoea method (LAM), and other modern methods.

Figure 3 presents trends in unmet need, modern contraceptive use, and percentage of total demand satisfied with modern methods among currently married women. These indicators help evaluate the extent to which family planning programmes in Ethiopia meet the demand for services. As mentioned above, the definition of unmet need for family planning has been recently revised (Bradley et al. 2012) so that data on levels of unmet need are comparable over time and across surveys. The unmet need estimates in Figure 3 for the previous EDHS surveys have been recalculated using the revised definition of unmet need. The percentage of married women with unmet need for family planning has been declining over time, from 37 percent in 2000 to 22 percent in 2016. At the same time, the proportion of married women using modern contraceptive methods has increased sharply from 6 percent in 2000 to 35 percent in 2016. The resulting total demand for modern contraceptive methods among married women has increased from 45 percent in 2000 to 58 percent in 2016, and the percentage of the demand for family planning that is satisfied with modern contraceptive methods has increased substantially from 14 percent in 2000 to 61 percent in 2016.

Figure 3 Trends in unmet need, modern contraceptive use, and percentage of demand satisfied with modern methods, 2000-2016



3.9 Early Childhood Mortality

Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life (UNDP 2007). Estimates of childhood mortality are based on information collected in the birth history section of the Woman's Questionnaire, which includes questions about women's childbearing experience including the number of sons and daughters who live with their mother, the number who live elsewhere, and the number who have died. For each live birth reported in the birth history, information was collected on the name, date of birth (month and year), sex, whether the birth was single or multiple, and survivorship. For living children, information was also collected on age at last birthday and whether the child resided with the mother. For children who had died, the respondent was asked to provide the age at death. Mortality rates for specific periods preceding the survey were calculated using direct estimation procedures and are shown in Table 10.

This information is used to directly estimate the following five mortality rates:

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

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

As shown in Table 10, during the 5 years immediately preceding the survey, the infant mortality rate was 48 deaths per 1,000 live births. The child mortality rate was 20 deaths per 1,000 children surviving to age 12 months, while the overall under-5 mortality rate was 67 deaths per 1,000 live births. The neonatal mortality rate was 29 deaths per 1,000 live births, and the postneonatal mortality rate was 19 deaths per 1,000 live births. The 2016 EDHS findings further indicate that all childhood mortality rates have declined over time. For example, the under-5 mortality rate has declined from 116 deaths per 1,000 live births 10-14 years prior to the survey (2002-2006) to 67 deaths per 1,000 live births in the 0-4 years prior to the survey (2012-2016).

Table 19 Early childhood mortality rates

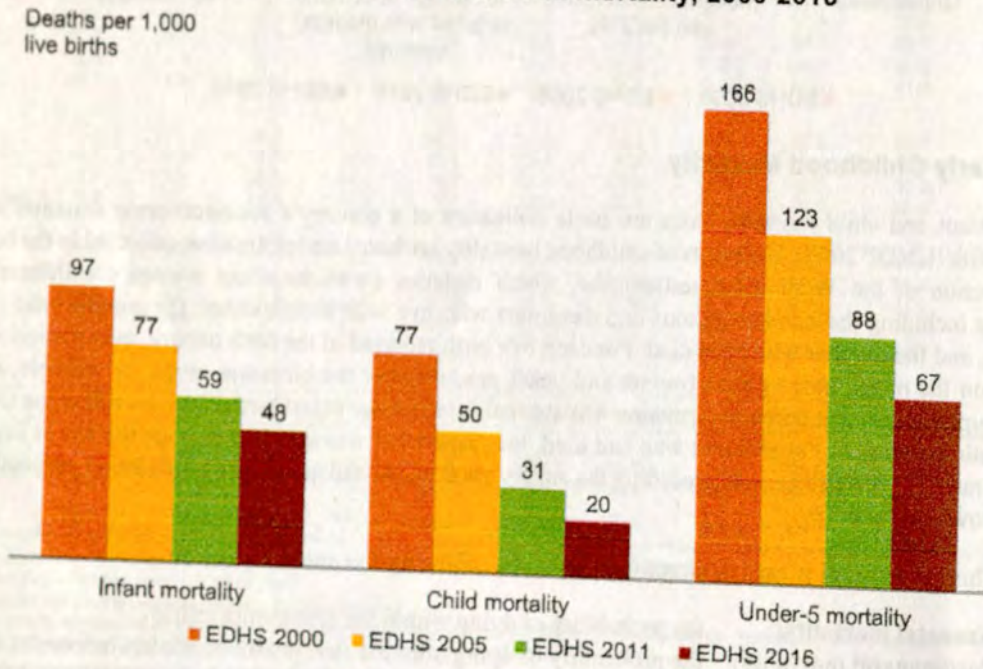
Neonatal, post-neonatal, infant, child and under-5 mortality rates for five-year periods preceding the survey, Ethiopia 2016

Period preceding survey	Mortality rates				
	Neonatal mortality (NN)	Postneonatal mortality (PNN) ¹	Infant mortality (iq)	Child mortality (cq)	Under-5 mortality (sq)
0-4	29	19	48	20	67
5-9	46	27	73	24	95
10-14	47	30	78	42	116

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

Figure 4 presents trends in childhood mortality in Ethiopia since the 2000 EDHS survey. Data show that there has been a steady decline in infant, child, and under-5 mortality over the last 16 years. For example, under-5 mortality rates for the 5 years preceding the survey declined from 166 deaths per 1,000 live births in 2005, to reach 67 deaths per 1,000 live births in 2016. Similarly, infant mortality decreased from 97 deaths per 1,000 live births, to 77 deaths per 1,000 live births, and to 48 deaths per 1,000 live births in the same period.

Figure 4 Trends in childhood mortality, 2000-2016



3.10 Maternal Care

Proper care during pregnancy and delivery is important for the health of both the mother and the baby. In the 2016 EDHS, women who had given birth in the 5 years preceding the survey were asked a number of questions about maternal care. Mothers were asked whether they had obtained antenatal care during the pregnancy for their most recent live birth in the 5 years preceding the survey and whether they had received tetanus toxoid injections while pregnant. For each live birth over the same period, mothers were also asked what type of assistance they received at the time of delivery. Finally, women who had a live birth in the 2 years before the survey were asked if they received a postnatal checkup within 2 days of delivery. Table 11 summarises information on the coverage of these maternal health services.

3.10.1 Antenatal Care

Antenatal care (ANC) from a skilled provider is important to monitor pregnancy and reduce morbidity and mortality risks for the mother and child during pregnancy, delivery, and the postnatal period

(within 42 days after delivery). The 2016 EDHS results show that 62 percent of women who gave birth in the five years preceding the survey received antenatal care from a skilled provider at least once for their last birth. Three in 10 women (32 percent) had four or more ANC visits for their most recent live birth. Urban women were more likely than rural women to have received ANC from a skilled provider (90 percent and 58 percent, respectively) and to have had four or more ANC visits (63 percent and 27 percent, respectively). The percentage of women who used a skilled provider for ANC services and who had four or more ANC visits for their most recent birth in the five years preceding the survey increases greatly with women's education. Among women with no education, 53 percent obtained ANC services from a skilled provider and 24 percent received four or more ANC visits compared with 98 percent and 73 percent, respectively, of women with more than a secondary education. The use of ANC services by a skilled provider and proper number of ANC visits also increases steadily with household wealth.

As shown in Figure 5, the percentage of women receiving antenatal care from a skilled provider has increased from 27 percent in 2000 to 62 percent in 2016.

3.10.2 Tetanus Toxoid Vaccination

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of early infant deaths in many developing countries, often due to failure to observe hygienic procedures during delivery. Table 11 shows that 49 percent of women received sufficient doses of tetanus toxoid to protect their last birth against neonatal tetanus. The percentage of women whose last birth was protected from tetanus is higher in urban than rural areas (72 percent versus 46 percent), and ranges from 30 percent in Afar to 82 percent in Addis Ababa. The percentage increases with women's education and wealth. Forty-one percent of women with no education report that their last live birth was protected against neonatal tetanus compared to 83 percent of women with more than a secondary education. The proportion of women whose last live birth was protected against tetanus was similar to that reported in the 2011 EDHS (48 percent).

3.10.3 Delivery Care

Access to proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that may lead to death or serious illness for the mother, baby, or both (Van Lerberghe and De Brouwere 2001; WHO 2006). Slightly over one in 4 live births in the five years preceding the survey were delivered by a skilled provider (28 percent) or in a health facility (26 percent). The percentage of live births delivered by a skilled provider remained virtually unchanged for a period of 5 years after 2000, but increased substantially after 2005; from 6 percent in the 2000 and 2005 EDHS, to 10 percent in 2011 EDHS, and reached 28 percent in 2016 EDHS (Figure 5). A similar trend is observed for the percentage of live births that occurred in a health facility; it increased from 5 percent in the 2000 and 2005 EDHS surveys, to 10 percent in the 2011 EDHS, and to 26 percent in the 2016 EDHS.

Eighty percent of births to urban mothers were assisted by a skilled provider and 79 percent were delivered in a health facility, as compared with 21 percent and 20 percent, respectively, of births to rural women. Afar has the lowest percentage of women whose births were delivered by a skilled provider or delivered in a health facility (16 percent and 15 percent, respectively), while Addis Ababa has the highest percentages for both indicators (97 percent each). Mothers' educational status is highly correlated with whether their deliveries are assisted by a skilled provider and whether they are delivered in a health facility. For example, 17 percent of births to mothers with no education were assisted by a skilled provider and 16 percent were delivered in a health facility, as compared with 93 percent and 92 percent, respectively, of births to mothers with more than a secondary education. A similar relationship is observed with household wealth.

3.10.4 Postnatal Care for the Mother

A large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, prompt postnatal care (PNC) for both the mother and the child is important to treat any complications arising from the delivery, as well as to provide the mother with important information on how to care for

herself and her child. Safe motherhood programmes recommend that all women receive a check of their health within 2 days after delivery.

To assess the extent of postnatal care utilisation, respondents were asked, for their last birth in the 2 years preceding the survey, whether they had received a checkup after delivery and the timing of the first checkup. As shown in Table 11, 17 percent of women reported having received a PNC checkup in the first 2 days after birth.

The proportion of women receiving a postnatal checkup within 2 days of delivery is higher in urban areas than in rural areas, lowest in Oromia and highest in Addis Ababa, and increases with women's education and household wealth.

Table 11. 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 from a skilled provider for the last live birth, percentage with four or more ANC visits for the last live birth, and percentage whose last live birth was protected against neonatal tetanus; 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 checkup in the first 2 days after the last live birth, by background characteristics, Ethiopia 2016

