

## **ETHIOPIA**

# **Demographic and Health Survey** 2016

## **HIV Report**

**Central Statistical Agency** Addis Ababa, Ethiopia

The DHS Program **ICF** Rockville, Maryland, USA

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### **ACRONYMS AND ABBREVIATIONS**

AIDS acquired immunodeficiency syndrome

ANC antenatal care

CAPI computer-assisted personal interview
CHTTS CSPro HIV test tracking system
CSA Central Statistical Agency
CSPro Census Survey Program

DBS dried blood spots

EA enumeration area

EDHS Ethiopia Demographic and Health Survey EPHC Ethiopian Population and Housing Census

EPHI Ethiopian Public Health Institute

HEW health extension worker

HF health facility

HIV human immunodeficiency virus

IFSS internet file-streaming system

MOFED Ministry of Finance and Economic Development

MoH Ministry of Health

PBS Promoting Basic Services (PROJECT)
PMTCT prevention of mother-to-child transmission

SNNPR Southern Nations, Nationalities, and People's Region

STDs sexually transmitted diseases STIs sexually transmitted Infections

UNDP United Nations Development Programme

UNFPA United Nations Population Fund UNICEF United Nations Children's Fund

USAID United States Agency for International Development

VCT voluntary counselling and testing

WHO World Health Organization

his report presents findings on HIV prevalence from the 2016 Ethiopia Demographic and Health Survey (EDHS). The full EDHS report, disseminated in August 2017, is at: http://www.dhsprogram.com/pubs/pdf/FR328/FR328.pdf, or http://www.csa.gov.et/surveyreport/category/355-dhs-2016.html.

#### 1.1 **BACKGROUND**

The 2016 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 Federal Ministry of Health (FMoH). Data collection took place from 18 January to 27 June 2016.

The primary objective of the 2016 EDHS was to provide up-to-date estimates of key demographic and health indicators. The EDHS provides a comprehensive overview of population, maternal, and child health issues in Ethiopia. A detailed description of the objectives and methodology of the survey is presented in the 2016 EDHS final report.

The 2016 EDHS is the third EDHS survey to include HIV testing. This report presents information on the participation rates for HIV testing among eligible respondents, the prevalence of HIV infection among those tested, and the factors associated with HIV infection.

#### 1.2 **HIV TESTING**

Interviewers collected capillary blood from a finger prick in 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. Under this protocol, the HIV testing is anonymous, and the results are not returned to the respondents; however, the HIV testing data can be merged with the anonymized survey data file via a unique identifier to allow analyses of HIV status by sociodemographic characteristics.

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. A unique barcode label was affixed to the filter paper card, a duplicate label was attached to the Biomarker Questionnaire, and 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 the laboratory store their blood sample for future testing to detect hepatitis B and C, rubella, and measles. If respondents did not consent to additional future testing of their blood sample, their refusal was recorded on the Biomarker Questionnaire and the words 'no additional testing' were written on the filter paper card. All respondents, whether or not they provided consent, were given an informational brochure about HIV and a list of nearby sites that provided 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.

### 1.3 ALGORITHM FOR CENTRALIZED TESTING OF HIV

The HIV testing protocol (**Figure 1.1**) stipulated that blood could be tested only after questionnaire data collection had been completed, the data had been verified and cleaned, and all unique identifiers other than the anonymous barcode number had been removed from the data file.

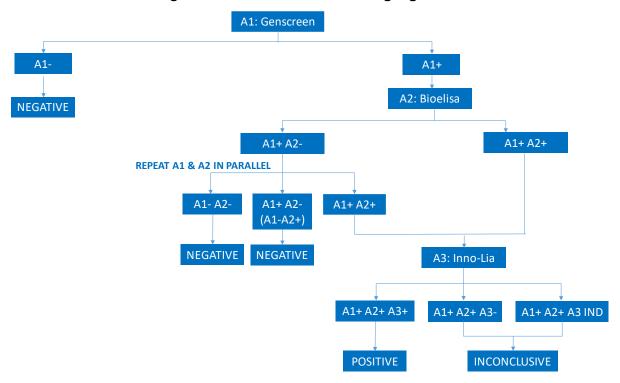


Figure 1.1 2016 EDHS HIV testing algorithm

The HIV testing algorithm used in the 2016 EDHS is based on the low prevalence HIV diagnostic algorithm recommended in the 2015 WHO guidelines (WHO 2015). All samples are first tested with Genscreen ULTRA Ag/Ab (Bio-Rad, Marnes La Coquette, France), a fourth generation, enzyme-linked immunoassay (ELISA I). If this assay is negative, the sample is classified as HIV negative. All samples testing positive on the ELISA I are subjected to a second fourth generation ELISA (ELISA II), Bioelisa HIV 1+2 Ag/Ab combination (Biokit, Barcelona, Spain). For internal quality control (IQC) purposes, 5% of the samples that test negative on ELISA I are also subjected to the ELISA II; however, the results of the IQC testing are not taken into account in the final classification of the samples.

If the first and second assays are both positive, the sample is tested on a line immunoassay, INNO-Lia HIV I/II Score (Fujirebio Europe, Ghent, Belgium). If INNO-Lia is positive, the sample is classified as HIV positive. If INNO-Lia is negative or indeterminate, the sample is classified as "Inconclusive," and is considered to be HIV negative in the calculation of HIV prevalence. If the results of the ELISA I and ELISA II are discordant, the two tests are repeated in parallel. If the two assays resolve to negative/negative or if the two test results remain discordant, the sample is classified as negative. Concordant positive results on ELISA I and ELISA II are tested on INNO-Lia, and the final classification assigned as described above.

### 1.4 DATA PROCESSING AND QUALITY CONTROL

Several quality control procedures are employed throughout the testing process. Before testing of the 2016 EDHS survey samples began, EPHI and The DHS Program optimized the HIV testing procedures. First, to ensure that the testing procedures, especially those used to adapt the three assays for use on DBS samples would correctly identify the HIV status of respondents' DBS samples, a challenge panel of well-classified

samples was obtained from the Centers for Disease Control and Prevention in Atlanta, Georgia, USA. Laboratory technologists tested the challenge panel samples using each of the three HIV assays without knowing the true status of the samples, and the test results were then compared with the known results for the challenge panel. Second, as mentioned previously, a portion of ELISA I negative samples were retested on ELISA II to assess assay agreement. Third, to monitor the performance of the HIV assays to correctly classify the HIV status of respondents' samples, HIV negative, HIV low positive, and HIV high positive dried blood spot control materials provided by the CDC were included on each test plate, and their serological classification was compared with the expected value.

Test results are exported electronically from the ELISA plate reader into a lab data management program developed by The DHS Program, the CSPro HIV Test Tracking System (CHTTS). CHTTS tracks the results of each sample on each assay, and laboratory technologists, through the program's user interface, ensure that each sample receives exactly the tests needed to render a final HIV status according to the logic of the testing algorithm. As the results of each ELISA plate are produced by the microplate reader and imported into CHTTS, the technologist must review the results and decide whether to save or cancel the plate. If the technologist cancels the results for a plate of specimens, the specimens must be retested on that assay. The saved results of each plate must also be reviewed and validated by the laboratory supervisor. CHTTS is also programmed to produce error messages if the optical density values of the negative controls do not fall within the range specified by the manufacturer or if the percentage of samples on the plate that are positive exceed a limit set by The DHS Program for that survey.

After the HIV testing was completed, the laboratory results were linked to the survey data file via the anonymous unique bar code. Following the linking of laboratory results to the survey data file, sample weights were calculated and applied. For a complete description of the procedure used to calculate sample weights, see Appendix A in the 2016 Ethiopia DHS final report (CSA and ICF 2016).

### **Key Findings**

- Knowledge about HIV transmission and prevention:
   Twenty percent of women age 15-49 and 38% of men age 15-49 have comprehensive knowledge about the modes of HIV transmission and prevention.
- Knowledge of mother-to-child transmission of HIV:
   Fifty-seven percent of women and 55% of men know that HIV can be transmitted during pregnancy, labour/delivery, or breastfeeding.
- Discriminatory attitudes: Forty-eight percent of women and 35% of men thought that children living with HIV should not be able to attend school with children who are HIV negative; 55% of women and 47% of men would not buy fresh vegetables from a shopkeeper with HIV.
- Sexual partners: Less than 1% of women and 3% of men reported having two or more sexual partners in the past 12 months.
- Condom use: Only 20% of women and 51% of men who had a non-cohabiting partner in the past 12 months reported using a condom during last sexual intercourse with such a partner.
- Coverage of HIV testing: Sixty-nine percent of women and 84% of men know where to obtain an HIV test, and 40% of women and 43% of men have ever been tested for HIV and received the test results. In the 12 months before the survey, 20% of women and 19% of men had been tested for HIV and received the most recent test results.
- Male circumcision: Overall, 91% of men age 15-49 are circumcised.

### 2.1 BACKGROUND INFORMATION ON HIV AND AIDS IN ETHIOPIA

n response to the HIV epidemic, the Ethiopian government, in collaboration with its key development partners, has been at the forefront of developing and implementing national strategies that adhere to global directions and combine innovations with best practices within the country. Ethiopia developed a five-year national HIV and AIDS strategic plan (2015-2020) based on the investment framework strategy of UNAIDS in 2014 (FHAPCO 2014).

This chapter provides key HIV and AIDS-related findings from the 2016 EDHS survey. The chapter is organized in two main sections; the first focuses on the adult population age 15-59. The data in this section are national and include background characteristics of the respondents such as HIV/AIDS knowledge, attitude and behaviour, which includes knowledge of HIV prevention methods, stigma and discrimination,

number of sexual partners, condom use, self-reported HIV testing, prevention of mother-to-child transmission (PMTCT), and voluntary medical male circumcision in Ethiopia. The second section presents selected indicators for individuals age 15-24.

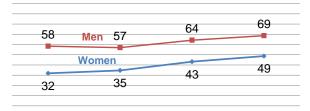
### 2.2 HIV/AIDS Knowledge, Transmission, and Prevention Methods

Forty-nine percent of women and 69% of men know that consistent condom use and having sex with only one uninfected partner can reduce the risk of HIV infection; 58% of women and 77% of men know that using condom during sexual intercourse can reduce the risk of HIV. In addition, 69% of women and 81% of men identified limiting sexual intercourse to one uninfected partner with no other partners can reduce the risk of HIV (**Table 2.1**).

**Trends:** The percentage of respondents who know that using condoms consistently and limiting sexual intercourse to one uninfected partner with no other partners can reduce the risk of HIV has increased from 32% in 2000 to 49% in 2016 among women and from 58% to 69% among men (**Figure 2.1**).

## Figure 2.1 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who have knowledge of HIV prevention methods\*



### 2000 EDHS 2005 EDHS 2011 EDHS 2016 EDHS

\* Percentage who, in response to prompted question, 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.

### Patterns by background characteristics

- Among women, knowledge of HIV/AIDS prevention decreases with age; 52% of women age 15-24 know that using condoms and limiting sexual intercourse to one uninfected partner can reduce the risk of HIV, compared with 43% of women age 40-49.
- Knowledge of the two methods of HIV prevention is higher among urban women and men than rural women and men.
- There are notable differences in knowledge of HIV/AIDS prevention methods by region, ranging from 66% among women and 84% of men in Tigray compared with 10% of women and 38% of men in Somali.
- For women and men, knowledge of prevention methods increases with education and wealth quintile.

### Comprehensive knowledge of HIV

Knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chances 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.

Sample: Women and men age 15-24 and 15-49

**Table 2.2** shows that 20% of women age 15-49 and 38% of men age 15-49 have comprehensive knowledge of HIV. Thirty percent of women and 49% of men know that a healthy looking person can have HIV and reject that HIV can be transmitted by mosquito bites and that a person can become infected by sharing food with a person who has HIV.

**Trends:** The percentage of women and men with comprehensive knowledge about HIV/AIDS has only increased a few percentage points between 2011 and 2016, moving from 19% to 20% among women and 32% to 38% among men.

### 2.3 KNOWLEDGE ABOUT MOTHER-TO-CHILD TRANSMISSION

Increasing the level of general knowledge about transmission of HIV from mother to child and reducing the risk of transmission by using antiretroviral drugs are critical in reducing mother-to-child transmission (MTCT) 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.

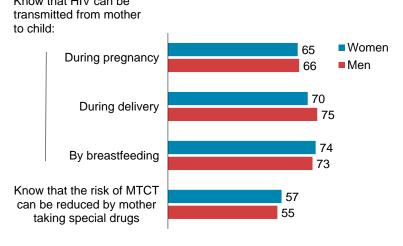
More than half (57%) of women age 15-49 know that HIV can be transmitted by all the three modes of transmission; during pregnancy (65%), labour and delivery (70%), and breastfeeding (74%). Similarly, 55% of men age 15-49 identified all three modes of HIV mother-to-child transmissions; 66% know that HIV can be transmitted during pregnancy, 75% during delivery, and 73% during breastfeeding (**Table 2.3** and **Figure 2.2**).

mother-to-child transmission (MTCT)

Percentage of women and men age 15-49

Know that HIV can be

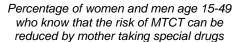
Figure 2.2 Knowledge of

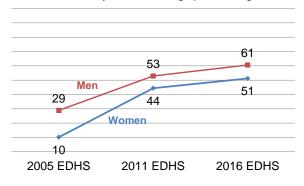


More men (61%) know that the risk of MTCT can be reduced by mother taking special medications compared with women (51%). Knowledge of medications that can be taken to reduce the risk of MTCT is highest among women age 20-24 (56%) and among men age 25-29 (66%), and lowest among women and men age 40-49 (45% and 58%, respectively).

**Trends:** The percentage of women who know that MTCT of HIV can be reduced by taking special medications has increased in both women and men age 15-49 since 2005. The proportion of women who reported that MTCT of HIV can be reduced by mother taking special drugs has increased five times, from 10% in 2005 to 51% in 2016. A similar trend is

Figure 2.3 Trends in knowledge of mother-to-child transmission (MTCT)





observed for men, from 29% in 2005 to 61% in 2016 (**Figure 2.3**).

### 2.4 DISCRIMINATORY ATTITUDES TOWARDS PEOPLE LIVING WITH HIV

Widespread stigma and discrimination in a population can adversely affect people's willingness to be tested as well as their initiation of and adherence to antiretroviral therapy (ART). Thus, reduction of stigma and discrimination in a population are important indicators of the success of programs that target HIV/AIDS prevention and control.

### Discriminatory attitudes towards people living with HIV

Women and men are asked two questions to assess discriminatory attitudes towards people living with HIV. Respondents with discriminatory attitudes towards people living with HIV are those who say that they would not buy fresh vegetables from a shopkeeper or vendor if they knew that person had HIV, or who say that children living with HIV should not be allowed to attend school with children who do not have HIV.

Sample: Women and men age 15-49

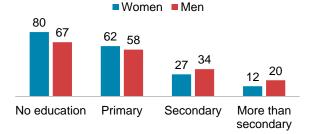
The 2016 EDHS found that discriminatory attitudes are higher in women than in men. For instance, 48% of women and 35% of men thought that children living with HIV should not be able to attend school with children who are HIV negative, while 55% of women and 47% of men would not buy fresh vegetables from a shopkeeper who has HIV (**Table 2.4**).

### Patterns by background characteristics

- Considerable differences in discriminatory attitudes are observed between urban and rural areas; 28% of women and 27% of men in urban areas have discriminatory attitudes, compared with 73% for women and 60% for men in rural areas.
- Discriminatory attitudes are higher in the Somali Region (78% for women and 73% for men), and lower in Addis Ababa (18% for women and 17% for men).
- Discriminatory attitudes decrease with education level; 80% of women and 67% of men with no education have discriminatory attitudes, compared with 12% of women and 20% of men with more than secondary education (Figure 2.4).

Figure 2.4 Discriminatory attitudes\* towards people living with HIV by education

Percentage with discriminatory attitudes\* towards people living with HIV by education



\* Percentage who do not think that children living with HIV should be able to attend school with children who are HIV negative or would not buy fresh vegetables from a shopkeeper who has HIV

Discriminatory attitudes decrease with wealth quintile. Among women, the percentage with discriminatory attitudes toward people living with HIV decreases from 81% among those in the lowest wealth quintile to 33% in the highest wealth quintile. Among men, the percentage decreases from 67% among those in the lowest wealth quintile to 33% in the highest wealth quintile.

### 2.5 MULTIPLE SEXUAL PARTNERS

Given that most HIV infections in Ethiopia are acquired through heterosexual intercourse, information on the number of sexual partners and use of safe sex practices is important in designing and monitoring programmes that control the spread of HIV.

**Table 2.5.1** shows that less than 1% of women age 15-49 reported having two or more sexual partners in the 12 months before the survey, and 2% had sexual intercourse in the past 12 months with a person who was neither their husband nor lived with them. Among women with a non-marital, non-cohabiting partner, 20% reported using a condom during last sexual intercourse with such a partner

Among men age 15-49, 3% reported having two or more sexual partners in the 12 months before the survey, and 7% of men had sexual intercourse in the past 12 months with a person who was neither their wife nor lived with them (Table 2.5.2). Fifty-one percent of men who had intercourse in the past 12 months with a non-marital, non-cohabiting partner reported using a condom during the last sexual intercourse with such a partner (Figure 2.5).

The mean number of lifetime sexual partners is 1.6 among women and 2.9 among men.

### Patterns by background characteristics

- Men who are married are more likely to have more than one partner in the past 12 months than those who were never married (4% compared to 2%).
- Men in urban areas are more likely to have had intercourse in the past 12 months with a person who was neither their wife nor lived with them than men in rural areas (16% compared to 5%).
- The percentage of men who had sex with non-marital, non-cohabiting partners is highest in Addis Ababa (26%) and lowest in Somali (1%).
- Using a condom during last sexual intercourse with a non-marital, non-cohabiting partner was higher among men with higher education levels, 58% among men with more than secondary education compared to 26% among men with no education.
- The highest mean number of lifetime sexual partners is reported by men in Addis Ababa (5.2).

