

# GATS | Ethiopia



Brian McBrearty

## GLOBAL ADULT TOBACCO SURVEY: COUNTRY REPORT 2016



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# Foreword

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Tobacco use is becoming a major cause of preventable premature death and disability in developing countries like Ethiopia, mostly affecting economically productive populations in both the urban and rural communities. Current scientific evidence has established that tobacco consumption and exposure to tobacco smoke cause disease, disability and death. Tobacco products are highly engineered to create and maintain addiction that has been classified as a disorder under the international classification of diseases. Tobacco growing also contributes to environmental degradation, food insecurity and impoverishment in tobacco-growing areas. Several factors have significantly contributed to current tobacco use such as the relatively cheap price of tobacco products—including cigarettes—and aggressive marketing by tobacco industries.

The 2011 Ethiopia Demographic and Health Survey found that tobacco use prevalence amongst adults was 7% for males and only 35 females in number. The Global Youth Tobacco Survey (GYTS) done in 2011 in Ethiopia found that 10.1% of the students had ever smoked. This relatively low prevalence rate makes the country a prime target for the tobacco industry to expand its business.

Comprehensive, evidence-based population level data was not available to show the magnitude, trends or impact of the tobacco epidemic in the country. However, through a detailed and documented account of tobacco use and key tobacco control policies at a national level, the 2016 Global Adult Tobacco Survey (GATS) Ethiopia has addressed this major gap. GATS complements other government agency efforts in periodically monitoring the tobacco epidemic and provides comprehensive evidence and information for tobacco control planning and policy development.

The Ethiopian government is committed to controlling tobacco use through promoting tobacco control efforts, identifying interventions, and developing and implementing tobacco control laws and regulations. The country demonstrated its commitment by signing the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2003 and ratifying the convention in 2014. Therefore, GATS Ethiopia partially fulfills Article 20 of the WHO FCTC, which obligates countries to monitor tobacco use.

This survey has been a collaborative activity by both national and international partners: the Ethiopian Public Health Institute (EPHI), the Food, Medicine, and Health Care Administration and Control Authority (FMHACA), Ministry of Health (MoH), Central Statistics Agency (CSA), World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), CDC Foundation, and RTI International.

The Ethiopian FMHACA expresses its gratitude and appreciation to all partners and participants in the GATS survey.

It is our hope that the nationally representative findings in this report will be useful to all stakeholders in tobacco control and will significantly contribute to our efforts in planning, developing, implementing and evaluating tobacco control policies to save current and future generations from the effects of tobacco.

Mr. Yihulu Denekew  
Director General  
Food, Medicine and Health Care Administration and Control Authority

# Foreword

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On behalf of the U.S. Centers for Disease Control and Prevention's (CDC) Office on Smoking and Health, congratulations to Ethiopia on release of its first Global Adult Tobacco Survey (GATS) Country Report. This report represents Ethiopia's commitment to track and monitor tobacco use and key tobacco control measures using global standards. The data reported can help further improve tobacco control and prevention efforts in Ethiopia, supported by the World Health Organization's Framework Convention on Tobacco Control (WHO-FCTC) and the MPOWER measures -**M**onitor tobacco use and prevention policies; **P**rotect people from tobacco smoke; **O**ffer help to quit tobacco use; **W**arn about the dangers of tobacco; **E**nforce bans on tobacco advertising, promotion and sponsorship; and **R**aise taxes on tobacco.

GATS data presented in this report show baseline tobacco measures for Ethiopia, including tobacco use, secondhand smoke exposure, warning labels and knowledge, attitudes and beliefs regarding tobacco. The data show that approximately 3.4 million (5.0%) adults currently use tobacco in Ethiopia with a disproportionately high prevalence among men. In addition, 6.5 million (29.3%) and 8.4 million (12.6%) adults were exposed to secondhand smoke in their workplace and at home respectively. GATS results present an opportunity for Ethiopia to reduce and prevent the burden of tobacco use among its population.

Tobacco use is a major global public health challenge, which, has been increasing in low- and middle-income countries. It is a leading preventable risk factor for non-communicable diseases including cancer, cardiovascular diseases, diabetes and chronic lung disease. It contributes significantly to increased health care cost and loss of economic productivity. GATS provides countries the mechanism to monitor both international and national targets, goals and strategies. GATS Ethiopia provides important information to stakeholders and decision makers to protect the health of the public. Comprehensive implementation of the WHO MPOWER measures including continued monitoring of these measures can help further reduce the burden of tobacco-related diseases and deaths in Ethiopia.

It is important to acknowledge that the collective efforts of Ethiopia Public Health Institute, in collaboration with Ethiopian Food, Medicine and Health Care Administration and Control Authority, Federal Ministry of Health, the Central Statistical Agency, the World Health Organization (WHO) country office and WHO Regional Office for Africa were critical to making the 2016 GATS Ethiopia a success.

We thank you for your leadership and look forward to continuing collaboration in global tobacco control and prevention.

A handwritten signature in black ink, appearing to read 'Indu B. Ahluwalia', with a long horizontal flourish extending to the right.