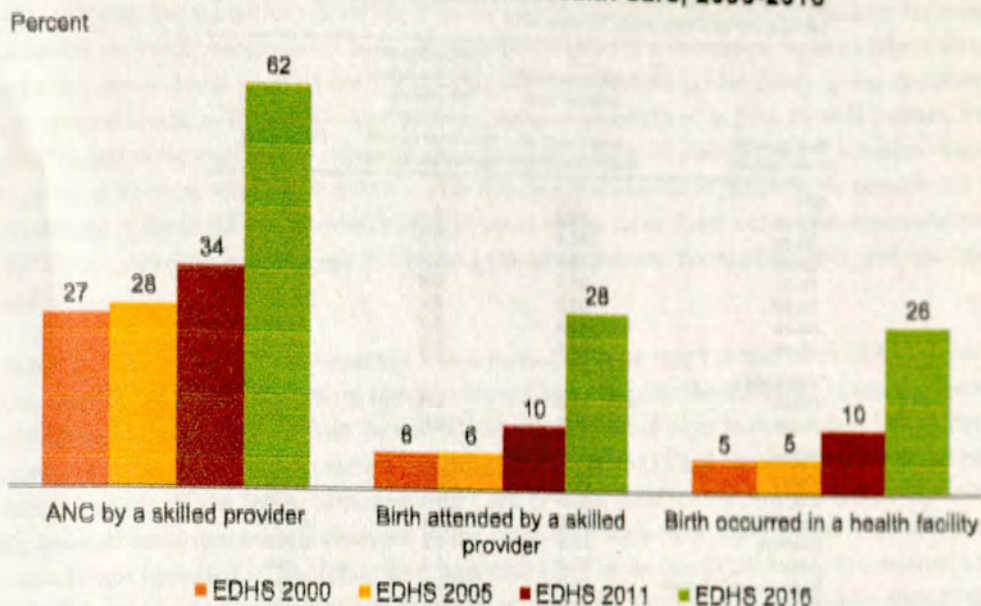
Background characteristic	Women who had a live birth in the 5 years preceding the survey			Live births in the 5 years preceding the survey			Women who had a live birth in the 2 years preceding the survey		
	Percentage with antenatal care from a skilled provider ¹	Percentage with 4+ ANC visits	Percentage whose last live birth was protected against neonatal tetanus ²	Number of women	Percentage delivered by a skilled provider ¹	Percentage delivered in a health facility	Number of births	Percentage of women who had a postnatal checkup in the first 2 days after birth	Number of women
Age in months									
<6	63.6	31.0	45.1	1,218	37.4	36.5	1,229	17.0	1,218
6-11	70.5	37.5	53.1	1,102	41.7	40.9	1,117	17.7	1,102
12-23	61.3	32.5	48.7	1,988	35.2	34.2	2,123	15.6	1,988
24-35	61.4	31.0	49.5	1,491	26.1	24.7	2,061	na	na
36-47	60.0	28.8	48.6	1,016	21.0	18.5	2,153	na	na
48-59	56.7	28.8	49.7	775	16.7	15.1	2,340	na	na
Mother's age at birth									
<20	66.8	29.0	47.3	835	32.8	31.4	1,301	13.0	508
20-34	64.0	33.5	51.2	5,428	27.8	26.4	8,090	17.8	3,126
35-49	52.8	26.6	40.9	1,326	23.1	21.2	1,632	13.1	674
Residence									
Urban	90.1	62.7	72.4	969	80.1	79.2	1,216	45.2	520
Rural	58.3	27.3	45.6	6,621	21.2	19.7	9,807	12.6	3,788
Region									
Tigray	90.0	56.5	62.0	537	59.3	56.9	716	45.4	314
Afar	51.3	20.6	30.2	71	16.4	14.7	114	11.6	43
Amhara	67.1	31.5	44.8	1,632	27.7	27.1	2,072	18.4	789
Oromiya	50.7	22.1	46.7	3,129	19.7	18.8	4,851	9.0	1,915
Somali	43.6	11.8	38.4	269	20.0	17.9	508	11.9	178
Benishangul-Gumuz	68.7	42.0	53.4	81	28.6	25.7	122	14.5	45
SNRP	69.3	38.2	50.9	1,601	28.6	25.5	2,296	16.9	876
Gambela	72.3	43.4	55.4	21	46.9	45.0	27	16.9	10
Hazari	75.9	34.9	70.1	17	51.2	50.2	26	37.4	10
Addis Ababa	96.8	89.1	81.5	198	96.8	96.6	244	55.4	110
Dire Dawa	87.4	66.0	71.5	33	56.7	56.2	47	27.8	18
Mother's education									
No education	53.3	24.1	41.3	4,791	17.2	15.9	7,284	10.6	2,606
Primary	73.0	38.5	57.4	2,150	38.6	36.8	2,951	20.7	1,319
Secondary	92.3	62.7	76.0	420	78.4	77.4	514	37.1	262
More than secondary	98.0	72.9	82.5	230	93.2	91.5	274	54.4	121
Wealth quintile									
Lowest	49.8	19.1	38.6	1,637	13.1	12.4	2,605	8.5	989
Second	53.9	27.5	42.8	1,681	20.4	18.9	2,543	10.8	968
Middle	63.8	28.9	47.4	1,576	26.1	23.6	2,268	15.3	922
Fourth	64.5	32.7	52.3	1,441	26.7	25.4	2,013	13.8	750
Highest	85.8	56.8	68.9	1,255	66.9	65.4	1,594	41.0	679
Total	62.4	31.8	49.0	7,590	27.7	26.2	11,023	16.5	4,308

na = Not applicable

¹ Skilled provider includes doctor, nurse, midwife, health officer, and health extension worker.

² Includes mothers with two injections during the pregnancy of her last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last live birth.

Figure 5 Trends in maternal health care, 2000-2016*



* Skilled provider for EDHS 2000, 2005, and 2011 includes doctor, nurse, and midwife. Skilled provider for EDHS 2016 includes doctor, nurse, midwife, health officer, and health extension worker.

3.10.5 Obstetrical Fistula

The 2016 EDHS included a series of questions to women age 15-49 on obstetric fistula, a condition that develops when the blood supply to the tissues of the vagina, bladder, and/or rectum is cut off during prolonged obstructed labor, resulting in the formation of an opening through which urine and/or feces pass uncontrollably. Women who develop fistulas are often socially rejected.

More specifically, women age 15-49 were asked if they had heard of obstetrical fistula, and whether they themselves had experienced the condition. Those who reported suffering from obstetrical fistula were asked if they had ever been treated for it.

Table 12 shows that about 2 in 5 women interviewed in the survey had heard of obstetrical fistula (39 percent). Knowledge of obstetric fistula is higher among urban women, women residing in Addis Ababa, highly educated women, and those in the highest wealth quintile. Less than 1 percent of women reported ever experiencing obstetrical fistula. Women in the Tigray (1 percent) are slightly more likely to have experienced obstetrical fistula than other subgroups.

Table 12 Obstetrical fistula

Percentage of women age 15-49 who have heard of obstetrical fistula and percentage of women who reported that they ever had an obstetric fistula, by background characteristics, Ethiopia 2016

Background characteristic	Percentage of women age 15-49 who have ever heard of obstetrical fistula	Percentage of women age 15-49 who reported that they ever had an obstetrical fistula	Number of women
Age			
15-19	36.8	0.2	3,381
20-24	41.6	0.3	2,762
25-29	38.5	0.6	2,957
30-34	36.6	0.6	2,345
35-39	35.9	0.4	1,932
40-44	43.4	0.7	1,290
45-49	41.1	0.6	1,017
Residence			
Urban	66.6	0.3	3,476
Rural	30.7	0.5	12,207
Region			
Tigray	65.8	1.1	1,129
Afar	35.5	0.5	128
Amhara	45.0	0.7	3,714
Oromiya	28.6	0.2	5,701
Somali	31.0	0.3	459
Benishangul-Gumuz	40.2	0.5	160
SNNP	28.0	0.3	3,288
Gambela	40.0	0.4	44
Harari	62.5	0.0	38
Addis Ababa	81.5	0.4	930
Dire Dawa	45.1	0.2	90
Education			
No education	27.9	0.5	7,498
Primary	37.0	0.4	5,490
Secondary	65.2	0.1	1,817
More than secondary	84.9	0.1	877
Wealth quintile			
Lowest	27.5	0.5	2,694
Second	28.2	0.5	2,801
Middle	28.6	0.6	3,001
Fourth	34.9	0.3	3,031
Highest	62.9	0.4	4,156
Total	38.6	0.4	15,683

3.11 Child Health and Nutrition

The 2016 EDHS collected data on a number of key child health indicators, including vaccinations of young children, nutritional status as assessed by anthropometry, infant feeding practices, and treatment practices when a child is ill.

3.11.1 Vaccination of Children

Universal immunisation of children against six common vaccine-preventable diseases, namely tuberculosis, diphtheria, whooping cough (pertussis), tetanus, polio, and measles, is crucial to reducing infant and child mortality. Other childhood vaccines given in Ethiopia protect against hepatitis B, and *Haemophilus influenzae* type b (Hib). The government of Ethiopia introduced the pneumococcal conjugate vaccine (PCV 13) and monovalent human rotavirus vaccine (RV1) into the national's infant immunisation programme in November 2011 and October 2012, respectively. The pneumococcal vaccine protects against *Streptococcus pneumoniae* bacteria, which cause severe pneumonia, meningitis, and other illnesses. Rotavirus is a virus that causes gastroenteritis; an inflammation of the stomach and intestines. If left untreated, it can lead to severe dehydration and death.

The 2016 EDHS collected information on the coverage of all of these vaccines among children born in the 3 years preceding the survey. The information obtained in the survey on differences in vaccination

coverage among subgroups of children is useful for programme planning and targeting resources towards areas most in need.

According to the guidelines developed by the World Health Organization, children are considered to have received all basic vaccinations when they have received a vaccination against tuberculosis (also known as BCG), three doses each of the DPT-HepB-Hib (also called pentavalent), polio vaccines, and a vaccination against 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 Ethiopia immunisation programme considers a child to be fully vaccinated if the child has received all basic vaccinations, three doses of the pneumococcal conjugate vaccine (PCV vaccine) (also given at age 6, 10, and 14 weeks), and two doses of the rotavirus vaccine (given at age 6 and 10 weeks).

Information on vaccination coverage was obtained in three ways in the 2016 EDHS: from written vaccination records, including the Infant Immunisation Card and other health cards, from mothers' verbal reports, and from health facility records. In the EDHS, 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 in the Infant Immunisation Card or on 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 Infant Immunisation Card or card for a child, she was asked to recall whether the child had received BCG, polio, DPT-HepB-Hib, measles, pneumococcal, and rotavirus vaccine. If she indicated that the child had received the polio, DPT-HepB-Hib, pneumococcal, or rotavirus vaccine, she was asked the number of doses that the child received.

In addition, if the mother was not able to present the Infant Immunisation Card, and the child had visited a health facility, a separate team visited the health facility to collect complementary vaccination records. The purpose of obtaining information at the health facility was to complement the information collected on vaccination based on mother's recall.

Table 13 presents data on vaccination coverage among children age 12-23 months by background characteristics. Children age 12-23 months are the youngest cohort to have reached the age by which a child should be fully immunised. Data show that 39 percent of children age 12-23 months have received all basic vaccinations. Sixteen percent of children in this age group have not received any vaccinations. Sixty-nine percent of children have received the BCG, 73 percent the first dose of pentavalent, 81 percent the first dose of polio, 67 percent the first dose of the pneumococcal vaccine, and 64 percent the first dose of rotavirus vaccine. Fifty-four percent of children have received a measles vaccination. Coverage rates decline for subsequent doses, with 53 percent of children receiving the recommended three doses of the pentavalent, 56 percent the three doses of polio, 49 percent the three doses of the pneumococcal vaccine, and 56 percent the two doses of the rotavirus vaccine.

There is little difference in the vaccination coverage rates between male and female children. However, full vaccination coverage is much higher in urban than rural areas (65 percent versus 35 percent). Full vaccination coverage is highest in Addis Ababa (89 percent) and lowest in Afar (15 percent). Vaccination coverage increases with mother's education. About 3 in 10 (31 percent) of children whose mothers have no education are fully vaccinated compared with more than 7 in 10 (72 percent) of children whose mothers have more than a secondary education. Similar patterns are observed by household wealth.

Table 13 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card during home interview, the mother's report, or vaccination card at health facility), and percentage with a vaccination card seen, by background characteristics, Ethiopia 2016