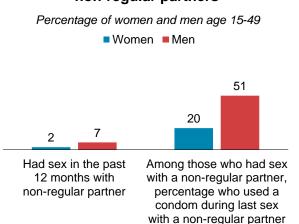
#### 2.6 PAID SEX

The act of paying for sex introduces an uneven negotiating ground for safer sexual intercourse. Transactional sex is the exchange of money, favours, or gifts for sexual intercourse. This type of sexual intercourse is associated with a greater risk of contracting HIV and other STIs because of compromised power relations and the likelihood of having multiple partners.

Three percent of men have ever paid for sex. The percentage of men who have ever paid for sex increases with increasing age. The highest (5%) is found among men age 50-59 compared with the lowest (less than 1%) among men age 15-19. Payment for sex in the past 12 months is less than 1% among men 15-49. Eight in ten men (81%) who paid for sex in the past 12 months reported using condoms during the last paid sexual intercourse (Table 2.6).

**Trends:** The percentage of men who reported paying for sex in the 12 months before the survey remained the same in 2011 and 2016 (1% for each). However, condom use during the last paid sex increased from 30% in 2011 to 81% in 2016.

### Figure 2.5 Sex and condom use with non-regular partners



#### 2.7 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 living with HIV, knowledge of their status allows them to take action to protect their sexual partners, access care, and receive treatment. Figure 2.6 HIV testing

#### 2.7.1 **Awareness of HIV Testing Services** and Experience with HIV Testing

The majority of respondents (69% of women and 84% of men) know where to obtain an HIV test. while 40% of women and 43% of men have ever been tested and received the test results. Overall, 20% of women and 19% men had been tested for HIV in the 12 months before the survey and received the last test results (Tables 2.7.1 and 2.7.2, and **Figure 2.6**).

**Trends:** The proportion of women and men who were tested for HIV in the 12 months before the survey and received the test results increased from 2% for women and men in 2005 to 20% for women and 21% for men in 2011. However, the HIV testing coverage

### Ever tested for HIV and Tested in 12 months received the result before the survey and received the result remains unchanged between 2011 and 2016.

### Patterns by background characteristics

- The proportion of respondents who have never been tested for HIV is highest among women and men age 15-19 (75% and 80%, respectively) compared with 46% of women and 41% of men age 25-59.
- Among women, knowledge of where to obtain HIV test services is much higher among urban residents (92%) than among rural residents (63%).
- The proportion of women and men who have been tested for HIV in the past 12 months is twice as high in urban areas (36% for women and 33% for men) as in rural areas (15% each for women and men).
- HIV testing coverage in the 12 months before the survey is highest in Dire Dawa (39% for women and 36% for men) and lowest in Somali (9% for women and 8% for men) (Figure 2.7).

Figure 2.7 Recent HIV testing by region

Percentage of women and men age 15-49

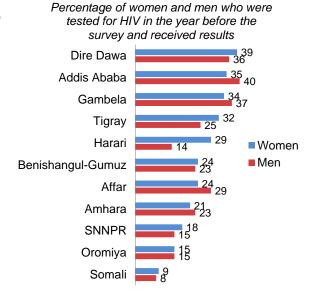
■ Women ■ Men

20

19

43

40



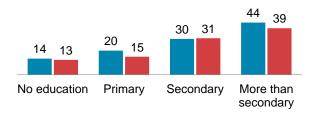
HIV testing coverage in the last 12 months tends to increase with rising level of education, from 14% of women with no education to 44% among women with more than secondary education. Among men, the HIV testing varies from 13% among those with no education to 39% among those with more than secondary education level (**Figure 2.8**).

**Table 2.8** presents information on self-reported HIV testing among currently married women age 15-49, before getting married or living with a partner. Women living in urban areas, highly educated women, and women from the highest wealth quintile are more likely to report being tested for HIV prior to getting married or living with a partner than most

# Figure 2.8 Recent HIV testing by education

Percentage of women and men who were tested for HIV in the year before the survey and received results

■ Women ■ Men



other women. For detailed information on self-reported HIV testing among currently married women before getting married or living with a partner, see **Table 2.8**.

### 2.7.2 HIV Testing of Pregnant Women

**Table 2.9** presents information on self-reported HIV testing during pregnancy and delivery among all women age 15-49 who gave birth in the 2 years before the survey. One in five women (23%) received counselling on HIV during an ANC visit. One in three women (34%) had an HIV test during an ANC visit or labour and received the test results. Twenty-two percent of women were tested for HIV during an ANC visit and received the test results and post-test counselling, 11% were tested and received the results but no post-test counselling, and 3% were tested but did not receive the test results. Overall, 19% of women received counselling on HIV, an HIV test during an antenatal care (ANC) visit, and the test results.

### **Patterns by background characteristics**

- Women in urban areas are more likely to receive HIV counselling than rural women, 59% and 18%, respectively.
- More than half (56%) of women in urban areas received counselling on HIV, an HIV test during an ANC visit, and the test results compared to 14% women in rural areas.
- The proportion of women who had HIV testing during an ANC visit or during labour and who received the result increases with education level, from 24% for women with no education to 88% for women with more than secondary education.

### 2.8 MALE CIRCUMCISION

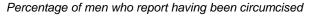
**Table 2.10** shows that 91% of men age 15-49 have been circumcised; 17% by a health professional, and 71% by traditional practitioners or family friends.

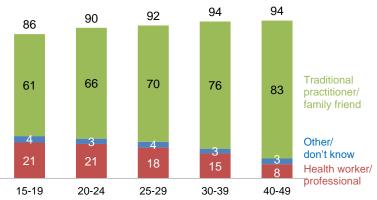
**Trends:** The percentage of men who are circumcised remained essentially the same in 2005 (93%), 2011 (92%), and 2016 (91%).

### Patterns by background characteristics

- The proportion of men who are circumcised increases by age, ranging from 86% among men age 15-19 to 94% among men age 40-49 (**Figure 2.9**).
- Younger men are more likely to have been circumcised by a health professional than their older counterparts, with 21% among men age 15-24, compared to 8% among those age 40-49. In contrast, older men are more likely than

Figure 2.9 Male circumcision by age





younger men to have been circumcised by traditional practitioners, family, or friends, with 83% among men age 45-49, compared to 61% among those age 15-19.

- The proportion of men who have been circumcised by a health care professional is higher in urban areas than in rural areas (20% versus 16%).
- Male circumcision is almost universal or above 90% in all regions except in SNNPR (85%) and Gambela (72%).

### 2.9 Self-reporting of Sexually Transmitted Infections

### Sexually transmitted infections (STIs) and symptoms

Respondents who have ever had sex are asked whether they had an STI or symptoms of an STI (a bad-smelling, abnormal discharge from the vagina/penis or a genital sore or ulcer) in the 12 months before the survey.

Sample: Women and men age 15-49

Overall, 4% of women and men age 15-49 reported having an STI and/or symptoms of an STI in the past 12 months (**Table 2.11**). Among men, the percentage was 6% in Oromiya, and 5% in Harari compared to less than 1% in the Tigray and Benishangul-Gumuz.

Fewer than one in three women and men (32% for each) who had an STI or STI symptoms sought advice or treatment from a clinic, hospital, private doctor, or other health professional. One percent of women and 3% of men sought advice or treatment from a shop or pharmacy. However, 67% of women and 66% men did not seek any advice or treatment (KTable2 12).

### 2.10 HIV/AIDS-RELATED KNOWLEDGE AND BEHAVIOUR AMONG YOUNG PEOPLE

This section addresses HIV/AIDS-related knowledge among young people age 15-24 and also assesses the extent to which young people are engaged in behaviours that may place them at risk of contracting HIV.

### 2.10.1 Knowledge

Knowledge of HIV transmission is crucial to enabling people to avoid HIV infection. 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.

In Ethiopia, 24% of women age 15-24 and 39% of men age 15-24 have comprehensive knowledge of HIV, which includes 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 (**Table 2.13**).

**Trends:** The percentage of young women with comprehensive knowledge about HIV has increased slightly from 2005 to 2016, 21% to 24% among young women, and from 33% to 39% among young men (**Figure 2.10**).

# Figure 2.10 Trends in comprehensive HIV knowledge among youth

Percentage of young women and men age 15-24 who know how to prevent HIV transmission and reject local myths

39

Women 15-24 24

### Patterns by background characteristics

- Comprehensive knowledge about HIV is lowest among women and men age 15-17; 23% of women and 34% of men age 15-17 have comprehensive knowledge compared with 26% of women and 43% of men age 18-19.
- Urban youth (42% of women and 48% of men) 2005 EDHS 2011 EDHS 2016 EDHS are more likely than rural youth (19% of women and 37% of men) to have comprehensive knowledge on HIV and AIDS.

33

21

• Comprehensive HIV knowledge increases with increasing education among women and men age 15-24. Eight percent of women and 27% of men with no education have comprehensive knowledge about HIV compared with 51% of women and 58% of men with more than secondary school.

### 2.10.2 First Sex

Young people who initiate sex at an early age are typically at higher risk of becoming pregnant or contracting an STI than young people who initiate sex at a later age. Consistent condom use can reduce such risks.

**Table 2.14** provides information on the percentage of young women and men who have had sexual intercourse before age 15 and before age 18. Overall, a higher percentage of young women reported having sex before the age of 15 (9%) compared with young men (1%). An even higher percentage of women reported having sex before age18 (40%) compared with men (12%).

### Patterns by background characteristics

- Young women in rural areas are more likely to have had sex before age 15 than their urban counterparts, with 3% in urban compared with 11% in rural areas.
- Among women age 15-24, the percentage who had sexual intercourse before age 15 declines with increasing level of education, from 22% among women with no education to 1% among those with more than secondary education.
- Among women and men age 18-24, the percentage who had sexual intercourse before age 18 decreases with increasing level of education. Sixty-six percent of women age 18-24 with no education had sexual intercourse before age 18 compared with 8% of women with more than secondary education. Similar trends can be noted with the percentage of men who have had their first sexual intercourse before age 18.

**Trends:** Overall, the percentage of young people age 15-24 who have had sex before age 15 has decreased from 16% in 2005, 11% in 2011, and 9% in 2016 for women. The corresponding proportions for men are 2%, 1%, and 1%, respectively. The percentage of young people age 18-24 who have had sex before age 18 has increased from 35% in 2005 to 40% in 2016 among women and from 9% to 12% among men.

### 2.10.3 Premarital Sex

**Table 2.15** shows that 93% of never-married women and 86% of never-married men age 15-24 have never had sexual intercourse. The percentage of never-married women and men who have never had sexual intercourse decreases sharply with age; from 97% of never-married women and men age 15-17 to 85% among never-married women and 61% among never-married men age 23-24.

Among never-married women age 15-24, the percentage of those who have never had sexual intercourse is higher in rural areas than in urban areas (95% versus 89%). The same trend is observed among nevermarried men; the percentage of those who have never had sexual intercourse is higher in rural areas than in rural areas (88% versus 77%).

### 2.10.4 Multiple Sexual Partners

Young men age 15-24 are more likely than their female counterparts to have had more than one partner in the previous 12 months; 2% of men have had more than one partner in the last 12 months, compared with less than 1% of women (**Tables 2.16.1** and **2.16.2**). Young men are also more likely than young women to have had intercourse with a non-marital, non-cohabiting partner in the last 12 months (9% of men versus 3% of women). Condom use at last sex with a non-marital, non-cohabiting partner is 24% among young women and 55% among young men. Condom use at last sex with a non-marital, non-cohabiting partner is higher in urban areas than in rural areas; 31% of women and 64% of men in urban areas have had sex with a non-marital partner, non-cohabiting partner in the last 12 months and used a condom during last sexual intercourse with such a partner, compared with 12% of women and 50% of men in rural areas.

### 2.10.5 Coverage of HIV Testing Services

Seeking an HIV test may be more difficult for young people than adults because many young people lack experience in accessing health services and because there are often barriers to young people obtaining services. **Table 2.17** provides information on sexually active youth age 15-24 who have been tested for HIV and received the results of the last test.

Overall, among young people age 15-24 who have had sexual intercourse in the previous 12 months, 27% of young women and 29% of young men were tested for HIV and had received the results of their last test.

### Patterns by background characteristics

- The proportion of young people tested for HIV in the previous 12 months increases with age, 22% among women 15-17 compared to 30% among women age 23-24, and 21% among men age 15-17 compared to 31% among men age 23-24.
- Those who have never-married are more likely to have been tested for HIV in the past 12 months and to have received the results of the last test; 43% among never-married women compared with 26% among ever-married women, and 37% among never-married men compared with 22% among ever-married men.

### 2.10.6 Coverage of HIV Testing Services among Children

One additional question to assess HIV coverage among children was included in the 2016 EDHS. Women who had children less than 15 years old were asked if any of their children were tested for HIV. According to the mothers, only 6% of children below age 15 have been tested for HIV (**Table 2.18**).

- Twenty-two percent of children living in urban areas had been tested for HIV, compared with 5% of children living in rural areas.
- Children in the Somali Region (2%) are least likely to be tested for HIV compared with 23% of children living in Addis Ababa.
- Children whose mothers have more education and those from the higher wealth quintile are more likely to have been tested for HIV than those whose mothers have less education and those from the lower wealth quintiles.

### **LIST OF TABLES**

For more information on HIV/AIDS-related knowledge, attitudes, and behaviour, see the following tables:

- Table 2.1 **Knowledge of HIV prevention methods** Table 2.2 Comprehensive knowledge about HIV **Table 2.3** Knowledge of prevention of mother-to-child transmission of HIV Table 2.4 Discriminatory attitudes towards people living with HIV **Table 2.5.1** Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Women **Table 2.5.2** Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Men **Table 2.6** Payment for sexual intercourse and condom use at last paid sexual intercourse **Table 2.7.1** Coverage of prior HIV testing: Women **Table 2.7.2 Coverage of prior HIV testing: Men Table 2.8** Coverage of prior HIV testing among married women Table 2.9 Pregnant women counselled and tested for HIV **Table 2.10** Male circumcision **Table 2.11** Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms **Table 2.12** Women and men seeking treatment for STIs **Table 2.13** Comprehensive knowledge about HIV among young people **Table 2.14** Age at first sexual intercourse among young people
- **Table 2.15** Premarital sexual intercourse among young people
- Table 2.16.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months among young people: Women
- Table 2.16.2 Multiple sexual partners and higher-risk sexual behaviour in the past 12 months among young people: Men
- **Table 2.17 Recent HIV tests among young people**
- **Table 2.18** HIV tests among children

Table 2.1 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 using condoms every time they have sexual intercourse, and by having one sex partner who is not infected and has no other partners, according to background characteristics, Ethiopia DHS 2016

	Women				Men			
Background characteristic	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>1,2</sup>	Number of women	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>1,2</sup>	Number of men
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
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
Affar	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
SNNPR	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 More than secondary	81.0 89.4	83.2 88.4	71.7 81.1	1,817 877	84.4 87.7	87.4 87.4	75.9 79.3	1,785 1,010
-	00.1	00.1	01.1	0.7	07.1	07.1	70.0	1,010
Wealth quintile Lowest	40.6	57.4	33.8	2,633	71.1	74.9	62.8	1,839
Second	40.6 49.7	57.4 65.9	33.6 42.5	2,809	71.1	80.0	62.8 66.7	2,118
Middle	52.8	66.5	43.2	2,809	74.3 75.7	79.8	67.0	2,116
Fourth	52.6 57.7	69.2	46.9	3,100	73.7 78.0	79.6 81.1	69.0	2,246
Highest	77.5	80.0	67.6	4,163	83.2	85.2	74.3	2,935
Total 15-49	57.7	69.0	48.7	15,683	77.1	80.7	68.6	11,606
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

### Table 2.2 Comprehensive knowledge about HIV

Percentage of women and men age 15-49 who say that a healthy-looking person can have HIV and who, in response to prompted questions, correctly reject local misconceptions about transmission or prevention of HIV, and percentage with a comprehensive knowledge about HIV, according to background characteristics, Ethiopia DHS 2016

					Percentage who say that a healthy looking		
	Pe	rcentage of respo	ndents who say t	hat:	person can		
Background characteristic	A healthy- looking person can have HIV	HIV cannot be transmitted by mosquito bites	HIV cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has HIV	have HIV and who reject the two most common local miscon- ceptions <sup>1</sup>	Percentage with a compre- hensive knowledge about HIV <sup>2</sup>	Number of respondents
			WOME	N			
Age							
15-24	60.7	56.2	77.7	77.0	35.6	24.3	6,143
15-19	61.0	57.1	76.4	75.5	35.5	24.0	3,381
20-24	60.3	55.0	79.3	78.7	35.6	24.6	2,762
25-29	61.5	47.7	72.4	74.6	29.8	19.4	2,957
30-39	60.3	43.1	72.5	70.4	27.4	18.0	4,277
40-49	57.2	39.0	69.3	67.5	22.2	14.1	2,306
40-49	37.2	39.0	09.3	07.3	22.2	14.1	2,300
Residence							
Urban	75.8	67.4	91.4	92.7	51.8	39.4	3,476
Rural	55.8	43.1	69.1	67.8	24.2	14.7	12,207
Region							
Tigray	77.5	43.7	85.0	79.3	31.8	24.9	1,129
Affar	57.9	36.1	64.8	58.4	22.8	12.2	1,129
Amhara	65.0	47.7 43.6	80.1	82.1 63.3	32.3 24.3	22.0	3,714
Oromiya	55.0		59.8			17.3	5,701
Somali	26.6	22.4	38.3	31.9	8.4	3.5	459
Benishangul-Gumuz	55.0	59.7	81.2	80.3	35.5	14.0	160
SNNPR	56.9	57.0	86.9	78.2	33.4	17.5	3,288
Gambela	62.0	61.0	82.2	78.8	40.3	22.8	44
Harari	45.5	58.7	84.7	82.2	28.3	20.1	38
Addis Ababa	82.4	67.6	95.7	96.0	55.9	44.1	930
Dire Dawa	54.7	61.6	68.8	78.2	32.5	22.0	90
Total 15-49	60.2	48.5	74.0	73.4	30.3	20.2	15,683
			MEN				
Age							
15-24	75.1	65.4	84.4	86.1	50.0	39.1	4,455
15-19	72.1	63.8	82.4	84.5	47.9	37.6	2,572
20-24	79.3	67.7	87.2	88.2	52.9	41.1	1,883
25-29	78.1	68.2	86.8	87.6	52.3	41.5	1,977
30-39	76.6	63.3	87.0	86.4	47.4	37.9	3,020
40-49	76.8	58.3	86.5	86.6	44.8	34.3	2,154
Residence							
Urban	83.3	74.8	91.9	94.0	61.8	48.6	2,303
Rural	74.6	61.3	84.4	84.7	45.5	35.7	9,302
Danian							
Region	00.0	E7.0	04.7	04.5	EO 4	40.5	700
Tigray	89.6	57.2	91.7	91.5	50.4	43.5	708
Affar	78.6	54.6	78.7	82.8	39.7	32.3	82
Amhara	81.5	64.3	91.6	88.9	51.8	44.0	2,914
Oromiya	74.2	63.2	77.8	83.6	46.3	35.3	4,409
Somali	53.2	33.1	52.7	55.4	19.9	12.1	301
Benishangul-Gumuz	64.8	52.6	82.5	86.6	37.8	30.9	118
SNNPR	69.9	69.1	94.2	88.9	49.2	35.8	2,371
Gambela	69.4	75.1	91.4	87.1	52.4	41.8	35
Harari	65.8	73.6	75.3	85.1	46.6	34.8	29
Addis Ababa	91.0	73.8	97.2	97.2	65.9	51.5	573
Dire Dawa	81.3	74.2	82.1	90.9	60.9	44.0	66
Total 15-49	76.3	64.0	85.9	86.5	48.7	38.3	11,606
50-59	77.0	57.3	83.7	81.9	40.9	32.1	1,082
Total 15-59	76.4	63.4	85.7	86.1	48.1	37.8	12,688

<sup>&</sup>lt;sup>1</sup> Two most common local misconceptions: HIV can be transmitted by mosquito bites and a person can become infected by sharing food with a

person who has HIV.