Indu B. Ahluwalia, MPH, PhD  
Branch Chief  
Global Tobacco Control Branch  
Office on Smoking and Health  
Centers for Disease Control and Prevention

# Acknowledgement

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The 2016 Global Adult Tobacco Survey (GATS) Ethiopia was successfully conducted with tireless efforts and involvement of several organizations - both local and international - at the various stages of the survey. We would like to sincerely thank everyone who helped make the survey a success.

We are grateful to EPHI for its leadership and vision in implementing GATS in a timely manner. We would like to thank the WHO country office, FMHACA, MoH and CSA for being actively involved in arranging logistics, designing the survey, sampling and training field staff, analyzing data, and compiling the country report.

Special thanks also go to the WHO, CDC, the CDC Foundation, and RTI International for financial and technical support provided to complete the survey. We acknowledge the help and cooperation from the members of the following GATS review committees; the Questionnaire review committee, the Sample review committee and Data Coordinating Center for their technical reviews that ensured internationally acceptable standards and comparability of the survey results.

Our gratitude goes to all the field workers and their supervisors who, despite the rainy seasonal challenges of poor roads during the survey, demonstrated courage and resilience which ensured timely completion of the survey.

This success could not have been achieved without the excellent roles of various stakeholders who provided their maximum support and commitment at every phase of the GATS project.

I am hopeful that this report will provide a new impetus for developing policies, strategic plans and regulations for effective tobacco control in Ethiopia.

Dr Tsigereda Kifle  
Deputy Director General  
Ethiopian Public Health Institute

# Preface

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The Global Adult Tobacco Survey (GATS) is the first nationally representative household survey for systematically monitoring tobacco use (smoking and smokeless) and tracking key tobacco control indicators for adults (i.e., men and women aged 15 years and above) in Ethiopia. It is designed in accordance with international protocol (i.e., standardized questionnaire, sample design, data collection, data management and aggregation and analysis procedures) to produce globally comparable data on tobacco use and control measures within and between countries.

The Bill and Melinda Gates Foundation funded this survey through the CDC Foundation. EPHI implemented the survey in collaboration with the Ethiopian FMHACA, CSA and the WHO country office. The WHO and CDC also provided technical assistance.

This is the first time indigenous researchers in Ethiopia have used digital technology to conduct a large-scale household survey—collecting data, monitoring sampling locations, and interviewing in alternative local languages—using a handheld device. This has started to build capacity to undertake future surveys using this technology.

This survey shall provide data on tobacco use (both smoked and smokeless), tobacco cessation, second-hand smoke, tobacco economics and media as well as knowledge, attitudes, and perceptions toward tobacco among the study population in Ethiopia. This report will provide evidence for governmental and non-governmental partners to improve tobacco control and eventual elimination programmes.

We hope that the collaborative support enjoyed during GATS shall continue as stakeholders design and implement programmes that will contribute to ultimately achieving success in the fight against tobacco use in Ethiopia.

Dr. Ebba Abate  
Director General of Ethiopian Public Health Institute

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# Executive Summary

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## *Introduction*

Tobacco use is a major preventable cause of premature death and disease worldwide (1). Globally, more than seven million people die each year from tobacco-related illnesses (i.e., more than six million from direct tobacco use and approximately 890,000 non-smokers exposed to second-hand smoke) (1). If current trends continue, this number is expected to increase to more than eight million a year by 2030 (2). An efficient and systematic surveillance system is important to monitor tobacco use, evaluate tobacco prevention and control interventions (3). Monitoring and tracking tobacco use and policies provides a foundation for developing and implementing effective tobacco control policies (5).

The Global Adult Tobacco Survey (GATS) is a nationally representative household survey designed to monitor adult tobacco use and track key tobacco control indicators across countries. GATS was launched as part of the Global Tobacco Surveillance System (GTSS) and was first implemented in Ethiopia in 2016 as a nationally representative household survey of non-institutionalized men and women aged 15 years or older. The survey was designed to produce internationally comparable data for the country as a whole and by gender and place of residence (urban/rural).

EPHI implemented GATS Ethiopia in collaboration with FMHACA, CSA, FMOH and the WHO country office. The WHO, CDC and RTI International also provided technical assistance for the implementation of the survey. The CDC Foundation provided program support and financial support through a grant from the Bill and Melinda Gates Foundation.

GATS enhances countries' capacity to design, implement and evaluate tobacco control programs. It also assists countries to fulfill their obligations under the WHO Framework Convention on Tobacco Control (FCTC) to generate comparable data within and across countries. In addition, it allows countries to implement the WHO MPOWER policy package. WHO MPOWER is a technical package developed to assist countries in implementing selected demand reduction measures contained in the WHO FCTC (4). The six MPOWER evidence-based measures contained in the FCTC are below:



- Monitor tobacco use & prevention policies
- Protect people from tobacco smoke
- Offer help to quit tobacco use
- Warn about the dangers of tobacco
- Enforce bans on tobacco advertising, promotion, & sponsorship
- Raise taxes on tobacco

## ***Methodology***

GATS Ethiopia 2016 was a household survey designed to collect nationally representative data on Ethiopians age 15 years or older. The survey used a standardized questionnaire, a multi-stage, geographically stratified cluster sample design, data collection, and management procedures. Researchers used electronic handheld devices for data collection and management. A total of 10,875 households were sampled and there were 10,150 completed individual interviews. The household response rate was 97.9%, the person response rate was 95.4%, and overall response rate was 93.4%.