Background characteristic	Pentavalent ¹			Polio ²			Pneumococcal			Rotavirus		Measles	All basic vaccinations ³	No vaccinations	Percentage with a vaccination card seen			Number of children		
	BCG	1	2	3	0	1	2	3	1	2	3				1	2	During home interview		At health facility	
Sex																				
Male	68.9	73.5	63.3	52.9	28.8	79.5	71.2	56.5	64.1	58.8	48.6	62.4	54.5	52.7	36.5	16.1	30.9	23.8		926
Female	69.4	73.0	66.6	53.3	25.7	81.5	72.2	56.3	69.5	62.0	49.6	65.4	57.2	55.8	40.3	15.8	36.9	23.0		1,078
Residence																				
Urban	88.8	91.1	87.8	79.5	61.2	92.7	87.1	79.5	81.4	78.6	72.9	82.1	79.1	76.0	64.6	3.7	67.3	15.0		232
Rural	66.6	70.9	62.1	49.7	22.7	79.0	69.7	53.4	65.1	58.1	46.0	61.7	52.9	51.5	35.1	17.5	29.8	24.4		1,772
Region																				
Tigray	88.1	92.3	90.1	81.4	40.8	92.3	86.9	79.3	90.6	87.9	77.7	84.0	79.8	80.1	67.3	4.7	58.3	28.0		152
Afar	43.5	47.1	26.8	20.1	12.5	68.5	53.5	36.4	38.3	24.3	17.5	32.5	23.3	30.1	15.2	28.9	16.7	8.4		20
Amhara	75.2	80.8	75.2	63.8	26.7	87.0	81.1	66.1	75.9	68.9	60.5	68.2	59.1	61.9	45.8	8.3	44.5	25.4		364
Oromiya	59.7	64.8	53.5	39.9	19.8	74.3	61.6	43.4	58.8	51.5	38.3	58.2	50.2	43.2	24.7	22.0	25.9	18.4		681
Somali	55.9	61.6	47.6	36.3	29.2	77.4	64.7	43.8	55.1	42.8	34.9	53.6	41.3	48.1	21.8	19.6	21.0	16.9		76
Benishangul-Gumuz	76.8	81.9	81.4	76.2	51.4	85.6	79.1	70.5	77.8	77.8	71.0	78.8	76.6	70.8	57.4	13.4	41.4	27.6		21
SNNP	76.2	76.7	70.9	59.0	28.8	82.2	77.4	63.6	66.9	61.6	48.6	63.7	54.7	57.6	46.9	14.9	28.8	34.0		419
Gambela	69.9	73.1	67.3	54.8	54.0	78.9	73.8	57.6	65.4	60.2	46.1	65.8	60.5	62.1	41.1	15.3	41.4	15.4		5
Harari	77.0	78.8	66.8	58.7	33.1	96.4	88.8	79.3	80.5	67.6	58.6	71.7	61.3	53.6	42.2	2.8	44.9	16.7		5
Addis Ababa	94.6	97.5	96.8	95.7	84.3	96.8	96.8	96.8	93.9	93.2	91.4	93.5	91.7	93.1	89.2	1.5	90.3	6.7		52
Dire Dawa	96.8	98.2	92.8	84.9	62.1	98.2	92.8	82.1	89.9	85.1	75.3	92.3	85.3	86.9	75.9	1.5	53.7	32.6		9
Education																				
No education	64.3	68.4	58.4	45.3	22.6	77.5	67.2	49.5	61.6	53.8	42.4	58.0	49.6	49.0	30.7	18.8	28.8	21.8		1,257
Primary	74.3	79.6	73.6	62.3	28.1	84.4	77.5	65.0	74.1	69.1	57.1	72.2	62.7	58.7	46.1	12.1	38.8	27.7		577
Secondary	84.1	86.6	84.3	80.3	45.8	90.7	88.4	78.2	81.3	80.7	70.0	79.5	79.1	78.3	69.6	8.8	57.0	19.6		103
More than secondary	93.6	87.7	87.5	79.0	73.6	88.5	81.8	78.6	85.2	80.4	74.3	82.1	81.5	79.6	71.8	5.3	59.1	20.6		68
Wealth quintile																				
Lowest	58.3	63.5	54.8	37.6	18.6	71.8	62.8	43.5	58.8	52.2	37.9	54.5	46.3	46.8	26.4	24.4	22.0	22.2		484
Second	64.1	70.8	58.2	48.4	17.2	81.7	68.5	54.6	65.6	56.2	48.1	58.6	49.2	44.6	31.4	15.5	29.1	23.5		436
Middle	72.4	70.1	62.5	53.2	27.8	79.7	70.8	55.3	62.4	56.0	44.3	61.8	51.9	54.6	39.1	15.3	28.0	26.6		424
Fourth	72.0	79.5	73.0	59.5	28.0	83.3	76.8	60.3	74.0	67.7	51.6	71.0	63.1	58.1	43.6	14.0	41.8	24.3		350
Highest	85.5	89.0	85.1	76.9	52.6	90.7	85.9	76.2	80.1	77.5	71.9	81.8	78.1	75.2	61.2	6.3	60.0	19.4		310
Total	69.2	73.2	65.1	53.2	27.1	80.6	71.7	56.4	67.0	60.5	49.1	64.0	56.0	54.3	38.5	15.9	34.1	23.3		2,004

¹ Pentavalent is DPT-HepB-Hib

² Polio 0 is the polio vaccination given at birth

³ BCG, measles, and three doses each of pentavalent and polio vaccine excluding polio vaccine given at birth

3.11.2 Childhood Acute Respiratory Infection, Fever, and Diarrhoea

Acute respiratory infection (ARI), fever, and dehydration from diarrhoea are important contributing causes of childhood morbidity and mortality in developing countries (WHO 2003). Prompt medical attention when a child has the symptoms of these illnesses is, therefore, crucial in reducing child deaths. In the 2016 EDHS, for each child under age 5, mothers were asked if the child had experienced an episode of diarrhoea; a cough accompanied by short, rapid breathing or difficulty breathing as a result of a chest-related problem (symptoms of ARI); or a fever in the 2 weeks preceding the survey. Women were also asked if treatment was sought when the child was ill.

Overall, 7 percent of children under age 5 had ARI symptoms, 14 percent had a fever, and 12 percent experienced diarrhoea in the 2 weeks preceding the survey (data not shown). It should be noted that the morbidity data collected are subjective because they are based on a mother's perception of illnesses without validation by medical personnel.

Table 14 shows that treatment from a health facility or provider was sought for 30 percent of children with ARI symptoms, for 35 percent of children with fever, and for 43 percent of children with diarrhoea. Three in ten children with diarrhoea received a rehydration solution from an oral rehydration salt (ORS) packet; 33 percent were given zinc supplements, and 17 percent received both zinc supplements and ORS.

Table 14 Treatment for acute respiratory infection, fever, and diarrhoea

Among children under age 5 who had symptoms of acute respiratory infection (ARI) or had fever in the 2 weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age 5 who had diarrhoea during the 2 weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets (LEMLEM), percentage given zinc, and percentage given ORS and zinc, by background characteristics, Ethiopia 2016

Background characteristic	Children with symptoms of ARI ¹		Children with fever		Children with diarrhoea				
	Percentage for whom treatment was sought from a health facility/provider ²	Number of children	Percentage for whom treatment was sought from a health facility/provider ²	Number of children	Percentage for whom treatment was sought from a health facility/provider ²	Percentage given fluid from ORS packet	Percentage given zinc	Percentage given any ORS and zinc	Number of children
Age in months									
<6	(28.1)	72	29.8	141	30.5	5.8	23.4	5.5	92
6-11	40.0	95	40.6	220	51.1	31.7	34.0	19.3	241
12-23	32.3	183	34.8	395	51.3	36.6	41.6	22.2	357
24-35	24.3	114	34.3	287	35.3	26.1	31.5	16.7	250
36-47	24.3	135	35.3	232	38.0	31.4	29.1	13.1	183
48-59	30.5	91	31.3	219	29.1	26.2	23.6	7.6	105
Sex									
Male	32.1	349	35.6	768	38.8	30.2	30.9	17.3	649
Female	27.5	342	33.6	727	46.8	28.8	35.9	15.9	578
Residence									
Urban	61.1	48	59.2	192	59.3	40.5	50.8	24.2	126
Rural	27.5	643	31.0	1,303	40.6	28.3	31.3	15.8	1,101
Region									
Tigray	30.6	53	31.6	163	49.0	43.0	37.6	30.3	89
Afar	(44.3)	4	40.4	18	53.0	32.9	41.4	20.1	12
Amhara	29.1	157	31.4	248	40.0	28.4	28.0	15.4	270
Oromiya	23.9	339	33.8	635	38.5	22.5	33.7	11.3	487
Somali	(32.2)	10	28.0	40	44.7	44.2	33.4	26.1	29
Benishangul-Gumuz	*	2	42.1	8	61.3	55.3	47.9	35.3	10
SNNP	43.2	117	36.7	335	46.5	33.3	34.6	19.8	301
Gambela	*	1	46.9	4	57.5	39.7	38.0	21.6	4
Harari	*	0	53.8	2	52.9	39.1	58.2	29.2	3
Addis Ababa	*	6	64.1	35	(60.8)	(55.8)	(35.0)	(23.0)	18
Dire Dawa	*	2	51.2	6	66.1	51.1	53.3	36.3	5
Mother's education									
No education	26.1	476	29.2	898	35.8	27.9	26.1	13.5	767
Primary	35.2	177	41.6	481	54.6	31.6	47.1	21.4	370
Secondary	*	26	43.6	78	46.1	31.7	33.8	19.7	72
More than secondary	*	11	(56.7)	37	(68.8)	(48.0)	(50.2)	(37.7)	19
Wealth quintile									
Lowest	28.4	127	27.4	302	40.5	31.5	30.2	16.7	256
Second	23.4	188	26.1	333	32.7	19.8	25.6	8.9	282
Middle	24.9	158	34.0	307	39.0	33.1	27.0	17.1	270
Fourth	37.7	146	38.2	324	52.1	28.8	38.8	17.2	235
Highest	43.7	72	52.5	229	53.5	37.3	51.4	26.9	186
Total	29.8	691	34.6	1,495	42.6	29.5	33.3	16.6	1,227

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 Symptoms of ARI (cough accompanied by short, rapid breathing, which was chest-related, and/or by difficult breathing, which was chest-related)

² Excludes pharmacy, shop, and traditional practitioner

3.11.3 Nutritional Status of Children

Anthropometric indicators for young children were collected in the 2016 EDHS to provide outcome measures of nutritional status. As recommended by WHO, evaluation of nutritional status in this report is based on a comparison of three indices for the children in this survey, with indices reported for a reference population of well-nourished children (WHO Multicentre Growth Reference Study Group 2006). The three indices (height-for-age, weight-for-height, and weight-for-age) are expressed as standard deviation units from the median for the reference group. Children who fall below minus two standard deviations (-2 SD) from the median of the reference population are regarded as moderately malnourished, while those who fall below minus three standard deviations (-3 SD) from the reference population median are considered severely malnourished. Marked differences, especially with regard to height-for-age and weight-for-age, are often seen between different subgroups of children within a country.

A total of 10,752 children under age 5 were eligible for weight and height measurements. For some of the eligible children, however, complete and credible data on height, weight and/or age were not obtained. In this report, height-for-age data are based on 88 percent of eligible children, weight-for-height data are based on 89 percent of eligible children, and weight-for-age data are based on 90 percent of eligible children.

Table 15 shows nutritional status for children under age 5, according to the three anthropometric indices, by background characteristics. Height-for-age is a measure of linear growth. Children whose height-for-age is less than two standard deviations below the median (-2 SD) of the reference population are considered short for their age or stunted, a condition reflecting the cumulative effect of chronic malnutrition.

The data show that 38 percent of children under 5 are considered short for their age or stunted (below -2 SD), and 18 percent are severely stunted (below -3 SD). As shown in Figure 6, after being fairly stable in the first 6-8 months of life, the prevalence of stunting increases steadily from age 9 months through the first 4 years of life, before declining slightly in the fourth year of life. Children age 24-35 months have the highest proportion of stunting (48 percent). Stunting is slightly higher among male than female children (41 percent versus 35 percent).

Stunting is greater among children in rural areas (40 percent) than urban areas (25 percent). There are some regional variations; stunting ranges from a high of 46 percent in the Amhara region to a low of 15 percent in Addis Ababa. Mother's education and wealth quintile are both inversely related to children's stunting levels. More than 4 in 10 children born to mothers with no education (42 percent) are stunted compared with 18 percent of children whose mothers have more than a secondary education. Similarly, stunting decreases from 42 percent among children in the lowest wealth quintile to 27 percent of those in the highest wealth quintile.

Weight-for-height describes current nutritional status. A child who is below -2 SD from the reference median for weight-for-height is considered too thin for his or her height, or wasted, a condition reflecting acute or recent nutritional deficits. Overall, 10 percent of children in Ethiopia are wasted, and 3 percent are severely wasted (below -3 SD). Regional variations exist, with Somali and Afar having the highest percentages of children who are wasted, 23 percent and 18 percent, respectively.

Weight-for-age is a composite index of weight-for-height and height-for-age and thus does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). Children can be underweight for their age because they are stunted, wasted, or both. Weight-for-age is an overall indicator of a population's nutritional health. The results show that 24 percent of all children are underweight (below -2 SD), and 7 percent are severely underweight (below -3 SD). Children in rural areas are more likely than those in urban areas to be underweight (25 percent versus 13 percent). The highest percentages of underweight children are observed in Afar (36 percent) and Benishangul-Gumuz (34 percent). The percentage of underweight children decreases with increasing mother's education and household wealth.