<sup>2</sup> Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about transmission or prevention of HIV.

Table 2.3 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, according to background characteristics, Ethiopia DHS 2016

	D		4 L IIV / h - 4		Percentage who know that the risk of	
	Percer	ntage who know tha from mothe		nsmittea	MTCT can be reduced by	
Background characteristic	During pregnancy	During delivery	By breast- feeding	By all three means	mother taking special drugs	Number of respondents
		V	VOMEN			
Age						
15-24	66.0	71.2	75.2	56.6	54.0	6,143
15-19	64.7	70.3	73.9	55.6	52.7	3,381
20-24	67.6	72.4	76.9	57.8	55.7	2,762
25-29 30-39	65.5	69.5 70.3	75.2 73.5	57.3 57.3	52.4 49.9	2,957
40-49	64.0 64.2	67.7	73.5 70.5	57.3 57.2	49.9 44.6	4,277 2,306
Residence						
Urban	76.6	83.5	84.2	67.5	78.0	3,476
Rural	61.8	66.4	71.2	54.0	43.6	12,207
Region						
Tigray	72.8	79.5	81.6	63.4	69.5	1,129
Affar	69.2	74.3	74.5	65.4	42.4	128
Amhara	72.8	77.6	83.0	65.0	55.5	3,714
Oromiya	60.4	64.1	68.0	51.7	46.3	5,701
Somali Ponishangul Cumuz	31.7 53.4	35.9 60.9	36.7 67.4	29.5 47.1	14.4 46.8	459 160
Benishangul-Gumuz SNNPR	53.4 62.4	69.0	73.8	47.1 54.6	46.8	3,288
Gambela	59.9	69.5	75.6 76.0	53.6	63.6	3,200 44
Harari	68.1	73.9	78.8	65.2	56.4	38
Addis Ababa	81.4	88.6	87.2	72.6	84.6	930
Dire Dawa	58.9	62.2	72.0	51.2	65.3	90
Total 15-49	65.1	70.1	74.1	57.0	51.2	15,683
			MEN			
Age						
15-24	64.0	74.0	72.6	53.3	59.3	4,455
15-19	63.3	70.9	71.1	53.1	56.5	2,572
20-24	64.9	78.3	74.6	53.7	63.2	1,883
25-29	67.0	76.9	73.0	54.6	65.7	1,977
30-39	67.5	76.5	73.6	56.5	61.4	3,020
40-49	66.0	72.8	70.5	56.1	57.7	2,154
Residence	70.0	00.7	70.4	50.0	70.5	0.000
Urban Rural	73.0 64.0	83.7 72.8	76.1 71.6	59.3 53.8	79.5 56.0	2,303 9,302
Region						-,
Tigray	64.7	80.0	82.5	51.7	77.9	708
Affar	69.7	76.7	70.7	59.3	50.9	82
Amhara	66.2	79.6	76.2	55.0	62.2	2,914
Oromia	66.4	70.9	71.0	55.7	61.9	4,409
Somali	53.1	57.9	57.6	48.2	16.7	301
Benishangul-Gumuz	52.5	67.9	70.2	41.7	59.4	118
SNNPR	63.2	75.1	69.1	54.1	51.0	2,371
Gambela	63.8	74.5	75.8	52.8	69.8	35
Harari	60.5	62.8	62.9	44.7	63.8	29 573
Addis Ababa Dire Dawa	80.0 66.0	86.4 74.3	76.5 72.4	62.2 50.6	84.5 74.1	573 66
Total 15-49	65.8	74.9	72.5	54.9	60.6	11,606
50-59	67.8	74.9 75.8	72.5 74.5	57.3	57.4	1,082
Total 15-59	66.0	75.0	72.7	55.1	60.4	12,688

### Table 2.4 Discriminatory attitudes towards people living with HIV

Among women and men age 15-49 who have heard of HIV or AIDS, percentage who do not think that children living with HIV should be able to attend school with children who are HIV negative, percentage who would not buy fresh vegetables from a shopkeeper who has HIV, and percentage with discriminatory attitudes towards people living with HIV, according to background characteristics, Ethiopia DHS 2016

		Wo	men		Men			
Background characteristic	Percentage who do not think that children living with HIV should be able to attend school with children who are HIV negative	Percentage who would not buy fresh vegetables from a shopkeeper who has HIV	Percentage with discriminatory attitudes towards people living with HIV <sup>1</sup>	Number of women who have heard of HIV or AIDS	Percentage who do not think that children living with HIV should be able to attend school with children who are HIV negative	Percentage who would not buy fresh vegetables from a shopkeeper who has HIV	Percentage with discriminatory attitudes towards people living with HIV <sup>1</sup>	Number of men who have heard of HIV or AIDS
Age								
15-24 15-19 20-24 25-29 30-39 40-49	40.4 39.6 41.4 48.8 54.4 54.9	48.6 47.0 50.6 53.7 59.8 62.7	56.3 55.1 57.7 61.4 68.3 71.2	5,750 3,123 2,628 2,763 3,962 2,124	30.5 31.2 29.6 32.1 39.4 39.3	43.3 44.3 42.0 44.2 49.7 52.3	49.8 51.1 48.1 50.1 56.0 58.8	4,294 2,441 1,853 1,937 2,978 2,119
Marital status								
Never married Ever had sex Never had sex Married/Living together Divorced/separated/widowed	33.0 23.8 34.1 54.8 41.7	39.6 23.5 41.4 61.3 50.5	46.6 30.4 48.4 70.0 57.0	3,820 388 3,431 9,465 1,314	28.1 21.1 30.1 39.9 29.0	39.8 30.8 42.5 52.2 40.7	46.1 37.4 48.7 58.6 47.2	4,691 1,053 3,638 6,362 275
Residence								
Urban Rural	19.5 56.6	21.1 65.0	28.2 73.3	3,437 11,162	18.3 38.9	20.0 53.5	27.4 59.6	2,271 9,057
Region Tigray Affar Amhara Oromiya Somali Benishangul-Gumuz SNNPR Gambela Harari Addis Ababa Dire Dawa	42.1 46.4 37.5 58.6 67.6 35.2 54.7 26.2 33.4 12.0 25.8	50.5 46.8 51.2 59.2 71.6 47.0 65.4 32.9 33.9 12.2 30.1	57.9 59.5 57.2 69.9 77.5 54.0 72.3 39.6 40.2 18.2 36.9	1,113 118 3,584 5,087 313 145 3,153 40 37 925 83	29.0 32.5 24.5 43.9 59.5 27.7 35.9 27.2 31.3 13.0 18.4	40.1 30.5 41.0 51.5 67.7 51.7 56.1 33.3 33.9 7.1 23.5	48.4 46.3 46.3 57.3 73.4 55.3 63.3 44.9 39.5 16.7 29.1	703 79 2,880 4,279 262 111 2,316 33 28 572 65
Education No education Primary Secondary More than secondary	63.7 45.3 16.7 8.6	70.8 53.8 20.6 7.4	79.5 62.1 27.1 12.4	6,633 5,285 1,805 876	46.1 37.2 20.6 12.2	61.2 51.2 27.1 14.1	67.0 57.8 33.6 19.8	3,071 5,475 1,779 1,003
Wealth quintile Lowest Second Middle Fourth Highest	67.5 62.0 57.8 46.9 22.6	71.9 70.7 65.6 57.2 26.3	81.2 78.6 74.2 65.2 33.3	2,236 2,519 2,761 2,968 4,114	46.5 42.7 38.3 32.9 20.8	61.8 59.6 51.1 46.8 25.4	67.2 65.1 57.6 53.4 32.6	1,756 2,061 2,186 2,425 2,901
Total 15-49	47.9	54.7	62.7	14,599	34.7	46.8	53.1	11,328
50-59	na	na	na	0	40.3	54.4	60.1	1,068
Total 15-59	na	na	na	0	35.2	47.5	53.7	12,396

na = Not applicable

1 Percentage who do not think that children living with HIV should be able to attend school with children who are HIV negative or would not buy fresh vegetables from a shopkeeper who has HIV.

### Table 2.5.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Women

Among all women age 15-49, percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and percentage who had intercourse in the past 12 months with a person who was neither their husband nor lived with them; among women age 15-49 who had sexual intercourse in the past 12 months with a person who was neither their husband nor lived with them, percentage who used a condom during last sexual intercourse with such a partner; and among women who ever had sexual intercourse, mean number of sexual partners during their lifetime, according to background characteristics, Ethiopia DHS 2016

	All women			Women intercourse ir months with a was neither the nor lived to	the past 12 a person who neir husband	Women who ever had sexual intercourse¹	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who was neither their husband nor lived with them	Number of women	Percentage who reported using a condom during last sexual intercourse with such a partner	Number of women	Mean number of sexual partners in lifetime	Number of women
Age							
15-24	0.3	2.8	6,143	21.8	175	1.3	2,862
15-19	0.3	2.1	3,381	26.0	71	1.1	832
20-24	0.3	3.7	2,762	19.0	103	1.4	2,030
25-29	0.5	3.2	2,957	18.4	95	1.5	2,699
30-39	0.2	1.8	4,277	21.3	78	1.7	4,168
40-49	0.5	1.2	2,306	(15.4)	29	2.1	2,291
Marital status							
Never married	0.2	4.8	4,036	20.9	194	1.7	401
Married or living together	0.2	0.7	10,223	5.6	72	1.6	10,206
Divorced/separated/widowed	1.4	7.8	1,423	29.0	111	2.1	1,413
Residence							
Urban	0.5	6.3	3,476	30.5	217	1.8	2,323
Rural	0.2	1.3	12,207	6.6	160	1.6	9,697
Region							
Tigray	0.5	4.4	1,129	23.9	50	1.7	874
Affar	0.2	1.5	128	*	2	1.6	110
Amhara	0.4	2.6	3,714	(12.0)	95	1.8	2,976
Oromiya	0.3	1.9	5,701	(7.0)	106	1.7	4,517
Somali	0.1	0.1	459	*	0	1.1	358
Benishangul-Gumuz	0.2	1.1	160	*	2	1.8	128
SNNPR	0.2	1.0	3,288	*	32	1.2	2,352
Gambela	0.7	7.0	44	30.8	3	2.3	37
Harari	0.2	1.6	38		1	1.4	30
Addis Ababa	0.5	8.8	930 90	41.8	82 4	1.9	572
Dire Dawa	0.3	4.4	90	27.2	4	1.7	67
Education							
No education	0.3	1.2	7,498	8.2	88	1.7	7,090
Primary	0.3	2.3	5,490	18.5	124	1.6	3,493
Secondary	0.1 0.6	4.7 9.2	1,817 877	32.5 23.5	85 81	1.3 1.3	866 570
More than secondary	0.6	9.2	0//	23.5	01	1.3	570
Wealth quintile				<i>(</i> = .)			
Lowest	0.1	1.3	2,633	(2.4)	34	1.5	2,254
Second	0.2	0.9	2,809	* (C C)	26	1.4	2,311
Middle	0.3	1.3	2,978	(0.3)	37	1.8	2,354
Fourth	0.5 0.4	1.9 5.3	3,100	(11.0) 30.4	60 219	1.8 1.7	2,295
Highest			4,163				2,807
Total 15-49	0.3	2.4	15,683	20.4	377	1.6	12,020

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

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

Table 2.5.2 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: Men

Among all men age 15-49, percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and percentage who had intercourse in the past 12 months with a person who was neither their wife nor lived with them; among those having more than one partner in the past 12 months, percentage reporting that a condom was used during last intercourse; among men age 15-49 who had sexual intercourse in the past 12 months with a person who was neither their wife nor lived with them, percentage who used a condom during last sexual intercourse with such a partner; and among men who ever had sexual intercourse, mean number of sexual partners during their lifetime, according to background characteristics, Ethiopia DHS 2016

	All men			Men who partners ii 12 me	n the past	Men w intercourse 12 months w who was n wife nor live	in the past vith a person either their	Men who ever had sexual intercourse <sup>1</sup>	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who was neither their wife nor lived with them	Number of men	Percentage who reported using a condom during last sexual inter- course	Number of men	Percentage who reported using a condom during last sexual intercourse with such a partner	Number of men	Mean number of sexual partners in lifetime	Number of men
Age									
15-24	1.8	9.0	4,455	45.5	78	50.5	402	2.2	1,064
15-19	8.0	4.5	2,572	(56.9)	20	51.7	115	2.4	204
20-24	3.1	15.2	1,883	41.5	58	50.0	287	2.1	860
25-29	3.1	11.2	1,977	41.4	60	54.5	221	2.9	1,500
30-39	4.0	4.5	3,020	8.3	120	52.9	136	2.8	2,787
40-49	6.2	1.8	2,154	3.9	133	29.3	38	3.3	2,055
Marital status									
Never married	2.2	13.8	4,882	60.6	108	53.9	672	3.7	1,009
Married or living together	4.3	1.0	6,441	1.6	274	37.8	63	2.7	6,130
Divorced/separated/				*					
widowed	3.3	22.5	282	*	9	33.2	63	3.9	266
Type of union									
In polygynous union	65.4	0.2	309	0.0	202	*	1	3.4	286
In non-polygynous union	1.2	1.0	6,132	6.1	72	38.0	62	2.7	5,844
Not currently in union	2.3	14.2	5,164	60.7	118	52.1	735	3.7	1,276
Residence									
Urban	3.6	15.6	2,303	64.0	83	61.5	359	4.3	1,481
Rural	3.3	4.7	9,302	7.3	308	42.4	439	2.5	5,925
Domina									
<b>Region</b> Tigray	2.6	8.5	708	(42.5)	18	59.4	60	3.3	440
Affar	5.9	17.3	82	(16.5)	5	42.2	14	3.3	67
Amhara	1.6	5.2	2,914	(10.5)	47	48.3	152	2.8	1,956
Oromiya	4.2	7.0	4,409	11.5	184	39.3	310	2.9	2,657
Somali	4.7	0.8	301	1.6	14	*	2	1.6	184
Benishangul-Gumuz	5.6	11.4	118	18.0	7	58.3	13	3.3	91
SNNPR	3.7	3.4	2,371	8.8	87	52.6	80	2.4	1,514
Gambela	5.5	20.4	35	(32.4)	2	58.5	7	3.5	27
Harari	2.2	6.7	29	*	1	(72.8)	2	1.8	19
Addis Ababa	4.7	26.1	573	71.0	27	72.4	150	5.2	405
Dire Dawa	2.5	11.0	66	*	2	74.3	7	3.1	46
Education									
No education	3.4	1.9	3,203	1.7	108	26.1	59	2.6	2,632
Primary	3.3	5.4	5,608	15.6	185	46.8	304	2.5	3,103
Secondary	2.9	12.2	1,785	46.4	52	56.2	218	3.6	898
More than secondary	4.6	21.4	1,010	45.0	47	58.4	217	4.4	773
Wealth quintile									
Lowest	4.5	2.8	1,839	8.7	83	30.7	52	2.6	1,232
Second	2.3	3.3	2,118	(9.9)	48	48.4	69	2.1	1,446
Middle	3.0	4.1	2,246	2.2	67	44.5	91	2.5	1,420
Fourth	3.5	6.9	2,466	9.8	85	43.0	171	2.6	1,457
Highest	3.7	14.1	2,935	50.2	108	58.6	415	4.2	1,850
Total 15-49	3.4	6.9	11,606	19.4	392	51.0	798	2.9	7,405
50-59	5.8	1.0	1,082	0.7	63	*	11	4.4	1,029
Total 15-59	3.6	6.4	12,688	16.8	454	50.5	809	3.1	8,435
10(d) 10-03	J.U	0.4	12,000	10.0	404	50.5	009	J. I	0,430

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.

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

### Table 2.6 Payment for sexual intercourse and condom use at last paid sexual intercourse

Percentage of men age 15-49 who ever paid for sexual intercourse and percentage reporting payment for sexual intercourse in the past 12 months, and among them, percentage reporting that a condom was used the last time they paid for sexual intercourse, according to age, Ethiopia DHS 2016

		Among all men:	Among men who paid for sex in the past 12 months:			
Age	Percentage who ever paid for sexual intercourse	Percentage who paid for sexual intercourse in the past 12 months	Number of men	Percentage reporting condom use at last paid sexual intercourse	Number of men	
15-24	1.0	0.7	4,455	(94.4)	30	
15-19	0.5	0.5	2,572	*	13	
20-24	1.7	0.9	1,883	(90.3)	17	
25-29	2.9	1.0	1,977	(73.5)	20	
30-39	3.2	1.0	3,020	(72.9)	29	
40-49	4.3	0.5	2,154	*	11	
Total 15-49	2.5	0.8	11,606	81.0	90	
50-59	4.8	0.3	1,082	*	3	
Total 15-59	2.7	0.7	12,688	79.0	93	

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

### Table 2.7.1 Coverage of prior HIV testing: Women

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

		Percent distribution of women by testing status and by whether they received the			Percentage who have been tested for HIV in the				
	Percentage		ults of the last				for HIV in the past 12		
	who know where to	Ever tested	Ever tested, did not				months and received the		
Background	obtain an HIV		receive			Percentage	results of the	Number of	
characteristic	test	results	results	Never tested <sup>1</sup>	Total	ever tested	last test	women	
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/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	
Affar	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	
Oromiva	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	
SNNPR	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	50.7	21.2	3.2	75.6	100.0	24.4	8.5	2,633	
Second	59.6	28.4	4.9	66.7	100.0	33.3	12.0	2,809	
Middle	63.8	33.2	3.8	63.0	100.0	37.0	14.6	2,978	
Fourth	72.8	41.0	5.9	53.1	100.0	46.9	21.0	3,100	
Highest	89.1	64.1	3.1	32.8	100.0	67.2	34.4	4,163	
Total 15-49	69.3	40.1	4.1	55.8	100.0	44.2	19.7	15,683	

<sup>&</sup>lt;sup>1</sup> Includes 'don't know/missing'.

### Table 2.7.2 Coverage of prior HIV testing: Men

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

		Percent distribution of men by testing status and by whether they received the results of the last test					Percentage who have been tested for HIV in the past 12	
Background characteristic	Percentage who know where to get an HIV test	Ever tested and received results	Ever tested did not receive results	Never tested <sup>1</sup>	Total	Percentage ever tested	months and received the results of the last test	Number of men
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/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
Affar	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
SNNPR	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	74.2	24.8	2.8	72.4	100.0	27.6	7.7	1,839
Second	78.6	33.4	3.0	63.6	100.0	36.4	11.1	2,118
Middle	80.9	37.7	2.0	60.3	100.0	39.7	15.5	2,246
Fourth	87.3	45.3	3.3	51.4	100.0	48.6	21.1	2,466
Highest	94.1	62.9	2.3	34.8	100.0	65.2	32.5	2,935
Total 15-49	84.1	42.9	2.7	54.5	100.0	45.5	19.0	11,606
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

<sup>&</sup>lt;sup>1</sup> Includes 'don't know/missing'.

Table 2.8 Coverage of prior HIV testing among married women

Percentage of currently married women age 15-49 ever tested before getting married or living with a partner, according to background characteristics, Ethiopia DHS 2016

Background characteristic	Percentage ever tested	Number of currently married women
<b>Residence</b> Urban Rural	56.9 18.2	1,658 8,565
Region Tigray Affar Amhara Oromiya Somali Benishangul-Gumuz SNNPR Gambela Harari Addis Ababa Dire Dawa	37.4 24.9 33.7 16.9 2.9 19.6 20.1 35.2 31.4 67.9 32.6	658 96 2,414 3,987 324 114 2,173 29 25 355 50
Education No education Primary Secondary More than secondary	13.6 32.7 61.5 71.5	6,253 2,895 654 421
Wealth quintile Lowest Second Middle Fourth Highest	12.0 15.1 18.6 24.4 50.6	1,953 2,074 2,057 1,999 2,140
Total	24.5	10,223

### Table 2.9 Pregnant women counselled and tested for HIV

Among all women age 15-49 who gave birth in the 2 years before the survey, percentage who received HIV pretest counselling, percentage who received an HIV test during antenatal care for their most recent birth by whether they received their results and post-test counselling, and percentage who received an HIV test during an ANC visit or labour for their most recent birth by whether they received their test results, according to background characteristics, Ethiopia DHS 2016

	Percentage		ho were tested fenatal care and w		Percentage who received	Percentage whatest during Al and v	NC or labour	
Background characteristic	who received counselling on HIV during antenatal care <sup>1</sup>	Received results and received post-test counselling	Received results and did not receive post- test counselling	Did not receive results	counselling on HIV and an HIV test during ANC, and the results	Received results	Did not receive results	Number of women who gave birth in the past two years <sup>3</sup>
A 00			-					
<b>Age</b> 15-24	22.5	22.9	10.8	3.2	17.5	36.0	3.5	1,260
15-24	21.0	20.0	10.8	3.2 1.0	16.7	32.5	3.5 1.7	281
20-24	23.0	23.8	10.3	3.8	17.7	36.9	4.0	979
25-29	25.5	23.1	10.9	3.6	21.4	36.1	3.9	1,264
30-39	23.1	21.5	9.6	3.0	19.5	32.5	3.2	1,512
40-49	17.9	12.8	12.3	2.8	14.0	28.9	1.7	271
	17.3	12.0	12.0	2.0	14.0	20.3	1.7	211
Marital status			>				,	
Never married	(15.9)	(19.2)	(27.9)	(0.0)	(15.9)	(57.1)	(8.2)	31
Married or living together Divorced/separated/	23.5	21.9	10.6	3.3	19.2	34.3	3.4	4,102
widowed	19.9	22.5	5.0	3.3	18.7	31.2	3.3	175
Residence								
Urban	58.8	56.6	19.7	3.6	55.5	78.9	3.1	520
Rural	18.4	17.1	9.2	3.2	14.1	28.2	3.4	3,788
Region								
Tigray	46.6	49.6	20.1	3.4	44.0	71.1	3.6	314
Affar	14.0	16.9	9.9	3.2	11.4	28.2	3.2	43
Amhara	32.5	31.5	17.8	6.3	28.9	51.3	5.4	789
Oromiya	13.7	11.6	6.5	1.4	9.9	20.1	2.0	1,915
Somali	5.7	5.8	7.4	1.1	4.7	14.2	0.9	178
Benishangul-Gumuz	23.7	21.2	8.3	2.0	18.5	31.1	2.3	45
SNNPR	24.4	21.6	8.7	5.1	17.2	32.9	5.3	876
Gambela	22.4	31.9	22.0	1.2	21.5	55.3	1.2	10
Harari	27.5	41.3	4.6	2.0	25.9	47.6	2.9	10
Addis Ababa	78.3	76.9	18.1	1.9	76.4	95.8	1.9	110
Dire Dawa	40.5	41.5	17.1	2.8	36.4	60.2	2.6	18
Education								
No education	15.1	13.4	8.4	2.6	11.7	23.5	2.5	2,606
Primary	30.0	29.4	11.6	3.2	24.8	43.3	4.3	1,319
Secondary	51.5	49.5	19.7	8.8	45.0	72.0	7.2	262
More than secondary	65.7	62.1	24.5	5.4	60.3	88.4	3.9	121
Wealth quintile								
Lowest	9.4	8.3	6.0	2.2	7.2	15.2	2.2	1,011
Second	15.1	13.7	9.5	2.5	11.2	24.8	2.9	943
Middle	19.1	17.5	9.9	3.3	14.1	31.0	3.9	890
Fourth	27.9	28.1	11.8	4.6	21.6	42.1	4.5	796
Highest	56.2	52.2	17.8	4.1	52.2	71.8	4.0	667
Total 15-49	23.3	21.9	10.5	3.2	19.1	34.3	3.4	4,308

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

1 In this context, "pretest counselling" means that someone talked with the respondent about all three of the following topics: 1) babies getting HIV from their mother, 2) preventing the virus, and 3) getting tested for HIV.

2 Women are asked whether they received an HIV test during labour only if they gave birth in a health facility.

<sup>&</sup>lt;sup>3</sup> Denominator for percentages includes women who did not receive antenatal care for their last birth in the past 2 years.

Table 2.10 Male circumcision

Percent distribution of men age 15-49 by circumcision status and provider of circumcision, and percentage of men circumcised, according to background characteristics, Ethiopia DHS 2016

		Circumcised by	:		Don't know/			
Background characteristic	Health worker/ professional	Traditional practitioner/ family friend	Other/don't know	Not circumcised	missing circumcision status	Total	Percentage of men circumcised <sup>1</sup>	Number of men
Age								
15-24	21.0	63.3	3.5	11.7	0.4	100.0	87.9	4,455
15-19	21.4	61.1	3.8	13.2	0.5	100.0	86.3	2,572
20-24	20.5	66.4	3.2	9.6	0.2	100.0	90.1	1,883
25-29	18.3	69.7	3.5	8.2	0.3	100.0	91.5	1,977
30-39	14.8	76.2	2.9	6.0	0.3	100.0	93.9	3,020
40-49	8.4	82.6	3.4	5.4	0.1	100.0	93.9	2,154
	0.4	02.0	5.4	5.4	0.2	100.0	34.4	2,104
Residence								
Urban	20.0	69.5	6.7	3.5	0.2	100.0	96.3	2,303
Rural	15.7	71.8	2.5	9.7	0.3	100.0	90.0	9,302
Region								
Tigray	2.9	83.4	11.0	2.6	0.1	100.0	97.3	708
Affar	12.7	84.9	1.3	0.9	0.2	100.0	98.9	82
Amhara	5.3	84.3	3.6	6.2	0.6	100.0	93.2	2,914
Oromiya	14.3	74.7	1.9	8.9	0.1	100.0	90.9	4,409
Somali	7.1	91.5	0.8	0.6	0.0	100.0	99.4	301
Benishangul-Gumuz	2.8	75.5	17.3	4.1	0.2	100.0	95.6	118
SNNPR	37.6	46.3	0.7	15.3	0.1	100.0	84.6	2,371
Gambela	14.9	54.2	2.8	27.9	0.1	100.0	72.0	35
Harari	13.3	68.9	16.6	0.7	0.4	100.0	98.9	29
Addis Ababa	30.4	55.5	12.0	1.3	0.8	100.0	97.9	573
Dire Dawa	14.9	78.3	6.3	0.5	0.1	100.0	99.4	66
Religion								
Orthodox	10.5	78.8	5.7	4.7	0.4	100.0	94.9	5,160
Catholic	16.5	63.4	0.1	20.0	0.0	100.0	80.0	78
Protestant	32.2	47.8	0.7	19.0	0.2	100.0	80.7	2,561
Muslim	14.3	78.9	2.0	4.8	0.1	100.0	95.2	3,649
Traditional	(4.4)	(16.7)	(0.2)	(78.6)	(0.0)	100.0	21.4	31
Other	21.5	46.3	0.0	32.2	0.0	100.0	67.8	128
Ethnic group								
Affar	10.0	87.6	1.4	0.7	0.2	100.0	99.1	63
Amhara	7.2	82.1	4.5	5.7	0.5	100.0	93.8	3,497
Guragie	16.6	72.9	9.2	1.3	0.0	100.0	98.6	311
Hadiya	23.4	72.1	1.2	2.5	0.8	100.0	96.7	217
Oromo	15.1	75.2	2.2	7.3	0.2	100.0	92.5	4,175
Sidama	54.1	24.5	0.4	21.1	0.0	100.0	78.9	490
Somali	6.5	92.1	0.7	0.7	0.0	100.0	99.3	299
Tigray	4.9	81.6	10.8	2.3	0.3	100.0	99.3 97.4	778
Welaita	75.5	21.7	0.0	2.9	0.3	100.0	97.4 97.1	321
Others	75.5 25.4	50.2	1.4	23.0	0.0	100.0	97.1 77.0	321 1,455
Total 15-49	16.6	71.4	3.3	8.5	0.3	100.0	91.3	11,606
50-59	7.3	85.4	2.4	4.7	0.2	100.0	95.1	1,082
Total 15-59	15.8	72.6	3.3	8.1	0.3	100.0	91.6	12,688

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

1 Includes all men who report they are circumcised, regardless of provider.

Table 2.11 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

Among women and men age 15-49 who ever had sexual intercourse, percentage reporting having an STI and/or symptoms of an STI in the past 12 months, according to background characteristics, Ethiopia DHS 2016

	Percent	age of womer	who repo		in the past	Percentage of men who reported having in the past 12 months:				
Background characteristic	STI	Bad smelling/ abnormal genital discharge	Genital sore or ulcer	STI/ genital discharge/ sore or ulcer	Number of women who ever had sexual inter- course	STI	Bad smelling/ abnormal discharge from penis	Genital sore or ulcer	STI/ abnormal discharge from penis/ sore or ulcer	Number of men who ever had sexual inter- course
<b>Age</b> 15-24	0.3	2.2	1.8	3.4	2,865	1.0	2.2	1.8	3.1	1.117
15-19	0.3	1.9	1.3	2.5	832	0.1	2.2	1.4	3.6	209
20-24	0.3	2.3	1.9	3.7	2,033	1.3	2.2	1.9	3.0	907
25-29	0.3	2.3	2.0	3.7	2,033	2.2	1.4		3.2	1,602
		2.4				2.4	2.4	0.8		
30-39 40-49	0.2 0.4	2.4 3.5	2.1 2.4	3.8 4.9	4,175	2.4	2.4	1.9 1.6	3.9 3.7	2,916 2,134
40-49	0.4	3.5	2.4	4.9	2,291	2.1	2.4	1.0	3.7	2,134
Marital status										
Never married	0.4	3.3	4.4	6.4	401	2.1	2.3	1.9	3.2	1,061
Married or living together Divorced/separated/	0.3	2.5	1.9	3.8	10,217	2.4	2.2	1.5	3.7	6,433
widowed	0.4	2.5	2.2	4.3	1,415	0.2	2.1	1.5	2.3	274
Male circumcision										
Circumcised <sup>1</sup>	na	na	na	na	na	2.3	2.3	1.7	3.8	7,221
Not circumcised	na	na	na	na	na	1.0	0.4	0.0	1.4	534
Residence										
Urban	0.5	3.4	2.5	5.4	2,332	1.7	1.8	1.1	3.0	1,545
Rural	0.3	2.3	1.9	3.6	9,701	2.4	2.3	1.7	3.7	6,224
Design					•					,
Region	1.2	2.4	1.9	4.4	876	0.4	0.4	0.5	0.9	445
Tigray								0.5		
Affar	0.3	1.1	1.3	2.4	110	0.6	1.9	0.7	2.5	67
Amhara	0.1	3.6	2.2	4.9	2,978	0.9	2.6	1.1	3.3	1,957
Oromiya	0.1	2.1	2.2	3.6	4,521	4.8	3.1	2.8	5.7	2,989
Somali	1.8	3.8	3.5	4.7	358	1.9	2.7	0.9	3.0	186
Benishangul-Gumuz	0.3	1.3	0.9	1.5	128	0.2	0.5	0.6	0.9	91
SNNPR	0.2	2.1	1.6	3.1	2,356	0.2	1.0	0.5	1.5	1,519
Gambela	0.8	2.6	1.6	3.7	37	1.2	1.5	1.1	2.8	27
Harari	0.9	1.5	0.5	1.8	30	4.0	4.2	3.6	5.4	19
Addis Ababa	1.0	3.0	2.0	4.4	572	0.8	0.7	0.3	1.3	422
Dire Dawa	1.2	2.1	2.3	3.7	67	1.3	1.6	0.7	2.2	46
Education										
No education	0.2	2.2	1.8	3.3	7,095	2.5	2.9	2.2	3.8	2,737
Primary	0.5	2.8	2.1	4.3	3,500	2.2	1.7	1.4	3.5	3,266
Secondary	0.4	2.4	2.5	4.1	866	1.8	2.1	0.6	3.7	971
More than secondary	0.7	5.8	3.9	9.3	573	2.1	2.0	1.3	3.1	793
Wealth quintile										
Lowest	0.4	2.3	2.3	3.5	2,254	2.1	2.2	1.9	3.1	1,270
Second	0.4	2.2	1.9	3.6	2,313	2.7	2.2	1.5	3.9	1,514
Middle	0.1	2.2	1.5	3.1	2,354	2.1	2.7	2.0	3.7	1,466
Fourth	0.4	2.3	1.9	3.6	2,297	2.5	2.2	1.6	4.1	1,553
Highest	0.4	3.6	2.5	5.6	2,815	1.8	1.8	1.1	3.2	1,965
Total 15-49	0.3	2.6	2.0	3.9	12,033	2.2	2.2	1.6	3.6	7,768
50-59	na	na	na	na	na	2.3	1.1	1.5	2.5	1,080
Total 15-59	na	Na	na	na	na	2.2	2.1	1.5	3.5	8,849

na = Not applicable Notes: Total includes 13 cases with missing information on male circumcision. <sup>1</sup> Includes all men who report they are circumcised, regardless of provider.

# Table 2.12 Women and men seeking treatment for STIs

Percentage of women and men age 15-49 reporting an STI or symptoms of an STI in the past 12 months who sought advice or treatment, Ethiopia DHS 2016

Source of advice or treatment	Percentage of women	Percentage of men		
Clinic/hospital/private doctor/other health				
professional	31.8	31.7		
Advice or medicine from shop/pharmacy	0.9	2.6		
Advice or treatment from any other source	0.5	0.0		
No advice or treatment	66.7	65.7		
Number with STI or symptoms of STI	474	279		

#### Table 2.13 Comprehensive knowledge about HIV among young people

Percentage of young women and young men age 15-24 with comprehensive knowledge about HIV, according to background characteristics, Ethiopia DHS 2016

	Women a	ge 15-24	Men age	15-24
Background characteristic	Percentage with compre- hensive knowledge of HIV <sup>1</sup>	Number of women	Percentage with compre- hensive knowledge of HIV <sup>1</sup>	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
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
Total 15-24	24.3	6,143	39.1	4,455

<sup>&</sup>lt;sup>1</sup> Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about transmission or prevention of HIV. The components of comprehensive knowledge are presented in Tables 2.1, and 2.2.

# Table 2.14 Age at first sexual intercourse among young people

Percentage of young women and young men age 15-24 who had sexual intercourse before age 15 and percentage of young women and young men age 18-24 who had sexual intercourse before age 18, according to background characteristics, Ethiopia DHS 2016

	Women a	age 15-24	Women a	Women age 18-24		e 15-24	Men age 18-24	
Background characteristic	Percentage who had sexual intercourse before age 15	Number of women	Percentage who had sexual intercourse before age 18	Number of women	Percentage who had sexual intercourse before age 15	Number of men	Percentage who had sexual intercourse before age 18	Number of men
Age								
15-19	6.3	3,381	na	na	0.8	2,572	na	na
15-17	5.5	2,050	na	na	0.6	1,589	na	na
18-19	7.4	1,331	34.5	1,331	1.3	983	11.1	983
20-24	13.2	2,762	43.1	2,762	1.3	1,883	12.0	1,883
20-22	13.5	1,808	43.8	1,808	1.5	1,216	11.7	1,216
23-24	12.7	954	41.7	954	1.0	667	12.5	667
Residence								
Urban	3.0	1,467	21.7	1,004	0.4	867	11.9	582
Rural	11.4	4,675	46.4	3,089	1.2	3,588	11.6	2,285
Education								
No education	22.1	1,230	66.4	974	0.6	543	12.7	383
Primary	8.2	3,333	42.6	1,926	1.1	2,744	12.3	1,555
Secondary	2.3	1,184	18.7	822	1.3	910	10.5	686
More than secondary	1.0	396	7.5	370	0.4	258	9.4	243
Total	9.4	6,143	40.3	4,092	1.0	4,455	11.7	2,866

na = Not available.