Table 15 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, by background characteristics, Ethiopia 2016

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	6.6	16.2	-0.3	1,108	5.8	15.4	9.6	-0.3	1,077	5.1	12.3	2.7	-0.4	1,158
6-8	5.3	15.3	-0.3	570	4.9	15.4	3.9	-0.6	572	3.6	12.7	1.2	-0.8	574
9-11	8.1	19.4	-0.7	500	3.7	11.0	3.6	-0.5	499	5.0	17.8	2.0	-0.8	511
12-17	15.0	34.9	-1.4	1,128	3.0	14.7	3.0	-0.6	1,142	7.6	22.6	0.9	-1.1	1,152
18-23	17.6	47.2	-1.7	892	2.3	10.6	2.7	-0.5	896	9.1	25.3	0.7	-1.2	902
24-35	21.9	47.8	-1.8	1,941	3.0	8.9	0.9	-0.4	1,951	7.9	25.9	0.6	-1.3	1,967
36-47	22.8	46.4	-1.8	2,012	1.8	6.8	2.3	-0.3	2,023	7.6	25.6	0.7	-1.3	2,040
48-59	21.1	42.2	-1.7	2,224	1.9	6.7	1.2	-0.5	2,253	6.7	29.4	0.3	-1.4	2,248
Sex														
Male	19.3	41.3	-1.5	5,305	2.9	10.2	2.9	-0.5	5,358	7.6	25.2	1.0	-1.2	5,424
Female	15.8	35.3	-1.3	5,071	2.9	9.6	2.7	-0.4	5,054	6.2	21.9	0.9	-1.1	5,128
Mother's interview status														
Interviewed	17.5	38.6	-1.4	9,686	3.0	10.1	2.8	-0.5	9,704	7.1	23.8	0.8	-1.2	9,852
Not interviewed, but in household	21.3	33.6	-1.2	230	1.3	8.0	2.9	-0.3	225	5.9	21.9	4.5	-0.9	233
Not interviewed, not in household ³	17.8	36.5	-1.4	460	1.6	7.4	2.8	-0.2	483	4.2	19.4	1.1	-1.0	467
Residence														
Urban	10.6	25.4	-1.0	1,131	2.1	8.7	3.1	-0.2	1,130	4.3	13.4	2.1	-0.7	1,140
Rural	18.4	39.9	-1.5	9,245	3.0	10.1	2.8	-0.5	9,283	7.3	24.8	0.8	-1.2	9,412
Region														
Tigray	13.4	39.3	-1.5	691	3.4	11.1	1.3	-0.6	690	5.2	23.0	0.3	-1.3	699
Afar	22.3	41.1	-1.6	98	5.3	17.7	0.5	-1.0	101	14.4	36.2	0.5	-1.6	100
Amhara	19.6	46.3	-1.8	2,087	2.2	9.8	1.3	-0.6	2,079	8.3	28.4	0.3	-1.4	2,107
Oromiya	17.1	36.5	-1.3	4,491	3.5	10.6	3.8	-0.4	4,510	6.6	22.5	0.9	-1.1	4,573
Somali	12.8	27.4	-0.9	417	6.1	22.7	1.5	-1.1	431	10.1	28.7	1.4	-1.3	427
Benishangul-Gumuz	21.7	42.7	-1.7	106	3.1	11.5	1.5	-0.6	106	11.9	34.3	0.7	-1.4	108
SNNP	20.2	38.6	-1.5	2,188	1.7	6.0	2.7	-0.2	2,195	6.4	21.1	1.6	-1.0	2,234
Gambela	7.4	23.5	-0.9	23	3.4	14.1	1.6	-0.7	23	6.4	19.4	0.3	-1.1	23
Harari	12.6	32.0	-1.1	20	3.0	10.7	2.2	-0.5	20	5.8	20.0	0.7	-1.0	20
Addis Ababa	3.1	14.6	-0.6	216	0.4	3.5	7.0	0.1	216	0.3	5.0	2.9	-0.2	218
Dire Dawa	16.9	40.2	-1.3	40	4.2	9.7	1.5	-0.7	41	7.9	26.2	0.8	-1.3	42
Mother's education⁴														
No education	20.0	41.8	-1.5	6,533	3.5	10.7	2.6	-0.5	6,555	8.6	27.5	0.7	-1.3	6,642
Primary	14.7	35.1	-1.3	2,687	2.0	9.1	3.3	-0.4	2,686	4.4	18.0	1.0	-1.0	2,742
Secondary	5.9	21.9	-0.7	471	1.4	7.3	3.3	-0.2	463	2.4	11.3	2.9	-0.5	474
More than secondary	5.3	17.5	-0.9	223	3.8	7.4	1.8	-0.2	222	4.6	10.7	0.6	-0.6	224
Wealth quintile														
Lowest	21.3	42.2	-1.6	2,344	3.9	14.1	3.8	-0.6	2,383	9.1	30.2	0.7	-1.4	2,412
Second	21.1	43.3	-1.6	2,419	3.4	10.1	1.7	-0.5	2,416	9.8	28.1	0.8	-1.3	2,453
Middle	16.7	38.3	-1.4	2,186	2.4	9.4	2.4	-0.5	2,200	5.5	22.0	1.1	-1.2	2,223
Fourth	15.3	36.5	-1.4	1,923	2.1	6.5	3.2	-0.3	1,918	4.3	17.8	0.7	-1.0	1,943
Highest	10.4	26.9	-1.0	1,504	2.3	8.2	2.9	-0.3	1,496	4.4	15.5	1.7	-0.8	1,521
Total	17.6	38.4	-1.4	10,376	2.9	9.9	2.8	-0.5	10,412	7.0	23.6	0.9	-1.2	10,552

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. Total includes four children for whom information on mother's education is missing.

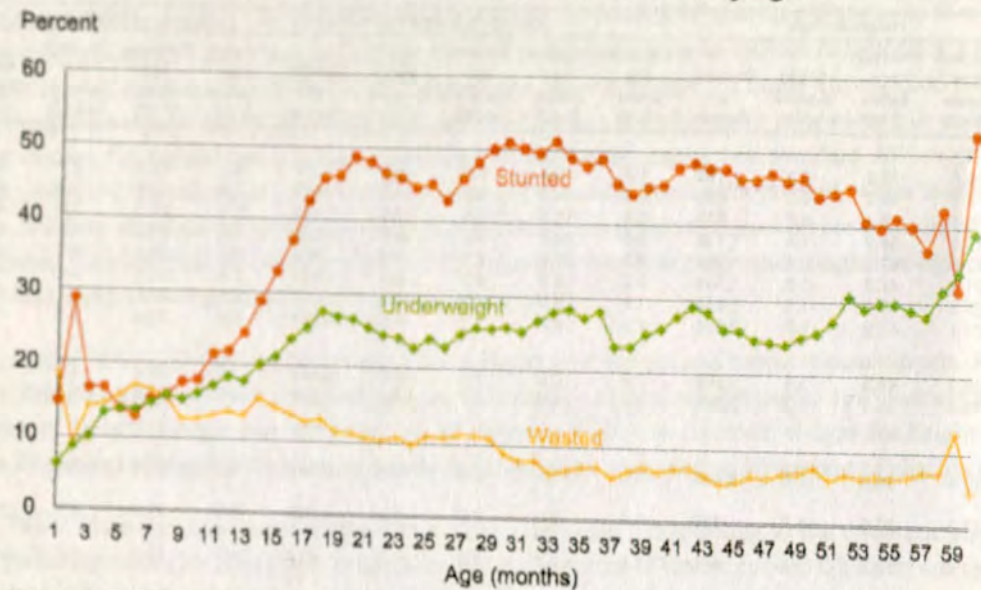
¹ Recumbent length is measured for children under age 2 or in the few cases when the age of the child is unknown and the child is less than 87 cm; standing height is measured for all other children.

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

³ Includes children whose mothers are deceased

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

Figure 6 Nutritional status of children by age



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

EDHS 2016

3.11.4 Infant and Young Child Feeding Practices

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

The 2016 EDHS collected data on infant and young child feeding (IYCF) practices for all children born in the 2 years preceding the survey. Table 16 shows breastfeeding practices by child's age. In Ethiopia, 58 percent of infants under 6 months are exclusively breastfed. Contrary to recommendation by WHO that children under age 6 months should be exclusively breastfed, 17 percent of infants 0-5 months consume plain water, 5 percent, each, consume nonmilk liquids or other milk, and 11 percent consume complementary foods in addition to breast milk. Five percent of infants under age 6 months are not breastfed at all. The percentage exclusively breastfed decreases sharply with age from 74 percent of infants age 0-1 month to 64 percent of those age 2-3 months and, further, to 36 percent of infants age 4-5 months. Nine percent of infants under 6 months use a bottle with a nipple, a practice that is discouraged because of the risk of illness to the child.

It is recommended that a child continues to breastfeed until age 2. However, in Ethiopia, the percentage of children who are currently breastfeeding decreases from 91 percent among children age 12-17 months to 76 percent among children age 18-23 months.

Table 16 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother, by breastfeeding status, percentage currently breastfeeding, and percentage of all children under 2 using a bottle with a nipple, according to age in months, Ethiopia 2016

Age in months	Breastfeeding status						Total	Percentage currently breastfeeding	Number of youngest children under 2 years living with the mother	Percentage using a bottle with a nipple	Number of all children under age 2
	Not breast-feeding	Exclusively breast-feeding	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 complementary foods					
0-1	6.1	74.1	12.6	2.6	1.5	3.1	100.0	93.9	388	3.7	391
2-3	5.5	64.0	14.1	2.9	4.8	8.7	100.0	94.5	379	9.3	389
4-5	4.1	36.0	24.2	7.9	7.0	20.8	100.0	95.9	418	14.1	420
6-8	4.9	12.0	16.0	5.8	5.0	56.3	100.0	95.1	561	18.5	568
9-11	7.2	4.5	6.7	2.2	2.7	76.6	100.0	92.8	499	19.5	503
12-17	8.6	2.5	7.3	1.7	1.2	78.6	100.0	91.4	1,085	13.4	1,124
18-23	24.0	0.7	5.2	0.6	1.3	68.2	100.0	76.0	816	12.9	880
0-3	5.8	69.2	13.3	2.7	3.1	5.9	100.0	94.2	767	6.5	780
0-5	5.2	57.5	17.2	4.6	4.5	11.1	100.0	94.8	1,185	9.2	1,200
6-9	5.0	10.5	14.2	4.4	4.4	61.4	100.0	95.0	736	19.4	745
12-15	8.2	2.8	7.0	2.0	1.1	79.0	100.0	91.8	777	11.8	800
12-23	15.2	1.7	6.4	1.2	1.3	74.1	100.0	84.8	1,900	13.2	2,004
20-23	24.5	0.5	4.4	0.4	0.8	69.3	100.0	75.5	501	10.4	550

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

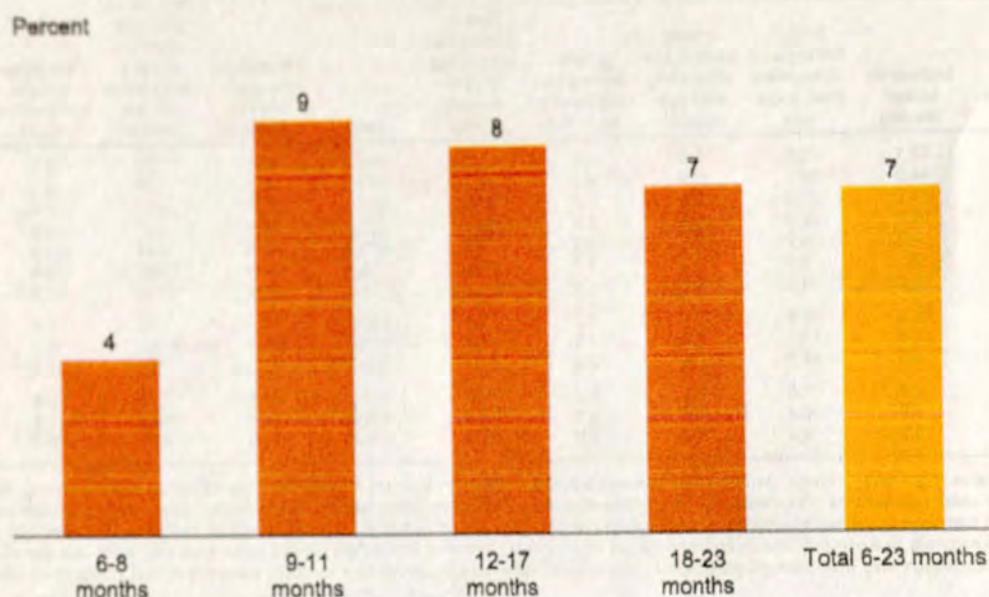
¹ Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

The minimum acceptable diet indicator is used to assess the proportion of children age 6-23 months who meet minimum standards with respect to IYCF practices. Specifically, children age 6-23 months who have a minimum acceptable diet meet all three IYCF criteria below:

1. Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula; fresh, tinned, or powdered animal milk; or yogurt.
2. Fed with foods from four or more of the following groups: a. infant formula, milk other than breast milk, and cheese, yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables; d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); and g. legumes and nuts.
3. Fed the minimum recommended number of times per day according to their age and breastfeeding status:
 - a. For breastfed children, minimum meal frequency is receiving solid or semisolid 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.
 - b. For nonbreastfed children age 6-23 months, minimum meal frequency is receiving solid or semisolid food or milk feeds at least four times a day

Figure 7 shows the percentage of children being fed the minimum acceptable diet, by age. In total, only 7 percent of children age 6-23 months have met the criteria for a minimum acceptable diet.