Table 2.15 Premarital sexual intercourse among young people

Among never-married women and men age 15-24, percentage who have never had sexual intercourse, according to background characteristics, Ethiopia DHS 2016

	Women a	age 15-24	Men age 15-24		
Background characteristic	Percentage who have never had sexual intercourse	Number of never married women	Percentage who have never had sexual intercourse	Number of never married men	
Age					
15-19	96.2	2,642	93.2	2,527	
15-17	97.3	1,817	96.5	1,581	
18-19	93.6	825	87.7	946	
20-24	84.9	858	71.1	1,362	
20-22	84.9	602	74.9	978	
23-24	84.8	256	61.4	383	
Residence					
Urban	89.1	1,087	76.5	820	
Rural	95.4	2,413	87.9	3,069	
Education					
No education	95.2	341	89.0	408	
Primary	94.6	1,990	89.4	2,418	
Secondary	93.5	879	80.5	828	
More than secondary	82.9	289	56.5	234	
Total 15-24	93.4	3,500	85.5	3,889	

Table 2.16.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months among young people: Women

Among all young women age 15-24, percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and percentage who had intercourse in the past 12 months with a person who was neither their husband nor lived with them; and among young women age 15-24 who had sexual intercourse in the past 12 months with a non-marital, non-cohabiting partner, percentage who used a condom during last sexual intercourse with such a partner, Ethiopia DHS 2016

		Women age 15-24		Women age 15-24 who had intercourse in the past 12 months with a person who was neither their husband nor lived with them			
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who was neither their husband nor lived with them	Number of women	Percentage who reported using a condom during last sexual intercourse with such a partner	Number of women		
	montris	iived with them	women	Such a partiler	women		
Age 15-19 15-17 18-19 20-24 20-22 23-24  Marital status Never married Ever married	0.3 0.2 0.4 0.3 0.2 0.4	2.1 1.6 3.0 3.7 3.8 3.7	3,381 2,050 1,331 2,762 1,808 954 3,500 2,643	30.3 (16.9) 41.2 19.4 18.1 21.9	71 32 39 103 68 35		
Residence Urban Rural	0.6 0.2	7.5 1.4	1,467 4,675	30.7 12.1	110 64		
Education No education Primary Secondary More than secondary	0.4 0.3 0.2 0.2	1.0 2.2 4.2 10.3	1,230 3,333 1,184 396	* 16.4 29.2 26.7	12 72 49 41		
Total 15-24	0.3	2.8	6,143	23.8	175		

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

#### Table 2.16.2 Multiple sexual partners and higher-risk sexual behaviour in the past 12 months among young people: Men

Among all young men age 15-24, percentage who had sexual intercourse with more than one sexual partner in the past 12 months, and percentage who had intercourse in the past 12 months with a person who was neither their wife nor lived with them; among those having more than one partner in the past 12 months, percentage reporting that a condom was used during last intercourse; and among young men age 15-24 who had sexual intercourse in the past 12 months with a non-marital, non-cohabiting partner, percentage who used a condom during last sexual intercourse with such a partner, Ethiopia DHS 2016

Background characteristic		Men age 15-24			24 who had 2+ past 12 months	Men age 15-24 who had intercourse in the past 12 months with a person who was neither their wife nor lived with them		
	Percentage who had 2+ partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who was neither their wife nor lived with them	Number of men	Percentage who reported using a condom at last intercourse	Number of men	Percentage who reported using a condom during last sexual intercourse with such a partner	Number of men	
Age								
15-19	0.8	4.5	2,572	(56.9)	20	57.0	115	
15-17	0.1	2.2	1,589	*	1	45.8	35	
18-19	2.0	8.1	983	(57.7)	19	62.0	80	
20-24	3.1	15.2	1,883	41.5	58	53.5	287	
20-22	2.6	14.5	1,216	(52.5)	31	48.4	177	
23-24	4.1	16.6	667	(29.0)	27	61.5	110	
Marital status								
Never married	1.5	9.7	3,889	54.9	58	54.9	376	
Ever married	3.6	4.7	566	*	21	(48.0)	26	
Residence								
Urban	3.0	15.9	867	65.0	26	64.0	137	
Rural	1.5	7.4	3,588	36.0	53	49.6	265	
Education								
No education	1.4	5.3	543	*	8	(25.5)	29	
Primary	1.2	6.7	2,744	(54.4)	32	52.7	185	
Secondary	2.3	11.8	910	(59.4)	21	53.5	107	
More than secondary	6.8	31.5	258	*	18	70.2	81	
Total 15-24	1.8	9.0	4,455	45.5	78	54.5	402	

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

#### Table 2.17 Recent HIV tests among young people

Among young women and young men age 15-24 who have had sexual intercourse in the past 12 months, percentage who were tested for HIV in the past 12 months and received the results of the last test, according background characteristics, Ethiopia DHS 2016

	Women age 15-24 sexual intercour 12 mor	se in the past	Men age 15-24 who have had sexual intercourse in the past 12 months:			
Background characteristic	Percentage who have been tested for HIV in the past 12 months	Number of women	Percentage who have been tested for HIV in the past 12 months	Number of men		
Age						
15-19	25.3	703	18.0	148		
15-17	22.1	233	20.7	38		
18-19	26.9	470	17.1	110		
20-24	27.7	1,804	30.7	743		
20-22	26.6	1,142	30.5	383		
23-24	29.6	662	30.8	360		
Marital status						
Never married	42.9	129	37.1	377		
Ever married	26.2	2,378	22.3	514		
Total	27.0	2,507	28.6	891		

# Table 2.18 HIV tests among children

Among children less than 15 years old, percentage who were tested for HIV, according to background characteristics, Ethiopia DHS 2016

	Percentage	
Background	ever tested for	Number of
characteristic	HIV	children
GHATAGIGHGIG	1111	Official
Residence		
Urban	21.6	2,933
Rural	4.6	27,366
Region		
Tigray	14.6	1,728
Affar	5.8	271
Amhara	6.6	5,945
Oromiya	5.3	13,020
Somali	2.2	1,288
Benishangul-Gumuz	4.2	336
SNNPR	5.1	6,974
Gambela	11.3	64
Harari	9.9	63
Addis Ababa	22.5	491
Dire Dawa	10.5	119
Mother's education		
No education	4.4	22,412
Primary	9.3	6,586
Secondary	18.3	854
More than secondary	28.6	447
Wealth guintile		
Lowest	2.8	6,826
Second	3.9	6,673
Middle	4.4	6,427
Fourth	6.6	6,048
Highest	17.3	4,325
Total	6.2	30,299

# **Key Findings**

- **HIV prevalence:** Among women and men age 15-49 in Ethiopia, 0.9% are living with HIV; HIV prevalence is higher among women than men (1.2% versus 0.6%).
- *HIV prevalence by residence:* HIV prevalence is seven times higher in urban areas than in rural areas (2.9% versus 0.4%).
- HIV prevalence by region: HIV prevalence ranges from less than 0.1% in Somali to 4.8% in Gambela.
- HIV prevalence among young people: HIV prevalence is 0.3% among young women and 0.1% among young men age 15-24.
- Prior HIV testing by current HIV status: Among women and men who are living with HIV, 78.7% have ever been tested for HIV and received the test result.

he 2016 EDHS included HIV serology testing for women age 15-49 and men age 15-59. The specimen collection and HIV testing procedures are described in this report's introductory chapter.

#### 3.1 RESPONSE RATES FOR HIV TESTING

All women age 15-49 and men age 15-59 were eligible to participate in HIV testing. Slightly more than 80% of eligible women and men age 15-49 were interviewed, consented to the HIV test, and had a blood specimen collected and tested for HIV (**Table 3.1**). Five percent of women and men age 15-49 who were eligible for HIV testing were interviewed but refused to provide a blood specimen, 3% of women and men were interviewed but were absent for blood collection after repeated attempts to contact them, and 10% were not interviewed. A higher proportion of women than men participated in the HIV testing (87% versus 76%).

## HIV testing response rate

Percentage of women and men who are interviewed and tested for HIV as part of the DHS survey

**Sample:** Women and men who are in households selected for HIV testing and are within the eligible age range for HIV testing based on information collected in the Household Questionnaire.

The HIV testing response rate is calculated as follows:

Women and men age 15-49 who were interviewed and whose blood sample underwent the complete HIV testing algorithm with a final result of positive, negative, or indeterminate.

All women and men age 15-49 in households selected for HIV testing

**Trends:** Participation in HIV testing is slightly lower in the 2016 EDHS than in the 2011 EDHS. The HIV test response rate among women and men age 15-49 decreased from 86% to 82%. The decrease in participation among men (82% to 76% is greater than the decrease among women (89% to 87%).

#### Patterns by background characteristics

- Among men, the HIV testing response rate is higher in rural areas than in urban areas (81% versus 67%). For women, the response rate is slightly higher in rural areas than in urban areas (90% versus 82%) (**Table 3.1**).
- By region, the HIV response rate is highest for women and men in Amhara (94%) and lowest in Harari (64%).
- A lower proportion of men with secondary and more than secondary education consented to HIV testing (71% for both) than men with no education (76%) or primary education (80%). A similar pattern of participation according to education level was observed among women (**Table 3.2**).

# 3.2 HIV PREVALENCE

## 3.2.1 HIV Prevalence by Age, Sex, and Region

#### **HIV** prevalence

Percentage of women and men testing positive for HIV as part of the DHS survey, according to the testing algorithm described in Chapter 1 *Sample:* Women and men age 15-49 who are tested for HIV as part of the survey

**Table 3.3** shows that 0.9%, (CI [0.7%-1.1%]), of women and men age 15-49 in Ethiopia are HIV positive. HIV prevalence is higher among women than men (1.2% versus 0.6%).

Among women, HIV prevalence generally increases with age, affecting 0.4% of women age 15-19 and 3.0% of women age 40-44, before declining to 1.9% among those age 45-49. Among men, HIV prevalence increases from less than 0.1% among those age 15-19 to 1.6% among men age 40-49, and then decreases to 0.6% among men age 55-59 (**Figure 3.1**).

Trends: The HIV testing algorithm for the 2016 EDHS differs from the algorithm used in the 2005 and 2011 EDHS surveys. The earlier surveys used an algorithm in which samples with positive results on two ELISAs were classified as positive (Central Statistical Agency [Ethiopia] and ORC Macro 2005; Central Statistical Agency [Ethiopia] and ICF International 2012). As described in Chapter 1, the algorithm for the 2016 survey requires that samples with positive results on two ELISAs must also be found positive on INNO-Lia to be classified as a final positive. This change responds to concerns that the previous HIV testing algorithm produced too many false positives and overestimated HIV

Figure 3.1 HIV prevalence by age

Percentage of women and men who are HIV positive

3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59

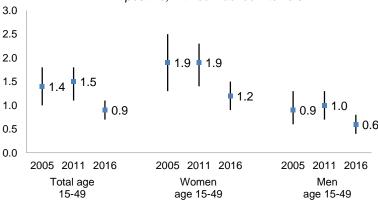
prevalence because of the reliance on only two enzyme immunoassays (ELISAs) to classify specimens as HIV positive (CDC 2014; UNAIDS/WHO 2015). However, in the case of the 2016 EDHS, 99% of the samples with positive results on the two ELISAs were confirmed positive on INNO-Lia, so the use of a new testing algorithm in the 2016 EDHS does not affect the integrity of the trend in HIV prevalence over time.

The HIV prevalence among women and men age 15-49 age has decreased between 2011 and 2016 from 1.5%, (CI [1.3%-1.7%]), to 0.9%, (CI [0.7%-1.1%]). The prevalence was 1.4%, (CI [1.1%-1.8%]), in 2005.

The results in **Figure 3.2**, which show the HIV prevalence estimates for all three EDHS surveys, indicate that HIV prevalence among women and men age 15-49 is likely to have decreased slightly between 2005 and 2016. Statistical testing indicates that the decrease in HIV prevalence among women and men age 15-49 from 2005 to 2016 is statistically significant (at p<0.05), as is the decrease between 2011 and 2016. Among women age 15-49, the decreases in HIV prevalence between 2005 and 2016,

# Figure 3.2 Trends in HIV prevalence

Percentage of women and men age 15-49 who are HIV positive, with confidence intervals



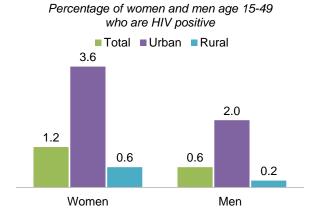
and between 2011 and 2016, are also statistically significant. Among men, trends in HIV prevalence over time are less definitive. The decrease in HIV prevalence among men age 15-49 between 2005 and 2016 is not statistically significant; however, the decrease between 2011 and 2016 is statistically significant.

Trends in HIV prevalence by region are presented in **Table 3.4**, which shows decreasing HIV prevalence across all regions in Ethiopia between 2011 and 2016.

#### Patterns by background characteristics

- Among women and men combined, HIV prevalence is seven times higher in urban areas than in rural areas (2.9% versus 0.4%) (**Table 3.5**). HIV prevalence is 3.6% among women in urban areas compared with 0.6% among women in rural areas. The corresponding percentages for men are 2.0% and 0.2%, respectively (**Figure 3.3**).
- By region, among women and men combined, HIV prevalence is higher in Gambela (4.8%), Addis Ababa (3.4%), Dire Dawa (2.5%), and Harari (2.4%) than in other regions (**Figure 3.4**).

Figure 3.3 HIV prevalence by residence and sex

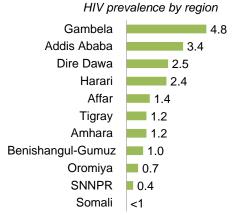


 Women in the highest wealth quintile have a higher HIV prevalence (3.0%) than women in lower wealth quintiles (1.0% or less) (**Table** 3.5).

# Patterns by other sociodemographic and health characteristics

• HIV prevalence varies notably by marital status, and is higher among women and men who report ever having been married compared with those who have never married. Only 0.3% of women and men who have never been married are HIV positive, compared with 11.5% of

Figure 3.4 HIV prevalence by region



women and men who are widowed, 2.9% of those who are divorced or separated, and 0.8% of those who are currently married or living together as married (**Table 3.6**).

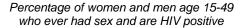
• HIV prevalence among women and men is lower among those who report being in a polygynous union than among those who are in a non-polygynous union and those who are not currently in union (0.2% versus 0.9% and 1.0%, respectively).

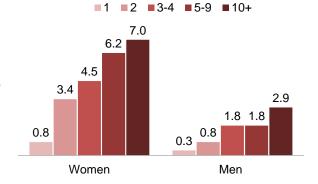
# 3.2.2 HIV Prevalence by Sexual Risk Behaviour

Among women and men, HIV prevalence is lowest for those who first had sex after the age of 20. Among women, the highest prevalence is for those who reported first sexual intercourse at age 18-19 (1.9%), and for men age 16-17 (1.4%) (**Table 3.7**).

HIV prevalence is highest for both women and men who report no partner in the past 12 months (4.9% and 1.2%, respectively), compared with a prevalence of 0.1% among women and men who had more than one partner in the past 12 months. However, this finding must be considered with caution because very few women report more than one partner, and other factors, such as respondents' marital status may also have an influence (**Table 3.7**).

Figure 3.5 HIV prevalence by number of lifetime partners





- HIV prevalence increases markedly with number of lifetime sexual partners among both women and men. Among women, HIV prevalence increases from 0.8% among those with one lifetime sexual partner to 7.0% among those with 10 or more, and increases from 0.3% among men with one lifetime sexual partner to 2.9% among those with 10 or more (**Figure 3.5**).
- Among HIV positive respondents who had sex in the past 12 months, a higher proportion of those used a condom (3.2%) than those who did not use a condom (0.8%). This proportion is more than 10 time higher among women than men (13.7% versus 1.1%). It should be emphasized that it is not possible to know from the data whether reported condom use occurred before or after HIV infection. This finding could indicate that people who know they are HIV positive are using condoms to protect their sexual partners (**Table 3.7**).

## 3.2.3 HIV Prevalence among Young People

**Tables 3.8** and **3.9** show HIV prevalence among young people age 15-24 according to background characteristics and sexual risk behaviours. Overall, 0.2% of young women and men age 15-24 are HIV positive. With this statistically low level of prevalence and the sampling errors inherent in the survey, it is very difficult to discern patterns by background characteristics. Among young women and men combined, prevalence ranges from less than 0.1% in Somali and Benishangul-Gumuz to 1.3% in Gambela (**Table 3.8**).

# 3.2.4 HIV Prevalence by Other Characteristics Related to HIV Risk

- As shown in **Table 3.10**, HIV prevalence is higher among women and men who reported having a sexually transmitted infection (STI) or symptoms of an STI in the past 12 months compared with those who did not (2.3% versus 1.2%).
- Among HIV-positive women and men, 78.7% reported having ever been tested for HIV and received the result of their most recent test, compared with only 41.2% of those who are HIV negative. The percentage of HIV-positive women and men reporting having ever been tested for HIV and receiving the result of the most recent test has improved from 7.6% in 2005, to 71.8% in 2011 to 78.8% in 2016. Forty-one percent of HIV-positive women and men were tested for HIV in the past 12 months and received the result of their most recent HIV test, and 37.4% were tested more than 12 months ago and received the result. Four percent of HIV-positive women and men had been tested for HIV but did not receive the result of their most recent test, and 17.7% have never been tested for HIV (**Table 3.11**).
- As shown in **Table 3.12**, HIV prevalence is 0.2% among men age 15-49 who have not been circumcised and 0.6% among men who have been circumcised (traditional and medical). However, it is important to note that HIV prevalence rates among men age 15-59 are nearly identical for circumcised and uncircumcised men. These findings are difficult to interpret and may be affected by sampling error. It is interesting to note that in Gambela, HIV prevalence is higher among uncircumcised men (6.9%) than among men who were circumcised by a medical practitioner (1.2%) and those who were circumcised by a traditional practitioner (3.1%).

# 3.2.5 HIV Prevalence among Couples

Of the cohabitating couples interviewed in the 2016 EDHS, 1.1% of couples are HIV affected, which means that one or both members are HIV positive (**Table 3.13**). In 0.3% of couples both partners are HIV positive; in 0.4% of couples, the man is HIV positive, and the woman is HIV negative; and in 0.4% of couples, the woman is HIV positive and the man is HIV negative.

# **LIST OF TABLES**

For more information on HIV prevalence, see the following tables:

- Table 3.1 Coverage of HIV testing according to residence and region
- Table 3.2 Coverage of HIV testing according to selected background characteristics
- Table 3.3 HIV prevalence according to age
- Table 3.4 HIV prevalence by region and survey
- Table 3.5 HIV prevalence according to socioeconomic characteristics
- Table 3.6 HIV prevalence according to sociodemographic characteristics
- Table 3.7 HIV prevalence according to sexual behaviour
- Table 3.8 HIV prevalence among young people according to background characteristics
- Table 3.9 HIV prevalence among young people according to sexual behaviour
- Table 3.10 HIV prevalence according to other characteristics
- Table 3.11 Prior HIV testing by current HIV status

- Table 3.12 HIV prevalence by male circumcision
- Table 3.13 HIV prevalence among couples

Table 3.1 Coverage of HIV testing according to residence and region

Percent distribution of women and men, age 15-49 and eligible for HIV testing, by testing status, according to residence and region (unweighted), Ethiopia DHS 2016

			Testing	status					
DBS	tested <sup>1</sup>			time o	of blood	Other/missing <sup>2</sup>			
Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Total	Number
			WOMEN	15-49					
82.0 89.9	0.2 0.1	7.8 2.9	1.7 0.7	3.5 2.1	4.0 3.2	0.2 0.3	0.6 0.8	100.0 100.0	5,720 10,863
91.8	0.1	3.0	0.8	1.7	1.8	0.1	0.7	100.0	1,741
87.2	0.3	4.4	0.4	2.0	3.7	1.3	0.7	100.0	1,189
									1,754
									1,978
									1,488
									1,177
									1,921
									1,155
									1,005
									1,978
									1,197
87.1	0.2	4.6			3.5	0.2	8.0	100.0	16,583
			MEN 15	-49					
									4,432
80.7	0.6	3.0	1.3	3.8	8.9	0.4	1.3	100.0	9,118
									1,257
									863
									1,597
									1,786
									1,132
									1,016
									1,626
									1,004
									874
									1,397
									998
76.1	0.5	4.6	1.8	4.4	10.7	0.4	1.6	100.0	13,550
81.8	0.1	3.9	1.2	2.5	8.3	8.0	1.4	100.0	1,245
76.6	0.4	4.5	1.7	4.2	10.5	0.5	1.6	100.0	14,795
		TOTAL	(WOMEN AN	ID MEN 15	-49)				
75.2	0.2	7.8	2.2	4.5	8.5	0.3	1.4	100.0	10,152
85.7	0.4	3.0	0.9	2.9	5.8	0.4	1.0	100.0	19,981
88.8								100.0	2,998
80.2	1.1	4.0	1.0	2.3	9.2	0.9	1.4	100.0	2,052
94.0	0.1	1.3	0.2	0.9	2.2	0.2	1.0	100.0	3,351
86.4									3,764
78.3	0.4	6.2	1.5	3.6	8.7	0.3	0.9		2,620
	0.4	3.0	1.3	6.1	5.1		0.7	100.0	2,193
88.3	0.1	2.4	0.7	2.5		0.2	0.2	100.0	3,547
					11.7	0.0	1.5		2,159
63.8	0.0	11.9	2.3	5.3	15.3	0.2	1.2	100.0	1,879
75.4	0.1	7.9	2.9	4.1	8.2	0.1	1.1	100.0	3,375
74 -	0.4	9.2	1.6	6.5	5.4	1.6	3.8	100.0	2,195
71.5	0.4	0.2	1.0	0.5	J. <del>T</del>	1.0	5.0	100.0	2,100
	82.0 89.9 91.8 87.2 96.2 90.9 84.5 88.0 91.7 85.3 73.8 81.2 78.6 87.1 66.6 80.7 84.6 70.5 91.6 81.4 70.2 77.5 84.4 70.2 77.5 84.4 70.2 62.9 76.1 81.8 76.6	viewed         viewed           82.0         0.2           89.9         0.1           91.8         0.1           87.2         0.3           96.2         0.1           90.9         0.2           84.5         0.3           88.0         0.2           91.7         0.1           85.3         0.2           73.8         0.0           81.2         0.3           78.6         0.3           87.1         0.2           66.6         0.1           80.7         0.6           84.6         0.2           70.5         2.1           91.6         0.1           81.4         1.0           70.2         0.5           77.5         0.7           84.4         0.1           73.8         0.2           52.3         0.0           67.2         0.0           62.9         0.5           76.1         0.5           81.8         0.1           75.2         0.2           85.7         0.4           88.8         0.1	DBS tested¹         bl           Interviewed         Not interviewed           82.0         0.2         7.8           89.9         0.1         2.9           91.8         0.1         3.0           87.2         0.3         4.4           96.2         0.1         1.1           90.9         0.2         2.8           84.5         0.3         6.4           88.0         0.2         3.2           91.7         0.1         2.1           85.3         0.2         1.5           73.8         0.0         12.0           81.2         0.3         7.7           78.6         0.3         9.9           87.1         0.2         4.6           66.6         0.1         7.7           80.7         0.6         3.0           84.6         0.2         2.0           70.5         2.1         3.5           91.6         0.1         1.4           81.4         1.0         3.5           70.2         0.5         6.0           77.5         0.7         2.8           84.4         0.1         2.8<	Inter-viewed   Not inter-viewed   Viewed   Viewed   WOMEN	DBS tested   Refused to provide blood   Interviewed   Not interviewed   Interviewed   Not interview	DBS tested   Not interviewed   Not interviewe	DBS tested	DBS   tested   Refused to provide   Interviewed   Not interview	DBS     Select   Select   Drovide   Interviewed   Not interview

<sup>&</sup>lt;sup>1</sup> Includes all dried blood spot (DBS) specimens tested at the lab for which there is a final result, which is either positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.

<sup>2</sup> Includes (1) other results of blood collection such as technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4)

lab results such as blood not tested for technical reason or not enough blood to complete the algorithm

Table 3.2 Coverage of HIV testing according to selected background characteristics

Percent distribution of women and men age 15-49 eligible for HIV testing by testing status, according to selected background characteristics (unweighted), Ethiopia DHS 2016

				Testin	g status					
	DBS tested <sup>1</sup>			to provide ood		le at the time collection	Other/	missing <sup>2</sup>		
Background characteristic	Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Inter- viewed	Not inter- viewed	Total	Number
				WOM	IEN 15-49					
Age										
15-19	84.7	0.2	5.4	1.0	3.3	4.2	0.3	0.9	100.0	3,731
20-24	86.9	0.2	4.6	1.0	2.9	3.4	0.2	0.7	100.0	3,064
25-29	87.5	0.1	4.2	1.3	2.2	3.8	0.4	0.6	100.0	3,021
30-34	88.4	0.1	4.5	0.9	2.0	3.2	0.0	8.0	100.0	2,359
35-39	87.1	0.3	4.5	1.3	2.5	2.9	0.3	1.0	100.0	2,029
40-44	88.2	0.1	4.3	0.8	2.6	3.0	0.1	0.9	100.0	1,369
45-49	91.0	0.1	3.6	0.4	1.8	2.6	0.4	0.2	100.0	1,010
Education										
No education	88.9	0.2	3.9	0.8	2.0	2.9	0.3	1.1	100.0	7,406
Primary	88.4	0.2	4.0	1.0	2.4	3.3	0.2	0.5	100.0	5,486
Secondary	83.6	0.0	5.9	1.8	3.9	4.1	0.3	0.3	100.0	2,390
More than secondary	78.5	0.1	8.9	1.2	4.7	6.1	0.2	0.4	100.0	1,300
Missing	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	1
Wealth quintile										
Lowest	87.1	0.3	3.2	0.8	2.5	4.8	0.4	0.9	100.0	4,178
Second	91.4	0.1	2.5	0.9	1.7	2.1	0.4	0.9	100.0	2,132
Middle	92.3	0.0	3.0	0.5	1.8	1.7	0.1	0.6	100.0	2,060
Fourth	91.5	0.0	2.6	0.5	1.7	2.7	0.2	0.8	100.0	2,126
Highest	82.3	0.2	7.5	1.6	3.6	3.9	0.2	0.6	100.0	6,087
Total	87.1	0.2	4.6	1.0	2.6	3.5	0.2	0.8	100.0	16,583
				ME	N 15-49					
Age						40.5			400.0	0.040
15-19	76.9	0.8	4.0	1.4	4.7	10.5	0.4	1.4	100.0	2,948
20-24	76.4	0.3	5.0	1.7	4.1	10.9	0.3	1.3	100.0	2,294
25-29	75.1	0.3	5.0	1.7	5.0	10.8	0.3	1.9	100.0	2,377
30-34 35-39	75.2	0.1 0.5	5.2 3.5	2.2 2.4	3.7 4.7	11.2	0.5	1.8 2.1	100.0	1,872 1,647
30-39 40-44	74.5 76.8	0.5	5.5 5.1	2.4 1.7	4.7	11.5 10.0	0.7 0.5	1.6	100.0 100.0	1,647
45-49	76.6 78.5	0.4	3.7	1.7	4.0	9.4	0.5	1.4	100.0	1,410
Education	70.4	0.0	0.5	4.0	0.0	40.0	0.0	0.4	400.0	0.400
No education	76.4	0.8	3.5	1.6	3.9	10.6	0.8	2.4	100.0	3,433
Primary	79.8	0.5	3.7	1.6	4.0	9.0	0.3	1.1	100.0	5,732
Secondary More than secondary	71.3 71.2	0.2 0.2	5.4 8.2	2.5 1.7	5.7 4.7	13.1 12.4	0.2 0.3	1.7 1.4	100.0 100.0	2,596 1,772
Missing	0.0	5.9	0.0	23.5	0.0	52.9	0.3	17.6	100.0	1,772
9			***							• •
Wealth quintile	75.0	0.0	0.4	4.0	4.0	40.0	0.4	4.0	400.0	0.400
Lowest	75.0	0.9	3.4	1.2	4.2	12.9	0.4	1.9	100.0	3,188
Second	82.4	0.5	2.9	1.4	3.4	7.3	0.7	1.3	100.0	1,833
Middle	83.1	0.6	2.9	1.4	3.7	6.9	0.6	0.9	100.0	1,764
Fourth Highest	84.3 68.6	0.4 0.1	2.7 7.3	1.3 2.7	3.6 5.5	6.7 13.5	0.2 0.3	0.9 2.1	100.0 100.0	1,913 4,852
· ·										
Total	76.1	0.5	4.6	1.8	4.4	10.7	0.4	1.6	100.0	13,550

<sup>&</sup>lt;sup>1</sup> Includes all dried blood spots (DBS) tested at the lab and for which there is a result, which is either positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.

<sup>2</sup> Includes (1) other results of blood collection such as technical problem in the field, (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason and not enough blood to complete the algorithm

# Table 3.3 HIV prevalence according to age

Among the de facto women age 15-49 and men age 15-59 who were interviewed and tested, percentage HIV positive, according to age, Ethiopia DHS 2016

	Wom	nen	Me	n	Tot	al
Age	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54	0.4 0.1 0.8 2.3 2.1 3.0 1.9	2,821 2,352 2,527 2,003 1,629 1,094 872 na	<0.1 0.3 0.3 0.6 0.7 1.6 1.6	2,525 1,840 1,928 1,597 1,364 1,178 949 593	0.2 0.2 0.6 1.5 1.5 2.3 1.7	5,346 4,193 4,455 3,600 2,993 2,272 1,821 na
55-59 Total 15-49 Confidence interval	na 1.2 (0.9-1.5)	na 13,297	0.6 0.6 (0.4-0.8)	504 11,381	na 0.9 (0.7-1.1)	na 24,679
Total 15-59 Confidence interval	na	na	0.6 (0.4-0.8)	12,479	na	na

Table 3.4 HIV prevalence by region and survey

na = Not applicable

Among the de facto women age 15-49 and men age 15-59 who were interviewed and tested, HIV prevalence rate, by region and survey, Ethiopia DHS 2016

	2005		2011		2016	2016		
Region	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number		
Tigray	2.1 (CI: 0.6-3.7)	661	1.8 (CI: 1.1-2.5)	1,738	1.2 (CI: 0.7-1.6)	1,653		
Affar	2.9 (CI: <0.1-6.1)	107	1.8 (CI: 0.6-3.1)	228	1.4 (CI: 0.5-2.4)	190		
Amhara	1.7 (CI: 0.8-2.7)	2,623	1.6 (CI: 0.7-2.5)	7,364	1.2 (CI: 0.7-1.7)	6,007		
Oromiya	1.4 (CI: 0.6-2.2)	3,812	1.0 (CI: 0.5-1.4)	10,202	0.7 (CI: 0.3-1.0)	9,157		
Somali	0.7 (CI: <0.1-1.8)	328	1.1 (CI: 0.2-2.0)	532	<0.1 (CI: <0.1-0.1)	683		
Benishangul-Gumuz	0.5 (CI: <0.1-1.1)	100	1.3 (CI: 0.1-2.5)	290	1.0 (CI: 0.5-1.5)	252		
SNNPR	0.2 (CI: <0.1-0.5)	2,300	0.9 (CI: 0.4-1.3)	5,141	0.4 (CI: 0.1-0.6)	5,114		
Gambela	6.0 (CI: 2.2-9.9)	35	6.5 (CI: 1.8-11.2)	119	4.8 (CI: 3.0-6.5)	71		
Harari	3.5 (CI: 1.7-5.4)	29	2.8 (CI: 1.6-3.9)	83	2.4 (CI: 1.6-3.3)	61		
Addis Ababa	4.7 (CI: 3.3-6.2)	495	5.2 (CI: 4.0-6.4)	1,466	3.4 (CI: 2.6-4.2)	1,351		
Dire Dawa	3.2 (CI: 0.9-5.6)	50	4.0 (CI: 2.5-5.5)	114	2.5 (CI: 1.6-3.4)	142		
Ethiopia 15-49 Confidence interval	1.4 (1.1-1.8)	10,540	1.5 (1.3-1.7)	27,276	0.9 (0.7-1.1)	24,679		

Table 3.5 HIV prevalence according to socioeconomic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, according to socioeconomic characteristics, Ethiopia DHS 2016

	Wom	nen	Me	en	Total		
Socioeconomic characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number	
Employment (last 12 months)							
Not employed	0.7	6.619	0.1	941	0.6	7.560	
Employed	1.8	6,678	0.1	10,440	1.1	17,119	
Residence							
Urban	3.6	2,947	2.0	2,257	2.9	5,204	
Rural	0.6	10,350	0.2	9,125	0.4	19,475	
Region							
Tigray	1.5	957	0.7	696	1.2	1,653	
Affar	1.6	109	1.2	81	1.4	190	
Amhara	1.3	3,149	1.0	2,858	1.2	6,007	
Oromiya	1.1	4,834	0.2	4,324	0.7	9,157	
Somali	0.1	390	M<0.1	293	<0.1	683	
Benishangul-Gumuz	1.6	136	0.3	116	1.0	252	
SNNPR	0.5	2,788	0.2	2,326	0.4	5,114	
Gambela	5.7	37	3.7	34	4.8	<sup>′</sup> 71	
Harari	3.5	33	1.3	28	2.4	61	
Addis Ababa	4.2	789	2.2	562	3.4	1,351	
Dire Dawa	3.5	77	1.3	65	2.5	142	
Education							
No education	0.8	6,373	0.1	3,119	0.6	9,492	
Primary	1.7	4,682	0.5	5,562	1.1	10,244	
Secondary	1.7	1,516	1.3	1,737	1.5	3,253	
More than secondary	1.0	726	1.1	963	1.1	1,689	
Wealth quintile							
Lowest	0.7	2,239	0.3	1,811	0.5	4,050	
Second	0.4	2,389	<0.1	2,099	0.2	4,487	
Middle	0.4	2,544	0.2	2,200	0.3	4,745	
Fourth	1.0	2,616	0.3	2,408	0.6	5,025	
Highest	3.0	3,509	1.6	2,863	2.4	6,372	
Total 15-49	1.2	13,297	0.6	11,381	0.9	24,679	
50-59	na	na	1.0	1,097	na	na	
Total 15-59	na	na	0.6	12,479	na	na	

na = Not applicable

Table 3.6 HIV prevalence according to sociodemographic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, according to sociodemographic characteristics, Ethiopia DHS 2016

	Won	nen	Me	n	Tot	al
Socioeconomic characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Marital status						
Never married	0.5	3,372	0.1	4,739	0.3	8,111
Ever had sexual intercourse	2.1	338	0.5	1,023	0.9	1,361
Never had sexual intercourse	0.3	3,034	<0.1	3,716	0.2	6,750
Married/living together	0.9	8,707	8.0	6,378	0.8	15,085
Divorced or separated	3.5	849	0.7	239	2.9	1,089
Widowed	10.9	369	(19.8)	25	11.5	394
Type of union						
In polygynous union	0.2	918	0.2	302	0.2	1,220
In non-polygynous union	1.0	7,731	8.0	6,076	0.9	13,807
Not currently in union	1.9	4,591	0.3	5,003	1.0	9,594
Times slept away from home in past 12 months						
None	na	na	0.6	6,198	0.6	6,198
1-2	na	na	0.4	1,557	0.4	1,557
3-4	na	na	0.2	825	0.2	825
5+	na	na	8.0	2,802	8.0	2,802
Time away in past 12 months						
Away for more than 1 month	na	na	0.6	1,195	0.6	1,195
Away for less than 1 month	na	na	0.5	3,989	0.5	3,989
No away	na	na	0.6	6,198	0.6	6,198
Currently pregnant						
Pregnant	0.4	963	na	na	na	na
Not pregnant or not sure	1.3	12,334	na	na	na	na
1 0		,				
ANC for last birth in the last 3 years ANC provided by the public sector ANC provided by other than the public	0.9	2,967	na	na	na	na
sector	<0.1	219	na	na	na	na
No ANC/No birth in last 3 years	1.4	10,112	na	na	na	na
Total 15-49	1.2	13,297	0.6	11,381	0.9	24,679
50-59	na	na	1.0	1,097	na	na
Total 15-59	na	na	0.6	12,479	na	na

na = Not applicable

Note: Total includes 58 women with missing information on type of union. Figures in parentheses are based on 25-49 unweighted cases.