Figure 7 Minimum acceptable diet by age, in months



EDHS 2016

3.12 Anaemia Prevalence in Children and Women

Anaemia is a condition that is marked by low levels of haemoglobin in the blood. Iron is a key component of haemoglobin, and iron deficiency is estimated to be responsible for half of all anaemia globally. Other causes of anaemia include hookworms and other helminths, other nutritional deficiencies, chronic infections, and genetic conditions. Anaemia is a serious concern for children because it can impair cognitive development, stunt growth, and increase morbidity from infectious diseases. The 2016 EDHS included haemoglobin testing for children 6-59 months, women age 15-49, and men age 15-59. Haemoglobin levels were successfully measured for 88 percent of children age 6-59 months eligible for testing, 92 percent of the women age 15-49 eligible for testing, and 90 percent of the men age 15-59 eligible for testing (data not shown).

Tables 17.1 and 17.2 present anaemia prevalence for children age 6-59 months and for women and men age 15-49, by background characteristics. Haemoglobin levels were adjusted for altitude and, for women and men only, smoking status. Children and pregnant women with haemoglobin levels below 11.0 g/dl, non-pregnant women with haemoglobin levels below 12.0 g/dl, and men with haemoglobin levels below 13.0 g/dl were defined as anaemic.

Overall, more than half of children 6-59 months (56 percent) suffered from some degree of anaemia: 25 percent were mildly anaemic, 28 percent were moderately anaemic, and 3 percent were severely anaemic. The prevalence of any anaemia decreases with age from a high of 77 percent among children age 6-11 months to a low of 40 percent among children age 48-59 months. Children in rural areas are more likely to be anaemic than those in urban areas (57 percent and 47 percent, respectively). The lowest prevalence of anaemia is among children living in Amhara (41 percent), and the highest is among those living in Somali (83 percent). Anaemia prevalence decreases with increasing level of household wealth, from a high of 68 percent among children in the lowest wealth quintile to a low of 48 percent among children in the highest wealth quintile.

About one-fourth of women age 15-49 (23 percent) are anaemic. The majority are mildly anaemic (17 percent), 5 percent are moderately anaemic, and less than 1 percent are severely anaemic. The proportion of women with any anaemia is notably higher in rural than in urban areas (25 percent versus 16 percent). Anaemia prevalence among women ranges from 16 percent in Amhara and Addis Ababa to 59 percent in

Somali. Prevalence of anaemia among women decreases as wealth increases, from 33 percent of women in the lowest wealth quintile to 17 percent of those in the highest wealth quintile.

Table 17.1 Anaemia among children and women

Percentage of children age 6-59 months and women age 15-49 years classified as having anaemia, by background characteristics, Ethiopia 2016

Background characteristic	Any anaemia	Percentage with anaemia			Number
		Mild anaemia	Moderate anaemia	Severe anaemia	
CHILDREN					
Sex					
Male	56.0	23.8	29.2	3.1	4,811
Female	56.0	25.7	27.5	2.8	4,455
Age in months					
6-11	76.9	29.4	44.0	3.5	1,043
12-23	67.7	25.5	38.4	3.8	2,022
24-35	57.6	23.4	29.4	4.8	1,948
36-47	50.0	24.4	23.9	1.7	2,019
48-59	39.6	23.1	15.0	1.5	2,235
Residence					
Urban	47.2	23.5	22.2	1.4	937
Rural	57.0	24.8	29.0	3.1	8,330
Region					
Tigray	53.8	26.9	25.4	1.5	612
Afar	73.2	26.6	42.8	3.8	91
Amhara	41.4	22.4	16.8	2.3	1,861
Oromiya	63.8	26.2	34.2	3.4	4,008
Somali	82.6	17.7	52.2	12.8	371
Benishangul-Gumuz	42.5	23.9	18.1	0.6	96
SNNP	49.6	24.7	23.5	1.4	1,992
Gambela	55.8	23.9	31.3	0.7	21
Harari	66.6	23.2	38.1	5.3	16
Addis Ababa	49.8	20.6	27.4	1.8	165
Dire Dawa	69.5	24.6	36.4	8.5	35
Wealth quintile					
Lowest	67.6	24.3	37.2	6.1	2,145
Second	56.4	28.1	26.2	2.0	2,158
Middle	52.7	23.0	27.1	2.7	1,972
Fourth	51.0	23.5	25.9	1.6	1,716
Highest	47.7	23.8	22.4	1.5	1,277
Total	56.0	24.7	28.3	2.9	9,267
WOMEN					
Residence					
Urban	16.4	13.2	3.1	0.2	3,169
Rural	24.8	18.4	5.5	0.9	11,754
Region					
Tigray	20.1	16.2	3.5	0.3	1,073
Afar	43.4	27.6	13.8	2.0	119
Amhara	16.3	13.8	2.3	0.1	3,645
Oromiya	26.2	19.2	5.9	1.2	5,422
Somali	59.1	29.9	24.4	4.7	417
Benishangul-Gumuz	18.9	15.6	3.1	0.2	146
SNNP	22.6	17.6	4.6	0.4	3,124
Gambela	26.1	20.6	5.2	0.3	42
Harari	27.2	18.6	7.4	1.2	32
Addis Ababa	15.9	12.5	3.4	0.1	825
Dire Dawa	29.0	20.7	7.0	1.3	77
Wealth quintile					
Lowest	33.0	21.2	9.7	2.1	2,570
Second	25.4	18.9	5.6	0.9	2,703
Middle	22.5	17.9	4.2	0.3	2,913
Fourth	20.6	16.4	3.6	0.5	2,916
Highest	17.0	13.8	3.0	0.2	3,820
Total	23.0	17.3	5.0	0.7	14,923

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

Table 17.2 shows that about 1 in 5 men age 15-49 (18 percent) are anaemic. The proportion of men with any anaemia is notably higher in rural than in urban areas (20 percent versus 9 percent). Anaemia prevalence among men ranges from 27 percent in Afar to 7 percent in Addis Ababa. Prevalence of anaemia among men decreases as wealth increases, from 26 percent of men in the lowest wealth quintile to 10 percent of those in the highest wealth quintile.

3.13 HIV/AIDS Awareness, Knowledge, and Behaviour

3.13.1 Knowledge of HIV Prevention

The 2016 EDHS included a series of questions that addressed respondents' knowledge of HIV prevention, their awareness of modes of HIV transmission, and behaviours that can prevent the spread of HIV. Table 18 shows that 58 percent of women and 77 percent of men age 15-49 know that consistent use of condoms is a means of preventing the spread of HIV. Sixty-nine percent of women and 81 percent of men know that limiting sexual intercourse to one faithful and uninfected partner can reduce the chances of contracting HIV. About 5 in 10 women (49 percent) and 7 in 10 men (69 percent) know that both using condoms and limiting sexual intercourse to one uninfected partner are means of preventing HIV.

Table 17.2 Anaemia among men

Percentage of men age 15-49 with anaemia, according to background characteristics, Ethiopia 2016

Background characteristic	Any anaemia <13.0 g/dl	Number
Residence		
Urban	8.9	1,963
Rural	20.1	8,767
Region		
Tigray	20.4	671
Afar	27.2	76
Amhara	17.7	2,808
Oromiya	18.9	4,020
Somali	24.4	249
Benishangul-Gumuz	14.1	102
SNNP	18.1	2,221
Gambela	14.4	32
Harari	16.5	22
Addis Ababa	6.9	475
Dire Dawa	17.5	54
Wealth quintile		
Lowest	25.8	1,763
Second	23.4	2,007
Middle	16.9	2,213
Fourth	17.7	2,224
Highest	9.9	2,522
Total 15-49	18.1	10,730
Men 50-59	24.9	1,038
Total 15-59	18.7	11,768

Note: Prevalence is adjusted for altitude and for smoking status, if known, using formulas in CDC 1998.

Table 18 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting HIV by using condoms every time they have sexual intercourse and by having one sex partner who is not infected and has no other partners, by background characteristics, Ethiopia 2016

Background characteristic	Women				Men			
	Percentage who say HIV can be prevented by:			Number of women	Percentage who say HIV can be prevented by:			Number of men
	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}		Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	
Age								
15-24	61.7	70.3	52.0	6,143	76.5	78.6	67.2	4,455
15-19	61.2	68.6	50.6	3,381	74.2	77.0	65.9	2,572
20-24	62.3	72.4	53.8	2,762	79.6	80.8	69.0	1,883
25-29	58.5	69.5	49.1	2,957	80.0	82.2	71.4	1,977
30-39	55.6	68.8	46.9	4,277	78.2	83.3	70.1	3,020
40-49	50.0	65.4	42.6	2,306	74.3	80.0	66.6	2,154
Marital status								
Never married	66.7	72.6	56.4	4,036	76.8	79.2	68.1	4,882
Ever had sex	77.3	79.4	65.9	401	86.6	86.3	77.0	1,061
Never had sex	65.5	71.9	55.3	3,636	74.0	77.2	65.6	3,821
Married or living together	54.0	67.7	45.4	10,223	77.1	82.1	68.9	6,441
Divorced/separated/widowed	59.0	68.1	50.6	1,423	84.4	75.2	69.1	282
Residence								
Urban	78.8	81.1	68.8	3,476	83.4	83.8	73.5	2,303
Rural	51.7	65.5	43.0	12,207	75.6	79.9	67.3	9,302
Region								
Tigray	75.0	81.9	66.0	1,129	89.8	90.2	84.2	708
Afar	36.4	61.6	30.6	128	81.0	81.5	71.6	82
Amhara	61.2	72.5	52.1	3,714	83.2	85.5	76.1	2,914
Oromiya	52.8	68.4	45.9	5,701	75.3	78.6	65.7	4,409
Somali	13.4	25.6	10.3	459	42.5	57.9	38.1	301
Benishangul-Gumuz	44.2	49.7	32.8	160	77.8	79.0	67.8	118
SNNP	56.3	65.5	43.8	3,288	70.3	78.7	62.1	2,371
Gambela	55.9	60.5	43.9	44	78.3	80.8	69.2	35
Harari	52.8	72.0	47.3	38	67.4	81.8	62.0	29
Addis Ababa	84.6	82.3	73.4	930	91.2	81.6	76.5	573
Dire Dawa	61.5	60.2	45.5	90	75.3	80.5	64.8	66
Education								
No education	44.6	61.4	37.0	7,498	71.5	77.2	64.2	3,203
Primary	62.8	71.6	51.9	5,490	76.1	79.4	66.8	5,608
Secondary	81.0	83.2	71.7	1,817	84.4	87.4	75.9	1,785
More than secondary	89.4	88.4	81.1	877	87.7	87.4	79.3	1,010
Wealth quintile								
Lowest	41.6	57.3	34.8	2,694	71.3	74.1	62.1	1,909
Second	52.9	68.0	44.7	2,801	73.1	78.9	65.9	2,088
Middle	51.7	67.1	43.2	3,001	76.8	81.0	68.0	2,359
Fourth	57.0	68.8	46.6	3,031	78.2	81.8	69.2	2,351
Highest	76.2	78.8	66.0	4,156	83.3	85.3	74.6	2,899
Total 15-49	57.7	69.0	48.7	15,683	77.1	80.7	68.6	11,606
Men 50-59	na	na	na	na	73.0	81.9	67.2	1,082
Total 15-59	na	na	na	na	76.8	80.8	68.4	12,688

na = Not applicable

¹ Using condoms every time they have sexual intercourse

² Partner who has no other partners

By marital status, women who are currently in union (45 percent) and men who have never been married and never had sex (66 percent) are the least likely to know that using condoms and limiting sexual intercourse to one uninfected partner reduces the risk of HIV. This knowledge is lower among respondents in rural areas (43 percent of women and 67 percent of men) than those in urban areas (69 percent of women and 74 percent of men). Knowledge that using condoms and limiting sexual intercourse to one uninfected partner reduces the risk of HIV transmission increases with respondents' education and wealth.

3.13.2 Knowledge among Young People

Table 19 shows knowledge of HIV prevention among young people age 15-24. Knowledge of HIV prevention is defined as knowing that both condom use and limiting sexual intercourse to one uninfected partner are HIV prevention methods, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about HIV transmission: that HIV can be transmitted by mosquito bites or by sharing food with a person who has HIV. Knowledge of how HIV is transmitted is crucial to enabling people to avoid HIV infection, and this is especially true for young people, who are often at greater risk because they may have shorter relationships with more partners or engage in other risky behaviours.

Table 19 shows that 24 percent of young women and 39 percent of young men 15-24 have knowledge about HIV prevention. Among both sexes, urban youth are more likely than rural youth to have knowledge about HIV prevention. The percentage of youth with knowledge about HIV prevention is lower among those age 15-17 than among older youth, especially for men. Ever married young women are much less likely than other women (19 percent) to have this knowledge, a pattern not observed for men. Urban youth, those living in Addis Ababa, youth with more than a secondary education, and youth from the wealthiest households are more likely than other subgroups to have knowledge about HIV prevention.