Table 3.7 HIV prevalence according to sexual behaviour

Percentage HIV positive among women and men age 15-49 who ever had sex and were tested for HIV, according to sexual behaviour characteristics, Ethiopia DHS 2016

	Won	nen	Me	n	Total	
Sexual behaviour characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Age at first sexual intercourse						
<16	1.6	4,401	0.7	474	1.5	4,875
16-17	1.1	2,346	1.4	1,109	1.2	3,456
18-19	1.9	1,606	0.9	1,752	1.4	3,358
20+	1.0	1,682	0.7	4,166	8.0	5,848
Number of lifetime partners						
1	0.8	7,811	0.3	3,465	0.6	11,276
2	3.4	1,850	0.8	2,075	2.0	3,925
3-4	4.5	450	1.8	1,017	2.7	1,467
5-9	6.2	76	1.8	501	2.4	577
10+	7.0	57	2.9	245	3.7	303
Multiple sexual partners in the past 12 months						
0	4.9	1,471	1.2	625	3.8	2,096
1	0.9	8,738	0.8	6,642	0.9	15,380
2+	0.1	43	0.1	384	0.1	427
Non-marital, non-cohabiting partners in the past 12 months <sup>1</sup>						
0	1.5	9,932	0.9	6,890	1.2	16,822
1	3.4	300	0.4	650	1.3	950
2+	(<0.1)	21	<0.1	112	<0.1	132
Condom use at last sexual intercourse in past 12 months	40.7	00		400	0.0	400
Used condom	13.7	83	1.1	408	3.2	492
Did not use condom	8.0	8,698	0.8	6,618	0.8	15,316
No sexual intercourse in last 12 months	4.9	1,471	1.2	625	3.8	2,096
Condom use at last sexual intercourse with a non-marital, non-	4.9	1,471	1.2	625	3.0	2,096
cohabiting partner in past 12 months <sup>1</sup>						
Used condom	10.4	62	0.1	379	1.6	441
Did not use condom	1.4	257	0.5	376	0.9	633
No sexual intercourse with any non-						
marital, non-cohabiting partners in						
past 12 months	1.5	9,934	0.9	6,896	1.2	16,830
Paid for sexual intercourse in past 12 months						
Yes	na	na	1.0	64	na	na
Used condom	na	na	1.0	51	na	na
Did not use condom	na	na	*	13	na	na
No (no paid sexual intercourse/no sexual intercourse in last 12 months)	na	na	0.8	7,588	na	na
Total 15-49	1.5	10,253	0.8	7,651	1.2	17,904
50-59	na	na	0.9	1,095	na	na
Total 15-59	na	na	0.8	8,746	na	na
		···α	0.0	o,. 10		114

na = Not applicable

Note: Total includes 217 women and 150 men with missing information on age at first intercourse and 8 women and 348 men with missing information on number of lifetime partners. 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 Any partner who was not a spouse and did not live with the respondent

Table 3.8 HIV prevalence among young people according to background characteristics

Percentage HIV positive among women and men age 15-24 who were tested for HIV, according to background characteristics, Ethiopia DHS 2016

	Wom	nen	Me	Men		Total		
Background characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number		
Age								
15-19	0.4	2,821	<0.1	2,525	0.2	5,346		
15-17	0.3	1,708	<0.1	1,560	0.2	3,268		
18-19	0.5	1,113	<0.1	965	0.3	2,078		
20-24	0.1	2,352	0.3	1,840	0.2	4,193		
20-22	<0.1	1,544	0.1	1,187	0.1	2,731		
23-24	0.3	808	0.5	654	0.4	1,462		
Marital status								
Never married	0.3	2,923	<0.1	3,812	0.2	6,735		
Ever had sex	0.8	191	<0.1	564	0.2	755		
Never had sex	0.3	2,731	<0.1	3,248	0.1	5,980		
Married/Living together	0.2	1,962	0.7	490	0.3	2,451		
Divorced/Separated/								
Widowed	0.3	289	(<0.1)	63	0.2	352		
Currently pregnant								
Pregnant	<0.1	342	na	na	na	na		
Not pregnant or not sure	0.3	4,831	na	na	na	na		
Residence								
Urban	0.3	1,240	0.4	895	0.3	2,135		
Rural	0.3	3,933	<0.1	3,470	0.2	7,403		
Region								
Tigray	0.5	415	<0.1	308	0.3	723		
Affar	0.9	48	0.5	29	8.0	76		
Amhara	0.2	1,157	0.1	1,112	0.2	2,269		
Oromiya	0.4	1,886	0.2	1,615	0.3	3,501		
Somali	<0.1	152	<0.1	119	<0.1	270		
Benishangul-Gumuz	0.5	54	<0.1	40	0.3	95		
SNNPR	<0.1	1,054	<0.1	891	<0.1	1,945		
Gambela	1.7	15	0.9	14	1.3	30		
Harari	0.2	14	0.8	10	0.5	24		
Addis Ababa	0.4	347	<0.1	201	0.3	548		
Dire Dawa	1.3	31	<0.1	27	0.7	58		
Education								
No education	0.1	1,032	<0.1	508	<0.1	1,540		
Primary	0.4	2,818	0.1	2,695	0.2	5,513		
Secondary	0.2	989	0.4	905	0.3	1,895		
More than secondary	<0.1	334	<0.1	256	<0.1	591		
Wealth quintile								
Lowest	0.4	800	0.2	648	0.3	1,448		
Second	0.3	910	<0.1	730	0.2	1,640		
Middle	0.1	947	<0.1	814	0.1	1,761		
Fourth	0.4	1,017	<0.1	1,047	0.2	2,064		
Highest	0.2	1,498	0.3	1,126	0.3	2,624		
Total 15-24	0.3	5,173	0.1	4,365	0.2	9,538		

na = Not applicable Note: Figures in parentheses are based on 25-49 unweighted cases.

# Table 3.9 HIV prevalence among young people according to sexual behaviour

Percentage HIV-positive among women and men age 15-24 who have ever had sex and were tested for HIV, according to sexual behaviour, Ethiopia DHS 2016

	Won	nen	Men		Total		
Sexual behaviour characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number	
Multiple sexual partners in the past 12 months							
0	0.7	297	<0.1	219	0.4	515	
1	0.2	2,124	0.4	810	0.3	2,934	
2+	*	14	<0.1	76	0.1	91	
Non-marital, non-cohabiting partners in the past 12 months <sup>1</sup>							
0	0.3	2,288	0.5	700	0.3	2,988	
1	0.1	135	<0.1	341	<0.1	476	
2+	*	12	<0.1	64	<0.1	76	
Condom use at last sexual intercourse in past 12 months							
Used condom	0.4	34	<0.1	198	0.1	232	
Did not use condom No sexual intercourse in last	0.2	2,104	0.5	689	0.3	2,793	
12 months	0.7	297	<0.1	219	0.4	515	
Total 15-24	0.3	2,435	0.3	1,105	0.3	3,540	

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

Any partner who was not a spouse and did not live with the respondent

#### Table 3.10 HIV prevalence according to other characteristics

Percentage HIV positive among women and men age 15-49 who have ever had sex and were tested for HIV, according to whether they had a sexually transmitted infection (STI) in the past 12 months and prior testing for HIV, Ethiopia DHS 2016

	Women		Me	n	Total	
Characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
STI in past 12 months						
Had STI or STI symptoms	3.1	400	1.2	279	2.3	679
No STI, no symptoms	1.4	9,825	8.0	7,358	1.2	17,184
Prior HIV testing						
Ever tested	2.5	5,093	1.3	4,220	1.9	9,313
Received results	2.6	4,655	1.3	3,973	2.0	8,628
Did not received results	1.1	438	1.3	247	1.2	685
Never tested	0.5	5,159	0.3	3,431	0.4	8,591
Total 15-49	1.5	10,253	0.8	7,651	1.2	17,904

Note: Total includes 27 women and 14 men with missing information on STI in past 12 months.

#### Table 3.11 Prior HIV testing by current HIV status

Percent distribution of women and men age 15-49 who tested HIV positive and who tested HIV negative, according to HIV testing status prior to the survey, Ethiopia DHS 2016

	Won	nen	Me	en	Total	
HIV testing prior to the survey	HIV positive	HIV negative	HIV positive	HIV negative	HIV positive	HIV negative
Ever tested for HIV and received the result of the most recent test Tested in the past 12 months and	78.9	39.8	78.3	42.9	78.7	41.2
received the result <sup>1</sup> Tested 12 or more months ago and received the result <sup>1</sup>	41.3	19.2	41.3 37.0	18.5	41.3	18.9 22.3
Ever tested for HIV and did not receive the result of the most recent test	37.6 2.9	20.5	5.1	24.4	37.4 3.5	3.5
Not previously tested	18.1	56.0	16.7	54.3	17.7	55.2
Total Number	100.0 165	100.0 13,133	100.0 64	100.0 11,318	100.0 228	100.0 24,450

Table 3.12 HIV prevalence by male circumcision

Among men age 15-49 who were tested for HIV, the percentage HIV positive according to whether circumcised, according to background characteristics, Ethiopia DHS 2016

	Circumcised by health worker/professional		Circumcised traditional p family/	ractitioner/	All circur	ncised <sup>1</sup>	Uncircu	mcised
Background characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Age								
15-19	0.0	561	0.0	1,538	0.0	2,190	0.0	325
20-24	0.4	384	0.3	1,209	0.3	1,654	0.0	182
25-29	1.0	354	0.1	1,352	0.3	1,773	0.2	150
30-34	0.3	278	0.7	1,160	0.6	1,478	0.1	116
35-39	0.0	169	0.8	1,086	0.8	1,293	0.1	71
40-44	4.6	107	1.5	957	1.7	1,116	0.1	58
45-49	(0.0)	65	1.6	816	1.5	897	(2.3)	51
Residence								
Urban	2.2	439	2.0	1,593	2.0	2,178	1.5	74
Rural	0.1	1,478	0.3	6,526	0.2	8,222	0.1	878
Region								
Tigray	(0.0)	18	0.8	582	0.7	677	(0.0)	18
Affar	2.8	11	1.0	68	1.2	80	*	1
Amhara	5.2	149	0.8	2,418	1.0	2,672	0.6	169
Oromiya	0.0	642	0.3	3,217	0.2	3,927	0.0	390
Somali	0.0	22	0.0	266	0.0	291	*	2
Benishangul-Gumuz	*	3	0.4	88	0.3	110	(0.0)	5
SNNPR	0.0	884	0.5	1,076	0.3	1,975	0.0	351
Gambela	1.2	5	3.1	19	2.6	25	6.9	9
Harari	0.0	4	0.9	19	1.3	28	*	0
Addis Ababa	1.6	168	2.5	315	2.3	551	*	7
Dire Dawa	1.0	10	1.2	51	1.3	65	*	0
Education								
No education	0.0	169	0.1	2,603	0.1	2,853	0.0	248
Primary	0.1	1,029	0.7	3,818	0.5	5,001	0.1	554
Secondary	2.1	459	1.0	1,059	1.4	1,603	0.1	132
More than secondary	0.0	259	1.3	638	1.0	943	6.8	18
Wealth quintile								
Lowest	0.6	212	0.3	1,331	0.4	1,594	0.2	208
Second	0.0	262	0.0	1,541	0.0	1,860	0.1	234
Middle	0.0	367	0.3	1,591	0.2	2,008	0.1	190
Fourth	0.0	460	0.4	1,709	0.3	2,218	0.0	182
Highest	1.6	616	1.7	1,947	1.6	2,721	8.0	138
Total 15-49	0.6	1,917	0.6	8,118	0.6	10,400	0.2	952
50-59	0.0	83	0.8	937	0.7	1,045	6.1	52
Total 15-59	0.5	2,000	0.6	9,056	0.6	11,445	0.5	1,004

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.

<sup>1</sup> Includes all men who report they are circumcised, including men circumcised by medical or traditional practitioners. Also includes

<sup>&</sup>lt;sup>1</sup> Includes all men who report they are circumcised, including men circumcised by medical or traditional practitioners. Also includes those circumcised by other practitioners, those who don't know what practitioner performed their circumcision, and those who did not report a practitioner of circumcision, not shown separately.

Table 3.13 HIV prevalence among couples

Percent distribution of couples living in the same household, both of whom were tested for HIV, by HIV status, according to background characteristics, Ethiopia DHS 2016

Background	Both HIV	Man HIV positive, woman HIV	Woman HIV positive, man HIV	Both HIV		
characteristic	positive <sup>1</sup>	negative <sup>1</sup>	negative <sup>1</sup>	negative <sup>1</sup>	Total	Number
Woman's age	2.2	0.4	0.4	00.4	400.0	000
15-19 20-29	0.6 0.2	<0.1 0.4	<0.1 0.2	99.4 99.2	100.0 100.0	363 2,814
30-39	0.3	0.6	0.6	98.5	100.0	2,380
40-49	0.1	0.2	8.0	98.9	100.0	985
Man's age	*	*	*	*	100.0	22
15-19 20-29	<0.1	0.6	0.2	99.2	100.0 100.0	1,432
30-39	0.4	0.2	0.3	99.2	100.0	2,422
40-49	0.3	0.7	0.9	98.1	100.0	1,846
50-59	0.4	0.2	0.2	99.1	100.0	818
Age difference between partners Woman older	1.0	0.1	0.9	98.0	100.0	206
Same age/man older by 0-4 years	0.1	0.5	0.5	99.0	100.0	2,029
Man older by 5-9 years	0.2	0.4	0.3	99.2	100.0	2,636
Man older by 10-14 years	0.4	0.4	0.8	98.4	100.0	1,137
Man older by 15+ years	0.7	0.4	0.2	98.7	100.0	533
Type of union Non-polygynous	0.3	0.4	0.4	98.9	100.0	6,075
Polygynous	<0.1	0.4	0.4	98.7	100.0	445
Multiple partners in past 12 months <sup>1</sup>						
Both no	0.2	0.4	0.5	98.9	100.0	6,224
Man yes, woman no	1.1	<0.1	<0.1	98.9	100.0	312
Woman yes, man no	*	*	*	*	100.0 100.0	5 1
Both yes					100.0	'
Residence Urban	1.0	1.7	1.8	95.5	100.0	960
Rural	0.1	0.2	0.2	99.5	100.0	5,581
Region						
Tigray	0.6	0.5	0.2	98.6	100.0	370
Affar	1.1	0.4	0.9	97.6	100.0	42
Amhara Oromiya	0.2 0.2	0.6 0.3	0.5 0.5	98.8 99.1	100.0 100.0	1,662 2,596
Somali	<0.1	<0.1	<0.1	100.0	100.0	161
Benishangul-Gumuz	0.2	0.2	0.2	99.3	100.0	72
SNNPR	0.1 3.0	0.2 2.2	0.1	99.5	100.0	1,376
Gambela Harari	0.6	0.9	3.0 <0.1	91.8 98.5	100.0 100.0	14 14
Addis Ababa	1.8	1.6	2.7	93.9	100.0	205
Dire Dawa	1.3	0.6	1.4	96.7	100.0	30
Woman's education						
No education	0.2	0.2	0.2	99.4	100.0	3,986
Primary Secondary	0.5 0.7	0.8 0.5	0.9 0.5	97.8 98.3	100.0 100.0	1,942 389
More than secondary	<0.1	<0.1	0.5	99.4	100.0	223
Man's education						
No education	0.1	0.1	0.2	99.7	100.0	2,783
Primary Secondary	0.3 1.0	0.4 2.3	0.4 0.4	98.9	100.0 100.0	2,757
More than secondary	0.3	0.2	2.2	96.3 97.3	100.0	559 443
Wealth quintile						
Lowest	<0.1	0.4	0.2	99.4	100.0	1,163
Second	<0.1	<0.1	<0.1	100.0	100.0	1,405
Middle Fourth	0.4 0.2	<0.1 0.2	0.1 0.5	99.4 99.2	100.0 100.0	1,356 1,332
Highest	0.2	1.4	1.4	96.3	100.0	1,287
Total	0.3	0.4	0.4	98.9	100.0	6,541

Note: The table is based on couples for which a valid test result (positive or negative) is available for both partners. Total includes 21 couples with missing information on type of union. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ A respondent is considered to have had multiple sexual partners in the past 12 months if he or she had sexual intercourse with two or more people during this time period. (Respondents with multiple partners include polygynous men who had sexual intercourse with two or more wives.)

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#### SAMPLE PROBABILITIES AND SAMPLING WEIGHTS

ue to the nonproportional allocation of the sample across districts and the differential response rates, sampling weights must be used in all analyses of the 2016 EDHS results to ensure that the survey results are representative at both the national and domain levels. The sampling weights for HIV testing are calculated in a similar way, although the normalisation of the HIV weights is different. The individual HIV testing weights are normalised at the national level for women and men together so that HIV prevalence estimates calculated for women and men together are valid.

For detailed information on the 2016 EDHS sample probabilities and sampling weights, see Appendix A of the 2016 EDHS report.

#### **LIST OF TABLES**

For information on coverage of HIV testing, see the following tables:

- Table A.1 Coverage of HIV testing according to social and demographic characteristics:
   Women
- Table A.2 Coverage of HIV testing according to social and demographic characteristics: Men
- Table A.3 Coverage of HIV testing according to sexual behaviour characteristics: Women
- Table A.4 Coverage of HIV testing according to sexual behaviour characteristics: Men

Table A.1 Coverage of HIV testing according to social and demographic characteristics: Women

Percent distribution of interviewed women age 15-49 by HIV testing status, according to social and demographic characteristics (unweighted), Ethiopia DHS 2016

		Testing	status			
<del>-</del>			Absent at the			
Characteristic	DBS tested <sup>1</sup>	Refused to provide blood	time of blood collection	Other/missing	Total	Number
Marital status						
Never married	88.8	6.7	4.2	0.3	100.0	4,278
Ever had sexual intercourse	89.8	5.7	4.2	0.4	100.0	566
Never had sexual intercourse	88.7	6.8	4.2	0.3	100.0	3,712
Married/living together	93.6	4.1	2.1	0.2	100.0	9,824
Divorced or separated	91.9	4.9	2.7	0.4	100.0	1,130
Widowed	92.0	4.4	3.1	0.4	100.0	451
Type of union						
In polygynous union	94.1	3.4	2.5	0.1	100.0	1,302
In non-polygynous union	93.5	4.2	2.1	0.2	100.0	8,454
Not currently in union	89.7	6.2	3.8	0.3	100.0	5,859
Don't know/missing	94.1	4.4	1.5	0.0	100.0	68
Ever had sexual intercourse						
Yes	93.2	4.2	2.3	0.3	100.0	11,962
No	88.6	6.9	4.2	0.3	100.0	3,721
Currently pregnant						
Pregnant	93.3	4.2	2.1	0.4	100.0	1,122
Not pregnant or not sure	92.0	4.9	2.8	0.3	100.0	14,561
Ethnic group						
Affar	91.7	4.6	2.3	1.4	100.0	947
Amhara	92.8	4.7	2.2	0.3	100.0	3,688
Guragie	88.1	6.6	5.0	0.3	100.0	655
Hadiya	94.3	2.2	3.0	0.4	100.0	230
Oromo	90.5	6.8	2.5	0.2	100.0	3,611
Sidama	94.9	2.3	2.8	0.0	100.0	355
Somali	88.9	7.5	3.4	0.2	100.0	1,463
Tigray	94.7	3.2	2.0	0.1	100.0	1,905
Welaita	96.3	1.2	2.5	0.0	100.0	322
Others	93.5	2.8	3.6	0.1	100.0	2,507
Religion						
Orthodox	92.7	4.7	2.5	0.2	100.0	6,413
Catholic	91.2	6.6	2.2	0.0	100.0	91
Protestant	94.9	1.6	3.4	0.1	100.0	2,814
Muslin	90.3	6.5	2.8	0.4	100.0	6,209
Traditional	96.4	2.4	1.2	0.0	100.0	84
Other	93.1	5.6	1.4	0.0	100.0	72
Total	92.1	4.9	2.7	0.3	100.0	15,683

<sup>&</sup>lt;sup>1</sup> Includes all dried blood spots (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.

<sup>2</sup> Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason or not enough blood to complete the algorithm.

Table A.2 Coverage of HIV testing according to social and demographic characteristics: Men

Percent distribution of interviewed men 15-59 by HIV testing status, according to social and demographic characteristics (unweighted), Ethiopia DHS 2016

		Testing	status			
-		Refused to	Absent at the time of blood			
Characteristic	DBS tested <sup>1</sup>	provide blood	collection	Other/missing	Total	Number
Marital status						
Never married	87.5	6.1	6.0	0.4	100.0	5,105
Ever had sexual intercourse	86.0	7.3	6.5	0.2	100.0	1,497
Never had sexual intercourse	88.2	5.6	5.7	0.5	100.0	3,608
Married/living together	90.6	4.6	4.2	0.6	100.0	7,208
Divorced or separated	85.4	7.6	5.7	1.3	100.0	315
Widowed	95.0	5.0	0.0	0.0	100.0	60
Type of union						
In polygynous union	89.8	4.2	5.3	0.6	100.0	472
In non-polygynous union	90.7	4.6	4.2	0.6	100.0	6,736
Not currently in union	87.5	6.2	5.9	0.5	100.0	5,480
Ever had sexual intercourse						
Yes	89.7	5.1	4.6	0.5	100.0	9,070
No	88.2	5.6	5.7	0.5	100.0	3,618
Male circumcision						
Circumcised	89.2	5.4	4.9	0.6	100.0	11,712
Not circumcised	90.6	3.5	5.7	0.2	100.0	935
Don't know/missing	90.2	9.8	0.0	0.0	100.0	41
Times slept away from home						
in past 12 months None	87.5	6.1	5.7	0.7	100.0	6.066
1-2	93.3	2.9	3.4	0.7	100.0	6,866 1,511
3-4	90.4	4.8	3.4 4.7	0.4	100.0	921
5+	90.4	4.6 4.7	4.7	0.1	100.0	3,390
Time away in past 12 months						-,
Away for more than 1 month	89.6	5.7	4.4	0.3	100.0	1,563
Away for less than 1 month	92.1	3.7	3.9	0.3	100.0	4,259
No away	87.5	6.1	5.7	0.7	100.0	6,866
•	07.0	0.1	0.7	0.7	100.0	0,000
Ethnic group Affar	91.3	4.6	3.6	0.5	100.0	584
Amhara	91.3	4.0	4.2	0.3	100.0	3,134
Guragie	81.9	10.4	7.0	0.8	100.0	530
Hadiya	89.2	4.3	6.5	0.0	100.0	185
Oromo	85.9	7.2	6.0	0.8	100.0	2.966
Sidama	95.2	3.3	1.5	0.0	100.0	333
Somali	83.7	8.2	6.6	1.5	100.0	1,138
Tigray	93.5	2.9	3.5	0.1	100.0	1,472
Welaita	95.9	2.5	1.7	0.0	100.0	242
Others	90.7	3.7	5.3	0.3	100.0	2,104
Religion						•
Orthodox	90.9	4.5	4.3	0.3	100.0	5,477
Catholic	89.4	5.8	4.8	0.0	100.0	104
Protestant	93.0	3.2	3.6	0.2	100.0	2.110
Muslin	85.9	7.0	6.2	1.0	100.0	4,866
Traditional	89.2	5.4	5.4	0.0	100.0	37
Other	87.2	4.3	8.5	0.0	100.0	94
Total	89.3	5.3	4.9	0.5	100.0	12,688

<sup>&</sup>lt;sup>1</sup> Includes all dried blood spots (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.

<sup>2</sup> Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, 3) noncorresponding bar codes, and 4)

other lab results such as blood not tested for technical reason or not enough blood to complete the algorithm.

#### Table A.3 Coverage of HIV testing according to sexual behaviour characteristics: Women

Percent distribution of interviewed women age 15-49 who ever had sexual intercourse by HIV test status, according to sexual behaviour characteristics (unweighted), Ethiopia DHS 2016

_		Testing	status			
Sexual behaviour characteristic	DBS tested <sup>1</sup>	Refused to provide blood	Absent at the time of blood collection	Other/missing	Total	Number
Age at first sexual intercourse						
<16	94.7	3.3	1.9	0.2	100.0	4,703
16-17	93.5	3.9	2.4	0.3	100.0	2,791
18-19	92.6	4.5	2.5	0.4	100.0	2,073
20+	90.8	6.3	2.8	0.2	100.0	2,142
Missing	89.3	5.9	4.0	0.8	100.0	253
Multiple sexual partners and partner concurrency in past 12 months						
0	91.6	4.7	3.3	0.4	100.0	2,068
1	93.6	4.1	2.1	0.2	100.0	9,837
Missing	93.0	5.3	1.8	0.0	100.0	57
Condom use at last sexual intercourse in past 12 months						
Used condom	86.3	7.6	6.1	0.0	100.0	197
Did not use condom No sexual intercourse in last	93.7	4.0	2.0	0.2	100.0	9,697
12 months	91.6	4.7	3.3	0.4	100.0	2,068
lumber of lifetime partners						
1	92.9	4.3	2.4	0.3	100.0	9,163
2	94.2	3.8	1.9	0.0	100.0	2,163
3-4	94.3	3.6	2.1	0.0	100.0	477
5-9	97.1	1.4	1.4	0.0	100.0	70
10+	91.0	3.0	6.0	0.0	100.0	67
Missing	81.8	13.6	4.5	0.0	100.0	22
Prior HIV testing						
Ever tested	92.9	4.4	2.5	0.2	100.0	6,418
Received results	92.8	4.5	2.5	0.2	100.0	6,029
Did not received results	94.9	2.8	1.3	1.0	100.0	389
Never tested	93.6	4.0	2.1	0.3	100.0	5,544
Total	93.2	4.2	2.3	0.3	100.0	11,962

<sup>&</sup>lt;sup>1</sup> Includes all dried blood spots (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.

<sup>2</sup> Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and 4)

other lab results such as blood not tested for technical reason or not enough blood to complete the algorithm.

<sup>3</sup> A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during

the 12 months before the survey.

Table A.4 Coverage of HIV testing according to sexual behaviour characteristics: Men

Percent distribution of interviewed men age 15-59 who ever had sexual intercourse by HIV test status, according to sexual behaviour characteristics (unweighted), Ethiopia DHS 2016

		Testing	status			
Sexual behaviour characteristic	DBS tested <sup>1</sup>	Refused to provide blood	Absent at the time of blood collection	Other/missing	Total	Number
Age at first sexual intercourse		•				
<16	90.4	5.3	4.3	0.0	100.0	812
16-17	90.4	4.6	4.5	0.5	100.0	1,226
18-19	90.3	4.9	4.6	0.1	100.0	2,023
20+	89.0	5.4	4.8	0.8	100.0	4,836
Missing	93.6	1.2	4.6	0.6	100.0	173
Multiple sexual partners and partner concurrency in past 12 months						
0	87.7	6.3	5.4	0.6	100.0	886
1	90.0	4.9	4.5	0.6	100.0	7,676
Missing	88.4	6.9	4.7	0.0	100.0	508
Condom use at last sexual intercourse in past 12 months						
Used condom	83.2	9.0	7.4	0.4	100.0	721
Did not use condom	90.6	4.6	4.3	0.5	100.0	7,463
No sexual intercourse in last	00.0	1.0	1.0	0.0	100.0	7,100
12 months	87.7	6.3	5.4	0.6	100.0	886
Paid for sexual intercourse in past 12 months						
Yes	88.0	6.0	6.0	0.0	100.0	100
Used condom	87.5	5.6	6.9	0.0	100.0	72
Did not use condom No (no paid sexual intercourse/no sexual intercourse in last 12	89.3	7.1	3.6	0.0	100.0	28
months)	89.7	5.1	4.6	0.5	100.0	8,970
Number of lifetime partners						
1	89.6	4.9	4.6	0.9	100.0	3,768
2	89.7	5.1	5.0	0.3	100.0	2,503
3-4	90.1	5.1	4.6	0.2	100.0	1,470
5-9	90.1	5.3	4.2	0.4	100.0	714
10+	91.3	5.4	3.0	0.2	100.0	404
Missing	84.8	7.6	7.1	0.5	100.0	211
Prior HIV testing						
Ever tested	90.2	4.9	4.6	0.4	100.0	5,077
Received results	90.2	4.8	4.6	0.4	100.0	4,855
Did not received results	89.2	6.8	4.1	0.0	100.0	222
Never tested	89.2	5.4	4.7	0.8	100.0	3,993
Total	89.7	5.1	4.6	0.5	100.0	9,070

¹ Includes all dried blood spots (DBS) tested at the lab and for which there is a result, i.e., positive, negative, or indeterminate. Indeterminate means that the sample went through the entire algorithm, but the final result was inconclusive.
² Includes (1) other results of blood collection (e.g., technical problem in the field), (2) lost specimens, (3) noncorresponding bar codes, and (4) other lab results such as blood not tested for technical reason or not enough blood to complete the algorithm.
³ A respondent is considered to have had concurrent partners if he or she had overlapping sexual partnerships with two or more people during the 12 months before the survey. (Respondents with concurrent partners includes polygynous men who had overlapping sexual partnerships with two or more wives).

# **ESTIMATES OF SAMPLING ERRORS**



he estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2016 Ethiopia Demographic and Health Survey (2016 EDHS) to minimise this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2016 EDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

For detailed information on the 2016 EDHS estimates of sampling errors, see Appendix B of the 2016 EDHS report.

Variable	Estimate	Base population
	Women	
HIV prevalence	Proportion	All women 15-49 who were tested
	Men	
HIV prevalence (Men 15-49)	Proportion	All men 15-49 who were tested
HIV prevalence (Men 15-59)	Proportion	All men 15-59 who were tested
	Men and Women	
HIV prevalence (Women and Men 15-49)	Proportion	All men and women 15-49 who were tested

<sup>\*</sup> Mortality rates are calculated for last 0-4 years before the survey for the national sample, and last 0-9 years before the survey for regional samples.

			Number of cases				Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.012	0.001	14,449	13,297	1.589	0.118	0.009	0.015
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.006 0.006	0.001 0.001	10,308 11,327	11,381 12,479	1.399 1.423	0.184 0.173	0.004 0.004	0.008 0.008
	Men	and Wome	n	•				
HIV prevalence (Women and men 15-49)	0.009	0.001	24,757	24,679	1.629	0.107	0.007	0.011

			Number	of cases			Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.036	0.005	4,688	2,947	1.826	0.139	0.026	0.045
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.020 0.020	0.005 0.004	2,950 3,215	2,257 2,460	1.750 1.735	0.225 0.216	0.011 0.011	0.029 0.028
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.029	0.004	7,638	5,204	1.963	0.130	0.021	0.036

			Number of cases				Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.006	0.001	9,761	10,350	1.555	0.206	0.003	0.008
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.002 0.003	0.001 0.001	7,358 8,112	9,125 10,019	1.233 1.365	0.321 0.298	0.001 0.001	0.003 0.004
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.004	0.001	17,119	19,475	1.552	0.187	0.003	0.006

Table B.5 Sampling errors: Tigray sample, Ethiop	pia DHS 2016							
			Number	of cases			Confider	nce limits
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.015	0.003	1,598	957	1.127	0.228	0.008	0.022
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.007 0.007	0.003 0.003	1,064 1,200	696 782	1.114 1.058	0.412 0.362	0.001 0.002	0.012 0.012
	Men	and Wome	n	•	•	•	•	
HIV prevalence (Women and men 15-49)	0.012	0.002	2,662	1,653	1.172	0.210	0.007	0.016

			Number of cases				Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.016	0.005	1,037	109	1.360	0.332	0.005	0.027
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.012 0.013	0.005 0.005	608 668	81 88	1.203 1.185	0.441 0.406	0.001 0.002	0.023 0.023
	Men	and Wome	n		•		•	
HIV prevalence (Women and men 15-49)	0.014	0.005	1,645	190	1.581	0.324	0.005	0.024

			Number	of cases			Confidence limit	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.013	0.003	1,688	3,149	1.075	0.224	0.007	0.019
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.010 0.010	0.003 0.003	1,463 1,632	2,858 3,177	1.253 1.297	0.329 0.324	0.003 0.003	0.016 0.016
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.012	0.003	3,151	6,007	1.326	0.217	0.007	0.017

			Number	of cases			Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE) 2SE) 0 0.004	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.011	0.003	1,798	4,834	1.273	0.290	0.004	0.017
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.002 0.003	0.001 0.001	1,454 1,570	4,324 4,679	1.042 1.020	0.590 0.502		0.005 0.005
	Men	and Wome	n	•		•		
HIV prevalence (Women and men 15-49)	0.007	0.002	3,252	9,157	1.266	0.272	0.003	0.010

		Number of cases						nce limits
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.001	0.001	1,257	390	0.908	1.012	0.000	0.002
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0 0	0 0	795 872	293 323	NA NA	NA NA	0.000 0.000	0.000 0.000
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0	0	2,052	683	0.877	1.012	0.000	0.001

Table B.10 Sampling errors: Benishangul-Gumuz	sample, Ethi	opia DHS 2	<u>2016</u>					
			Number	of cases			Confider	nce limits
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.016	0.004	1,036	136	1.159	0.286	0.007	0.025
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.003 0.005	0.002 0.003	787 858	116 125	1.017 1.279	0.656 0.588	0.000 0.000	0.007 0.012
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.010	0.002	1,823	252	1.053	0.247	0.005	0.015

	•	Number of cases					Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.005	0.002	1,761	2,788	1.259	0.429	0.001	0.009
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.002 0.003	0.001 0.001	1,372 1,509	2,326 2,553	1.015 1.000	0.584 0.509	0.000 0.000	0.005 0.005
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.004	0.001	3,133	5,114	1.244	0.367	0.001	0.006

			Number	of cases			Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.057	0.012	985	37	1.616	0.210	0.033	0.081
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.037 0.038	800.0 800.0	741 797	34 36	1.205 1.197	0.225 0.212	0.021 0.022	0.054 0.055
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.048	0.009	1,726	71	1.719	0.185	0.030	0.065

			Number	of cases			Confider	nce limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)	
		Women							
HIV prevalence (Women 15-49)	0.035	0.006	742	33	0.906	0.176	0.022	0.047	
		Men							
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.013 0.018	0.005 0.007	457 506	28 31	1.007 1.153	0.416 0.378	0.002 0.004	0.023 0.032	
	Men	and Wome	n						
HIV prevalence (Women and men 15-49)	0.024	0.004	1,199	61	0.903	0.165	0.016	0.033	

			Number	Number of cases			Confidence limits	
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.042	0.006	1,606	789	1.154	0.138	0.030	0.053
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.022 0.023	0.005 0.005	939 1,024	562 611	1.002 1.037	0.216 0.212	0.013 0.013	0.032 0.033
	Men	and Wome	n					
HIV prevalence (Women and men 15-49)	0.034	0.004	2,545	1,351	1.087	0.115	0.026	0.042

			Number of cases				Confide	nce limits
Variable	Value (R)	Standard error (SE)	Un- weighted (N)	Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Lower (R- 2SE)	Upper (R+2SE)
		Women						
HIV prevalence (Women 15-49)	0.035	0.007	941	77	1.218	0.208	0.021	0.050
		Men						
HIV prevalence (Men 15-49) HIV prevalence (Men 15-59)	0.013 0.016	0.005 0.005	628 691	65 71	1.029 1.118	0.364 0.333	0.003 0.005	0.022 0.027
	Men	and Wome	n					
HIV prevalence (Women and Men 15-49)	0.025	0.005	1,569	142	1.149	0.182	0.016	0.034