Table 19 Knowledge about HIV prevention among young people

Percentage of young women and young men age 15-24 with knowledge about HIV prevention, by background characteristics, Ethiopia 2016

Background characteristic	Women age 15-24		Men age 15-24	
	Percentage with knowledge about HIV prevention ¹	Number of women	Percentage with knowledge about HIV prevention ¹	Number of men
Age				
15-19	24.0	3,381	37.6	2,572
15-17	22.9	2,050	34.3	1,589
18-19	25.8	1,331	43.0	983
20-24	24.6	2,762	41.1	1,883
20-22	25.0	1,808	40.1	1,216
23-24	23.8	954	42.9	667
Marital status				
Never married	28.3	3,500	39.2	3,889
Ever had sex	32.6	230	44.9	564
Never had sex	28.0	3,269	38.2	3,325
Ever married	19.0	2,643	38.2	566
Residence				
Urban	41.7	1,467	47.7	867
Rural	18.8	4,675	37.0	3,588
Region				
Tigray	29.7	498	40.7	310
Afar	14.1	56	32.6	29
Amhara	28.7	1,382	45.5	1,130
Oromiya	22.1	2,229	38.1	1,657
Somali	5.0	186	9.1	124
Benishangul-Gumuz	18.7	66	27.0	42
SNNP	20.3	1,251	33.9	916
Gambela	25.7	18	36.3	15
Harari	20.3	16	37.5	10
Addis Ababa	38.8	403	53.4	195
Dire Dawa	21.8	37	48.9	27
Education				
No education	8.4	1,230	27.2	543
Primary	21.4	3,333	37.3	2,744
Secondary	40.1	1,184	46.1	910
More than secondary	51.1	396	58.1	258
Wealth quintile				
Lowest	11.8	986	28.0	706
Second	19.7	1,058	35.2	738
Middle	18.3	1,185	38.4	937
Fourth	23.4	1,164	38.4	955
Highest	38.8	1,750	49.8	1,118
Total 15-24	24.3	6,143	39.1	4,455

¹ Knowledge about HIV prevention means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about transmission or prevention of HIV (that HIV can be transmitted by mosquito bites and that a person can become infected by sharing food with a person who has HIV).

3.13.3 Knowledge of Prevention of Mother-to-Child Transmission of HIV

Increasing general knowledge about prevention of HIV from mother to child and reducing the risk of transmission using antiretroviral drugs are critical in reducing mother-to-child transmission (PMTCT) of HIV. To assess MTCT knowledge, respondents were asked whether HIV can be transmitted from mother to child through breastfeeding and whether a mother with HIV can reduce the risk of transmission to her baby by taking certain drugs during pregnancy.

Table 20 shows that 74 percent of women and 73 percent of men know that HIV can be transmitted through breastfeeding; 51 percent of women and 61 percent of men know that the risk of mother-to-child transmission can be reduced if the mother takes special drugs during pregnancy. Overall, 48 percent of women and 53 percent of men know that HIV can be transmitted by breastfeeding and that the risk of mother-to-child transmission can be reduced by taking special drugs. Knowledge regarding PMTCT is higher in urban than in rural areas, is lowest in Somali and highest in Addis Ababa, and increases with increasing education and wealth.

Table 20 Knowledge of prevention of mother-to-child transmission of HIV

Percentage of women and men age 15-49 who know that HIV can be transmitted from mother to child during pregnancy, during delivery, by breastfeeding, and by all three means, and percentage who know that the risk of mother to child transmission (MTCT) of HIV can be reduced by mother taking special drugs during pregnancy, by background characteristics, Ethiopia 2016

Background characteristic	Percentage of women who say:				Percentage of men who say:			
	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding, and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of women	HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding, and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of men
Age								
15-24	75.2	54.0	50.0	6,143	72.6	59.3	52.2	4,455
15-19	73.9	52.7	48.7	3,381	71.1	56.5	50.1	2,572
20-24	76.9	55.7	51.6	2,762	74.6	63.2	55.2	1,883
25-29	75.2	52.4	49.1	2,957	73.0	65.7	56.1	1,977
30-39	73.5	49.9	46.1	4,277	73.6	61.4	53.1	3,020
40-49	70.5	44.6	41.2	2,306	70.5	57.7	51.1	2,154
Marital status								
Never married	76.3	57.8	52.7	4,036	72.5	61.0	53.5	4,882
Ever had sex	79.7	68.7	60.6	401	76.9	73.1	62.5	1,061
Never had sex	75.9	56.6	51.9	3,636	71.3	57.7	51.0	3,821
Married or living together	73.2	48.0	44.9	10,223	72.8	60.2	52.5	6,441
Divorced/separated/ widowed	74.0	55.8	51.3	1,423	67.2	64.6	52.6	282
Currently pregnant								
Pregnant	73.8	46.0	43.8	1,135	na	na	na	na
Not pregnant or not sure	74.1	51.6	47.8	14,548	na	na	na	na
Residence								
Urban	84.2	78.0	72.2	3,476	76.1	79.5	67.0	2,303
Rural	71.2	43.6	40.5	12,207	71.6	56.0	49.4	9,302
Region								
Tigray	31.6	69.5	63.4	1,129	82.5	77.9	68.7	708
Afar	74.5	42.4	39.7	128	70.7	50.9	45.0	82
Amhara	33.0	55.5	52.2	3,714	76.2	62.2	54.0	2,914
Oromiya	58.0	46.3	42.3	5,701	71.0	61.9	55.8	4,409
Somali	36.7	14.4	13.9	459	57.6	16.7	15.3	301
Benishangul-Gumuz	57.4	46.8	42.4	160	70.2	59.4	51.3	118
SNNP	73.8	44.3	41.5	3,288	69.1	51.0	42.4	2,371
Gambela	76.0	63.6	61.1	44	75.8	69.8	60.7	35
Harari	78.8	56.4	55.1	38	62.9	63.8	54.2	29
Addis Ababa	97.2	84.6	78.1	930	76.5	84.5	69.1	573
Dire Dawa	72.0	65.3	61.3	90	72.4	74.1	60.7	66
Education								
No education	56.7	38.1	35.9	7,498	69.4	49.5	45.3	3,203
Primary	78.2	54.8	50.4	5,490	71.6	57.8	50.2	5,608
Secondary	86.1	77.1	71.4	1,817	77.2	76.0	64.1	1,785
More than secondary	86.7	87.4	78.6	877	79.6	84.8	72.1	1,010
Wealth quintile								
Lowest	50.9	32.7	30.1	2,694	66.4	45.4	40.5	1,909
Second	59.8	44.6	41.6	2,801	72.9	54.6	48.7	2,088
Middle	72.3	43.6	40.1	3,001	72.1	56.9	51.0	2,359
Fourth	77.7	49.3	45.9	3,031	72.5	62.2	52.5	2,351
Highest	84.2	74.5	69.2	4,156	76.8	76.8	66.0	2,899
Total 15-49	74.1	51.2	47.5	15,683	72.5	60.6	52.9	11,606
Men 50-59	na	na	na	na	74.5	57.4	52.5	1,082
Total 15-59	na	na	na	na	72.7	60.4	52.9	12,688

3.13.4 Multiple Sexual Partners

Information on sexual behaviour is important in designing and monitoring intervention programmes to control the spread of HIV. The 2016 EDHS included questions on respondents' sexual partners during the 12 months preceding the survey and during their lifetime. Information was also collected on use of condoms at respondents' last sexual intercourse. These questions are sensitive, and it is recognised that some respondents may have been reluctant to provide information on recent sexual behaviour. Results are shown in Table 21.1 for women and Table 21.2 for men.

Overall, less than 1 percent of women reported that they had two or more partners in the past 12 months. Among women who had two or more partners in the past 12 months, 19 percent reported using a condom during their last sexual intercourse (data not shown). The mean number of lifetime partners among all women who have ever had sexual intercourse is 1.6.

Three percent of men age 15-49 reported that they had two or more partners in the past 12 months, and 19 percent of them reported using a condom during their last sexual intercourse. The mean number of lifetime partners among all men who have ever had sexual intercourse is 2.9.

There are no major variations by background characteristics in the percentage of women and men who had two or more partners in the past 12 months.

Table 21.1 Multiple sexual partners in the past 12 months: Women

Among all women age 15-49, the percentage who had sexual intercourse with two or more sexual partners in the past 12 months; among those having two or more partners in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during their lifetime for women who ever had sexual intercourse, by background characteristics, Ethiopia 2016

Background characteristic	All women		Women who ever had sexual intercourse ¹	
	Percentage who had 2+ partners in the past 12 months	Number of women	Mean number of sexual partners in lifetime	Number of women
Age				
15-24	0.3	6,143	1.3	2,862
15-19	0.3	3,381	1.1	832
20-24	0.3	2,762	1.4	2,030
25-29	0.5	2,957	1.5	2,699
30-39	0.2	4,277	1.7	4,168
40-49	0.5	2,306	2.1	2,291
Marital status				
Never married	0.2	4,036	1.7	401
Married/living together	0.2	10,223	1.6	10,206
Divorced/separated/widowed	1.4	1,423	2.1	1,413
Residence				
Urban	0.5	3,476	1.8	2,323
Rural	0.2	12,207	1.6	9,697
Region				
Tigray	0.5	1,129	1.7	874
Afar	0.2	128	1.6	110
Amhara	0.4	3,714	1.8	2,976
Oromiya	0.3	5,701	1.7	4,517
Somali	0.1	459	1.1	358
Benishangul-Gumuz	0.2	160	1.8	128
SNNP	0.2	3,288	1.2	2,352
Gambela	0.7	44	2.3	37
Harari	0.2	38	1.4	30
Addis Ababa	0.5	930	1.9	572
Dire Dawa	0.3	90	1.7	67
Education				
No education	0.3	7,498	1.7	7,090
Primary	0.3	5,490	1.6	3,493
Secondary	0.1	1,817	1.3	866
More than secondary	0.6	877	1.3	570
Wealth quintile				
Lowest	0.1	2,694	1.5	2,287
Second	0.4	2,801	1.5	2,343
Middle	0.4	3,001	1.5	2,344
Fourth	0.1	3,031	1.8	2,252
Highest	0.5	4,156	1.8	2,795
Total	0.3	15,683	1.6	12,020

¹ Means are calculated excluding respondents who gave non-numeric responses.

Table 21.2 Multiple sexual partners in the past 12 months: Men

Among all men age 15-49, the percentage who had sexual intercourse with two or more sexual partners; among those having two or more partners in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during their lifetime for men who ever had sexual intercourse, by background characteristics, Ethiopia 2016

Background characteristic	All men		Men who had 2+ partners in the past 12 months		Men who ever had sexual intercourse ¹	
	Percentage who had 2+ partners in the past 12 months	Number of men	Percentage who reported using a condom during last sexual intercourse	Number of men	Mean number of sexual partners in lifetime	Number of men
Age						
15-24	1.8	4,455	45.5	78	2.2	1,064
15-19	0.8	2,572	(56.9)	20	2.4	204
20-24	3.1	1,883	41.5	58	2.1	860
25-29	3.1	1,977	41.4	60	2.9	1,500
30-39	4.0	3,020	8.3	120	2.8	2,787
40-49	6.2	2,154	3.9	133	3.3	2,055
Marital status						
Never married	2.2	4,882	60.6	108	3.7	1,009
Married/living together	4.3	6,441	1.6	274	2.7	6,130
Divorced/separated/widowed	3.3	282	*	9	3.9	266
Residence						
Urban	3.6	2,303	64.0	83	4.3	1,481
Rural	3.3	9,302	7.3	308	2.5	5,925
Region						
Tigray	2.6	708	(42.5)	18	3.3	440
Afar	5.9	82	(16.5)	5	3.3	67
Amhara	1.6	2,914	*	47	2.8	1,956
Oromiya	4.2	4,409	11.5	184	2.9	2,657
Somali	4.7	301	1.6	14	1.6	184
Benishangul-Gumuz	5.6	118	18.0	7	3.3	91
SNNP	3.7	2,371	8.8	87	2.4	1,514
Gambela	5.5	35	(32.4)	2	3.5	27
Harari	2.2	29	*	1	1.8	19
Addis Ababa	4.7	573	71.0	27	5.2	405
Dire Dawa	2.5	66	*	2	3.1	46
Education						
No education	3.4	3,203	1.7	108	2.6	2,632
Primary	3.3	5,608	15.6	185	2.5	3,103
Secondary	2.9	1,785	46.4	52	3.6	898
More than secondary	4.6	1,010	45.0	47	4.4	773
Wealth quintile						
Lowest	4.6	1,909	10.0	87	2.6	1,263
Second	3.0	2,088	5.4	62	2.1	1,417
Middle	3.0	2,359	(12.5)	71	2.5	1,498
Fourth	3.1	2,351	(6.9)	73	2.5	1,416
Highest	3.4	2,899	50.5	99	4.2	1,811
Total 15-49	3.4	11,606	19.4	392	2.9	7,405
Men 50-59	5.8	1,082	0.7	63	4.4	1,029
Total 15-59	3.6	12,688	16.8	454	3.1	8,435

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. Total includes 5 women/men/households for whom information on age is missing.

¹ Means are calculated excluding respondents who gave non-numeric responses.

3.14 Coverage of HIV Testing Services

Knowledge of HIV status helps HIV-negative individuals make specific decisions to reduce risk and increase safer sex practices so that they can remain disease free. Among those who are HIV infected, knowledge of their status allows them to take action to protect their sexual partners, to access treatment, and to plan for the future.

To assess awareness and coverage of HIV testing services, the 2016 EDHS respondents were asked whether they had ever been tested for HIV. If they said that they had been, they were asked whether they

had received the results of their last test and where they had been tested. If they had never been tested, they were asked whether they knew a place where they could go to be tested.

Tables 22.1 and 22.2 show that about 7 in 10 women age 15-49 (69 percent) and more than 4 in 5 men (84 percent) knew where they could get an HIV test. Younger respondents age 15-19 were less likely than older respondents to know a place where they could get tested for HIV. Never-married respondents who had never had sex were less likely than others to know a place to get an HIV test. Knowledge of a place to get an HIV test increases steadily with education and wealth.

Table 22.1 Coverage of prior HIV testing: Women

Percentage of women age 15-49 who know where to get an HIV test, percent distribution of women age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to background characteristics, Ethiopia 2016

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of women by testing status and by whether they received the results of the last test			Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of women
		Ever tested and received results	Ever tested, did not receive results	Never tested ¹				
Age								
15-24	68.3	34.1	3.6	62.3	100.0	37.7	18.0	6,143
15-19	61.7	22.4	2.9	74.8	100.0	25.2	12.4	3,381
20-24	76.5	48.4	4.5	47.1	100.0	52.9	24.9	2,762
25-29	73.2	49.1	5.0	45.9	100.0	54.1	24.4	2,957
30-39	69.3	43.3	4.6	52.1	100.0	47.9	20.3	4,277
40-49	67.2	38.5	3.5	58.0	100.0	42.0	16.7	2,306
Marital status								
Never married	68.9	27.9	2.9	69.1	100.0	30.9	14.3	4,036
Ever had sex	87.3	66.3	1.9	31.8	100.0	68.2	38.0	401
Never had sex	66.9	23.7	3.1	73.3	100.0	26.7	11.7	3,636
Married or living together	69.0	43.4	4.7	51.8	100.0	48.2	21.3	10,223
Divorced/separated/widowed	73.1	50.3	3.2	46.5	100.0	53.5	22.8	1,423
Residence								
Urban	91.6	67.8	2.6	29.6	100.0	70.4	36.1	3,476
Rural	63.0	32.2	4.6	63.3	100.0	36.7	15.0	12,207
Region								
Tigray	89.0	61.6	4.5	33.8	100.0	66.2	32.1	1,129
Afar	62.3	37.5	3.1	59.5	100.0	40.5	23.5	128
Amhara	77.2	49.1	4.0	46.8	100.0	53.2	20.8	3,714
Oromiya	55.4	28.4	4.0	67.6	100.0	32.4	15.4	5,701
Somali	43.4	12.8	1.1	86.1	100.0	13.9	8.5	459
Benishangul-Gumuz	73.5	43.6	2.9	53.4	100.0	46.6	23.5	160
SNNP	73.8	36.5	5.7	57.8	100.0	42.2	17.6	3,288
Gambela	80.2	58.2	2.6	39.3	100.0	60.7	33.5	44
Harari	81.3	53.6	4.5	41.9	100.0	58.1	29.3	38
Addis Ababa	95.1	71.6	1.5	26.8	100.0	73.2	34.8	930
Dire Dawa	80.8	60.9	2.6	36.5	100.0	63.5	39.0	90
Education								
No education	59.0	31.4	4.3	64.3	100.0	35.7	13.6	7,498
Primary	71.9	39.8	4.2	56.0	100.0	44.0	20.4	5,490
Secondary	91.1	57.6	4.0	38.4	100.0	61.6	30.3	1,817
More than secondary	96.7	79.3	2.6	18.1	100.0	81.9	44.2	877
Wealth quintile								
Lowest	53.3	23.8	3.1	73.1	100.0	26.9	10.7	2,694
Second	59.7	30.1	4.3	65.5	100.0	34.5	12.4	2,801
Middle	63.5	33.5	4.2	62.4	100.0	37.6	16.5	3,001
Fourth	71.6	37.9	5.8	56.3	100.0	43.7	17.1	3,031
Highest	88.8	63.7	3.4	33.0	100.0	67.0	34.5	4,156
Total	69.3	40.1	4.1	55.8	100.0	44.2	19.7	15,683

¹ Includes 'don't know/missing'

Tables 22.1 and 22.2 also show coverage of HIV testing services among women and men age 15-49. More than half of women and men (56 percent and 55 percent, respectively) had never been tested. Most respondents who had been tested said that they had received the results of the last test they took. Overall, 40 percent of women and 43 percent of men had ever been tested and had received the results of their last test.

Four percent of women and 3 percent of men had been tested but did not receive the test results. The likelihood of having ever had an HIV test and receiving the results is lower in the 15-19 age group (22 percent of women and 18 percent of men), in respondents who had never married and had never had sex (24 percent of women and 25 percent of men), and among respondents in rural areas (32 percent of women and 37 percent of men).

Twenty percent of women and 19 percent of men age 15-49 had been tested in the 12-month period preceding the survey and had been told the results of the last test they took.

Table 22.2 Coverage of prior HIV testing: Men

Percentage of men age 15-49 who know where to get an HIV test, percent distribution of men age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to background characteristics, Ethiopia 2016

Background characteristic	Percentage who know where to get an HIV test	Percent distribution of men by testing status and by whether they received the results of the last test			Total	Percentage ever tested	Percentage who have been tested for HIV in the past 12 months and received the results of the last test	Number of men
		Ever tested and received results	Ever tested, did not receive results	Never tested ¹				
Age								
15-24	79.2	28.9	2.0	69.1	100.0	30.9	14.7	4,455
15-19	73.7	18.2	1.6	80.2	100.0	19.8	8.9	2,572
20-24	86.6	43.7	2.5	53.8	100.0	46.2	22.8	1,883
25-29	88.4	56.1	2.9	41.0	100.0	59.0	27.6	1,977
30-39	85.9	50.8	3.1	46.1	100.0	53.9	20.4	3,020
40-49	87.9	48.4	3.2	48.4	100.0	51.6	17.7	2,154
Marital status								
Never married	80.6	32.6	1.7	65.8	100.0	34.2	16.6	4,882
Ever had sex	95.2	61.6	1.4	37.0	100.0	63.0	36.1	1,061
Never had sex	76.6	24.5	1.7	73.7	100.0	26.3	11.2	3,821
Married or living together	86.5	49.9	3.4	46.7	100.0	53.3	20.3	6,441
Divorced/separated/widowed	90.5	60.4	4.2	35.4	100.0	64.6	29.6	282
Residence								
Urban	94.6	64.8	2.2	33.0	100.0	67.0	33.2	2,303
Rural	81.5	37.4	2.8	59.8	100.0	40.2	15.4	9,302
Region								
Tigray	89.6	55.8	2.5	41.6	100.0	58.4	24.6	708
Afar	90.9	49.9	1.4	48.7	100.0	51.3	29.1	82
Amhara	91.0	52.7	1.6	45.7	100.0	54.3	23.4	2,914
Oromiya	76.9	33.0	3.0	63.9	100.0	36.1	14.8	4,409
Somali	68.8	14.7	0.3	85.0	100.0	15.0	7.6	301
Benishangul-Gumuz	70.6	47.2	2.2	50.6	100.0	49.4	23.4	118
SNNP	86.2	40.9	3.9	55.2	100.0	44.8	14.7	2,371
Gambela	86.4	61.9	2.5	35.7	100.0	64.3	36.6	35
Harari	77.8	31.3	3.4	65.3	100.0	34.7	13.7	29
Addis Ababa	98.3	71.1	1.9	27.0	100.0	73.0	40.4	573
Dire Dawa	92.2	60.3	2.5	37.2	100.0	62.8	35.8	66
Education								
No education	77.2	34.1	3.0	62.8	100.0	37.2	12.5	3,203
Primary	82.1	36.1	2.6	61.3	100.0	38.7	15.2	5,608
Secondary	95.2	60.9	2.3	36.8	100.0	63.2	30.9	1,785
More than secondary	97.6	76.3	2.6	21.1	100.0	78.9	39.4	1,010
Wealth quintile								
Lowest	76.6	26.9	2.2	70.9	100.0	29.1	9.6	1,909
Second	76.2	34.0	2.8	63.2	100.0	36.8	11.8	2,088
Middle	83.0	39.5	2.8	57.7	100.0	42.3	17.5	2,359
Fourth	86.6	44.5	3.3	52.3	100.0	47.7	19.4	2,351
Highest	93.7	61.2	2.3	36.5	100.0	63.5	31.2	2,899
Total 15-49	84.1	42.9	2.7	54.5	100.0	45.5	19.0	11,606
Men 50-59	84.9	44.9	2.5	52.7	100.0	47.3	14.5	1,082
Total 15-59	84.2	43.0	2.7	54.3	100.0	45.7	18.6	12,688

¹ Includes 'don't know/missing'

3.15 Domestic Violence

In Ethiopia, domestic violence is widely acknowledged to be of great concern, not just from a human rights perspective, but also from an economic and health perspective. The government of Ethiopia revised its family law in 2000, its criminal law and constitution in 2005, to protect and guarantee the rights of women and children, and to promote gender equality and equity. Reliable data are needed to further inform and educate the population about the problem. To collect these data, the 2016 EDHS included questions on violence against women. Information was collected on both domestic violence (also known as spousal violence or intimate partner violence) and violence by other family members of unrelated individuals. Table 23 provides data for ever-married women age 15-49 who reported their experience of spousal emotional, physical, and sexual violence. The final report will present additional data information regarding violence against women.

Table 23 Spousal violence by background characteristics

Percentage of ever-married women age 15-49 who have ever experienced emotional, physical, or sexual violence committed by their husband/partner, by background characteristics, Ethiopia 2016

Background characteristic	Emotional violence	Physical violence	Sexual violence	Physical and sexual	Physical and sexual and emotional	Physical or sexual	Physical or sexual or emotional	Number of ever married women
Age								
15-19	21.6	27.1	10.0	7.5	7.2	29.6	33.4	289
20-24	22.6	23.9	8.5	5.4	3.9	27.0	33.0	669
25-29	19.6	24.0	12.0	8.6	5.7	27.4	32.5	982
30-39	24.7	25.8	11.3	8.5	6.6	28.6	36.6	1,642
40-49	29.3	24.4	12.2	8.8	8.2	27.8	37.5	887
Religion								
Orthodox	25.6	25.4	11.7	7.8	5.8	29.3	37.0	1,900
Catholic	*	*	*	*	*	*	*	33
Protestant	24.7	23.5	10.2	7.3	6.8	26.4	34.1	1,014
Muslim	20.7	24.7	11.2	9.3	7.1	26.6	32.6	1,448
Traditional	(25.1)	(38.2)	(13.6)	(2.8)	(2.8)	(49.0)	(59.5)	38
Other	(54.9)	(40.4)	(3.6)	(0.0)	(0.0)	(44.0)	(54.9)	37
Marital status								
Married/living together	22.7	23.3	10.6	7.3	5.6	26.6	33.7	3,897
Divorced/separated/widowed	32.5	35.8	14.8	12.8	11.6	37.7	45.1	573
Residence								
Urban	21.3	19.0	7.2	4.8	3.8	21.4	29.4	809
Rural	24.6	26.2	12.0	8.8	6.9	29.4	36.4	3,660
Region								
Tigray	26.7	21.7	13.0	7.0	5.6	27.7	36.5	316
Afar	13.4	14.0	3.0	2.4	1.9	14.6	21.7	43
Amhara	25.8	24.2	11.4	7.3	5.2	28.3	37.1	1,085
Oromiya	25.4	31.2	14.4	11.9	9.7	33.7	39.2	1,746
Somali	7.1	6.8	0.4	0.4	0.2	6.8	9.4	132
Benishangul-Gumuz	25.6	20.4	7.6	4.3	3.4	23.8	32.5	44
SNRP	21.8	19.0	6.8	4.2	3.5	21.6	30.4	913
Gambela	23.6	26.4	8.6	6.1	4.2	28.9	35.7	13
Harari	31.2	28.7	5.2	5.2	4.2	28.7	37.7	10
Addis Ababa	18.9	20.7	7.0	5.0	4.2	22.7	27.9	146
Dire Dawa	19.2	21.1	8.6	2.3	2.0	27.4	32.0	23
Education								
No education	25.9	26.6	12.9	9.3	7.7	30.2	37.3	2,725
Primary	24.2	25.1	9.4	7.3	5.6	27.2	35.1	1,236
Secondary	16.7	18.4	6.0	4.3	2.1	20.1	27.7	312
More than secondary	7.8	10.3	4.5	0.6	0.0	14.2	17.5	196
Wealth quintile								
Lowest	24.3	25.4	14.1	10.3	7.0	29.2	36.5	845
Second	24.1	25.6	11.2	8.4	6.3	28.4	35.6	870
Middle	27.3	26.8	13.3	8.9	7.5	31.2	41.3	932
Fourth	23.9	25.5	10.9	8.0	7.2	28.4	33.4	829
Highest	20.6	21.6	6.6	5.0	4.1	23.2	29.3	993
Total 15-49	24.0	24.9	11.1	8.0	6.4	28.0	35.2	4,469

Note: Husband/partner refers to the current husband/partner for currently married women and the most recent husband/partner for divorced, separated, or widowed women. 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.

More than one-third of ever-married women (35 percent) report that they have experienced physical, emotional, or sexual violence from their husband or partner at some point in time. Twenty-four percent of women report that they experienced emotional violence, 25 percent experienced physical violence, and 11 percent experienced sexual violence. Experience of physical, emotional, or sexual violence from a husband or partner is higher among older women 40-49 (38 percent), formerly married women (45 percent), those living in rural areas (36 percent), and women in Oromia (39 percent), Harari (38 percent), and Amhara (37 percent). Experience of spousal violence decreases with increasing educational level and household wealth.

3.16 Female Genital Cutting

Female genital cutting (FGC), also known as female genital mutilation (FGM), is a common practice in many societies in sub-Saharan Africa. In Ethiopia, the age at which FGC is performed varies among the different ethnic groups.

In half of the selected households, the 2016 EDHS included a series of questions from all women age 15-49 to gather information on women's knowledge, prevalence, type of circumcision, and attitudes towards the practice of FGC.

Table 24 shows the prevalence of FGC by background characteristics. Sixty-five percent of women age 15-49 are circumcised: 3 percent of women had cutting with no flesh removed, 79 percent had cutting with flesh removed, and 7 percent had their genital area sewn closed after cutting. The proportion of circumcised women is lowest among Orthodox women (54 percent) and highest among Muslim women (82 percent).

Female circumcision is most prevalent among the ethnic groups of Afar and Somali (98 percent and 99 percent, respectively), followed by Welaita and Hadiya women (92 percent for both). Fifty-four percent of urban women are circumcised, as compared with 68 percent of women in rural areas. FGC is less prevalent among women with higher education and those in the highest wealth quintile. For instance, half

Table 24 Prevalence of female genital cutting (FGC)

Percentage of women 15-49 who are circumcised and, among circumcised women, percent distribution by type of circumcision, according to background characteristics, Ethiopia 2016

Background characteristic	Percentage of women circumcised	Number of women	Type of circumcision			Number of women circumcised
			Cut, not flesh removed	Cut, flesh removed	Genital sewn closed	
Age						
15-19	47.1	1,670	3.0	72.0	7.4	786
20-24	58.6	1,290	3.1	79.4	6.8	756
25-29	67.6	1,474	2.2	80.7	5.7	996
30-39	75.8	2,218	2.4	81.6	5.7	1,682
40-49	75.3	1,170	3.1	79.5	8.1	881
Religion						
Orthodox	54.2	3,424	3.6	64.8	2.3	1,856
Catholic	(58.2)	66	*	*	*	39
Protestant	65.8	1,862	2.1	92.5	2.5	1,226
Muslim	82.2	2,362	2.2	84.5	13.4	1,942
Traditional	(55.0)	62	*	*	*	34
Other	(9.9)	46	*	*	*	5
Ethnic group						
Afar	98.4	55	4.0	84.4	71.0	54
Amhara	60.5	2,328	3.2	60.8	2.7	1,409
Guragie	78.3	205	6.9	78.2	2.7	160
Hadiya	92.3	184	1.2	92.9	12.6	170
Oromo	77.1	2,693	1.8	84.7	1.9	2,076
Sidama	87.6	321	1.3	97.1	2.1	281
Somali	98.5	220	1.7	97.3	75.6	217
Tigray	23.0	565	10.4	49.0	5.3	130
Welaita	92.3	234	5.9	93.5	0.0	216
Other	38.1	1,018	1.3	90.1	4.1	388
Residence						
Urban	53.9	1,714	4.6	72.0	8.4	924
Rural	68.4	6,108	2.2	80.9	6.1	4,177
Region						
Tigray	24.2	540	13.0	46.6	7.1	131
Afar	91.2	67	8.0	84.8	63.6	61
Amhara	61.7	1,826	1.8	57.7	2.8	1,127
Oromiya	75.6	2,881	2.0	85.4	1.6	2,178
Somali	98.5	229	1.9	97.2	73.1	225
Benishangul-						
Gumuz	62.9	75	6.2	69.1	3.2	47
SNNP	62.0	1,653	2.8	93.0	4.3	1,024
Gambela	33.0	22	6.6	46.1	4.8	7
Harari	81.7	18	0.6	96.7	4.5	15
Addis Ababa	54.0	466	5.1	66.5	1.4	251
Dire Dawa	75.3	47	4.4	86.8	10.1	35
Education						
No education	72.9	3,787	2.4	80.4	8.0	2,759
Primary	62.0	2,679	2.7	79.7	4.9	1,662
Secondary	49.9	907	4.4	73.3	4.4	453
More than secondary	50.6	449	2.7	73.7	5.0	228
Wealth quintile						
Lowest	65.0	1,331	2.7	84.7	20.5	865
Second	69.3	1,405	2.3	76.9	2.9	975
Middle	69.0	1,539	2.5	81.6	3.1	1,063
Fourth	68.6	1,475	2.0	79.6	2.5	1,012
Highest	57.3	2,072	3.7	74.7	5.9	1,187
Total 15-49	65.2	7,822	2.7	79.2	6.5	5,101

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. Total includes 5 women/men/households for whom information on age is missing.

(50 percent) of women with secondary education are circumcised, as compared with about three-fourths (73 percent) of women with no education.

3.17 Maternal Mortality

Maternal deaths are a subset of all female deaths and are associated with pregnancy and childbearing. Two survey methods are generally used to estimate maternal mortality in developing countries: the indirect sisterhood method (Graham et al. 1989) and a direct variant of the sisterhood method (Rutenberg and Sullivan 1991). In this report, the direct estimation procedure is applied.

Age-specific estimates of maternal mortality from the reported survivorship of sisters are shown in Table 25 for the 2-year period preceding the survey. These rates were calculated by dividing the number of maternal deaths by woman-years of exposure. To remove the effect of truncation bias (the upper boundary for eligibility among women interviewed in the survey is 49 years), the overall rate for women age 15-49 was standardised by the age distribution of survey respondents. A maternal death was defined as any death reported as occurring during pregnancy or childbirth, or within two months after the birth or termination of a pregnancy. Estimates of maternal mortality are therefore based solely on the timing of the death in relationship to pregnancy.

The results in Table 25 indicate that the rate of mortality associated with pregnancy and childbearing is 0.66 maternal deaths per 1,000 woman-years of exposure, down from 1.1 in the 2011 EDHS. The estimated age-specific mortality rates display a plausible pattern, being generally higher during the peak childbearing ages than in the younger and older age groups. However, the age-specific pattern should be interpreted with caution because of the small number of events: only 118 maternal deaths among women of all ages. Maternal deaths represent 25 percent of all deaths among women age 15-49 during the 7-year period preceding the survey (118 maternal deaths divided by 473 female deaths).

Table 25 Maternal mortality

Direct estimates of maternal mortality rates for the seven years preceding the survey, by 5-year age groups, Ethiopia 2016

Age	Percentage of female deaths that are maternal	Maternal deaths	Exposure years	Maternal mortality rate ¹
15-19	17.4	13	34,543	0.39
20-24	28.7	25	38,862	0.64
25-29	29.3	24	35,159	0.68
30-34	30.0	32	28,985	1.10
35-39	24.4	11	20,199	0.54
40-44	20.3	9	12,023	0.78
45-49	13.7	4	6,714	0.62
Total 15-49	25.1	118	176,485	0.66 ²
General fertility rate (GFR) ²	160 ³			
Maternal mortality ratio (MMR) ³	412	CI: (273, 551)		
Lifetime risk of maternal death ⁴	0.021			

CI: Confidence interval

¹ Expressed per 1,000 woman-years of exposure

² Expressed per 1,000 women age 15-49

³ Expressed per 100,000 live births; calculated as the age-adjusted maternal mortality rate times 100 divided by the age-adjusted general fertility rate

⁴ Calculated as $1 - (1 - \text{MMR})^{\text{TFR}}$ where TFR represents the total fertility rate for the 7 years preceding the survey

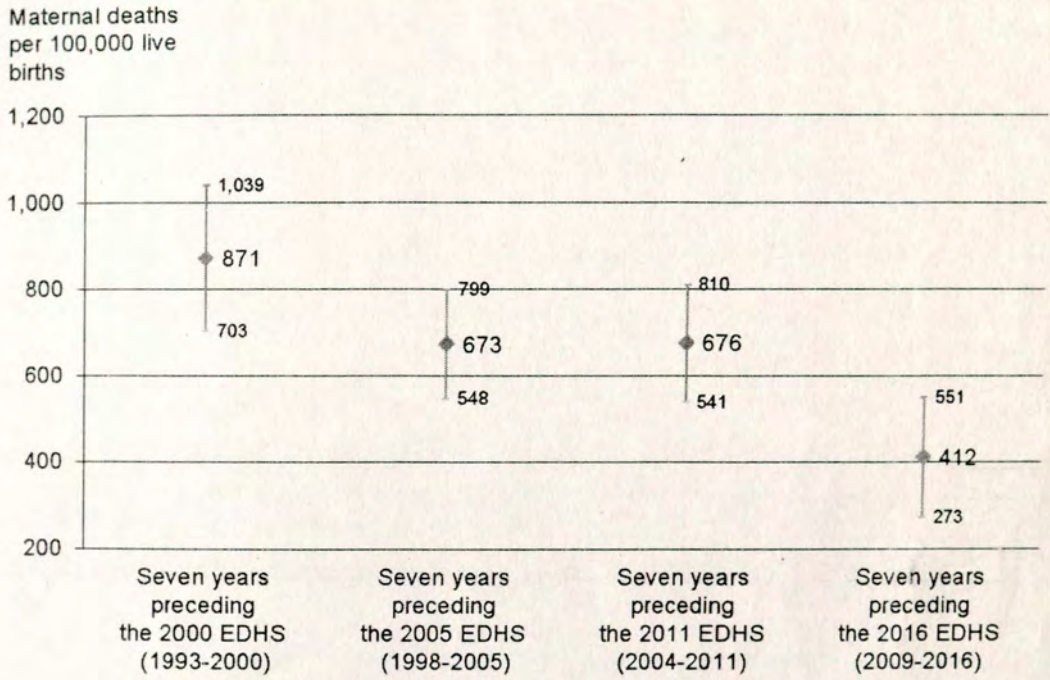
⁵ Age-adjusted rate

The maternal mortality rate can be converted to a maternal mortality ratio by dividing the rate by the general fertility rate during the 7-year period preceding the 2016 EDHS. The maternal mortality ratio is expressed per 100,000 live births in order to emphasise the obstetrical risk of pregnancy and childbearing. The estimate of the maternal mortality ratio for the 7-year period preceding the 2016 EDHS is 412 deaths per 100,000 live births, that is, for every 1,000 births in Ethiopia, there are about 4 maternal deaths. The 95

percent confidence interval surrounding the maternal mortality estimate is 273 to 551 deaths per 100,000 live births.

Figure 8 presents trends in the maternal mortality ratio (MMR) for the 7-year period preceding the 2000, 2005, 2011, and 2016 EDHS surveys. The data presented in Figure 8 show a steady decline in the MMR for the 7-year period preceding the surveys: from 871 deaths per 100,000 live births in the 2000 EDHS, to 673 deaths per 100,000 live births in the 2005 EDHS, and to 676 deaths in the 2011 EDHS, to reach 412 deaths per 100,000 live births in the 2016 EDHS.

Figure 8 Maternal mortality ratio (MMR) with confidence intervals for the 7 years preceding the 2000, 2005, 2011, and 2016 EDHS



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