GATS provided information on respondents' background characteristics, tobacco use (smoking and smokeless) and cessation, exposure to second-hand smoke, economics, and media, as well as knowledge, attitudes, and perceptions in relation to tobacco products.

## ***Key Findings***

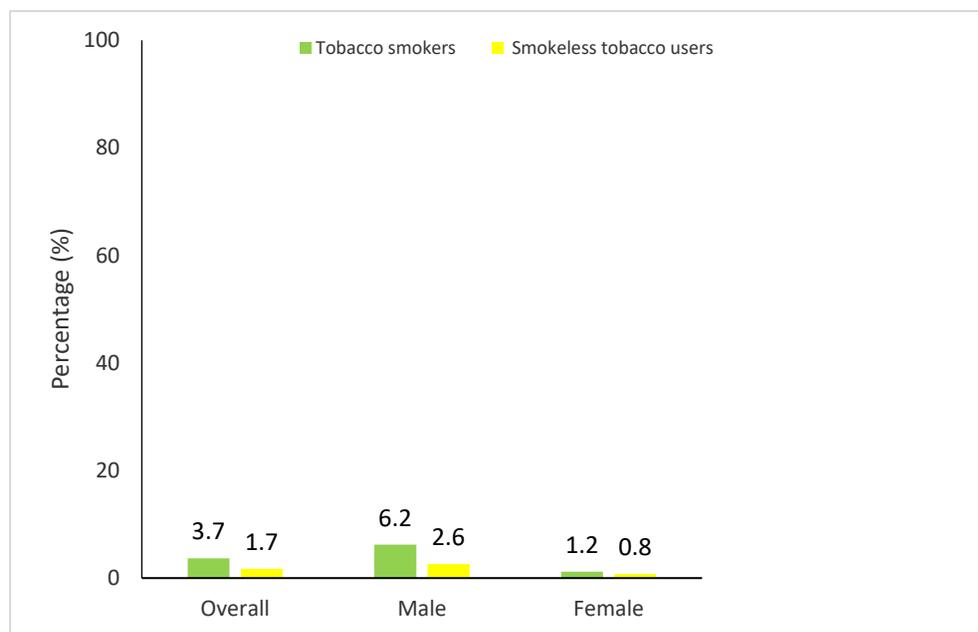
**Tobacco Use:** In 2016, 5% (3.4 million) of adults used tobacco products (8.1% among men and 1.8% among women; 3.8% in urban areas and 5.3% in rural areas). Overall, 3.7% (2.5 million) of adults (6.2% among men and 1.2% among women) were current tobacco smokers. Overall, 3.2% of adults (2.2 million) smoked tobacco daily (5.2% among men and 1.1% among women), and 0.5% (350,000) smoked tobacco occasionally (0.9% among men and 0.1% among women). Among males who were age 20-34-years-old and smoked tobacco daily, 50% started smoking daily before the age of 20 years.

Among daily tobacco smokers, 46.9% smoked their first tobacco within 30 minutes of waking up. Overall, 2.4% of adults smoked cigarettes daily. On average, daily smokers consumed 26 cigarettes per day: 41 cigarettes per day in urban areas and 21 cigarettes per day in rural areas.

Among all adults, 2.7% (1.9 million; 5.3% among men and 1.2% among women) smoked manufactured cigarettes.

Overall, 1.7% of adults were current smokeless tobacco users (1.1 million; 2.6% among men and 0.8% among women) (Figure 1). The prevalence of daily smokeless tobacco use was 1.5%, and it was 0.2% for occasional smokeless tobacco use.

**Figure 1: Type of Tobacco Use by Gender, Ethiopia GATS, 2016**



**Smoking Cessation:** In 2016, 42% of current smokers<sup>1</sup> made a quit attempt in the past 12 months. Three out of four (75.9%) current smokers<sup>21</sup> who made a quit attempt in the past 12 months tried to do so without any assistance.

Among current tobacco smokers<sup>1</sup>, 53% were advised to quit. Overall, 45.2% of current smokers were planning to or were thinking about quitting.

**Exposure to Second-hand Smoke:** Among adults who worked indoors or both indoors and outdoors, 29.3% (6.5 million) were exposed to second-hand smoke in their workplace in the past 30 days; approximately 27.1% (5.7 million) of non-smokers were exposed to second-hand smoke. Overall, 12.6% (8.4 million) of adults were exposed to second-hand smoke at home. Among non-smokers, 9.9% (6.3 million) were exposed to second-hand smoke at home.

Among adults who visited public places in the past 30 days, levels of exposure to second-hand smoke were as follows: 60.4% in bars and nightclubs, 31.1% in restaurants, 19.7% in government buildings, 11.4% on public transportation, and 7% in health care facilities.

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<sup>1</sup> Among current tobacco smokers and former tobacco smokers who have abstained from smoking for less than 12 months

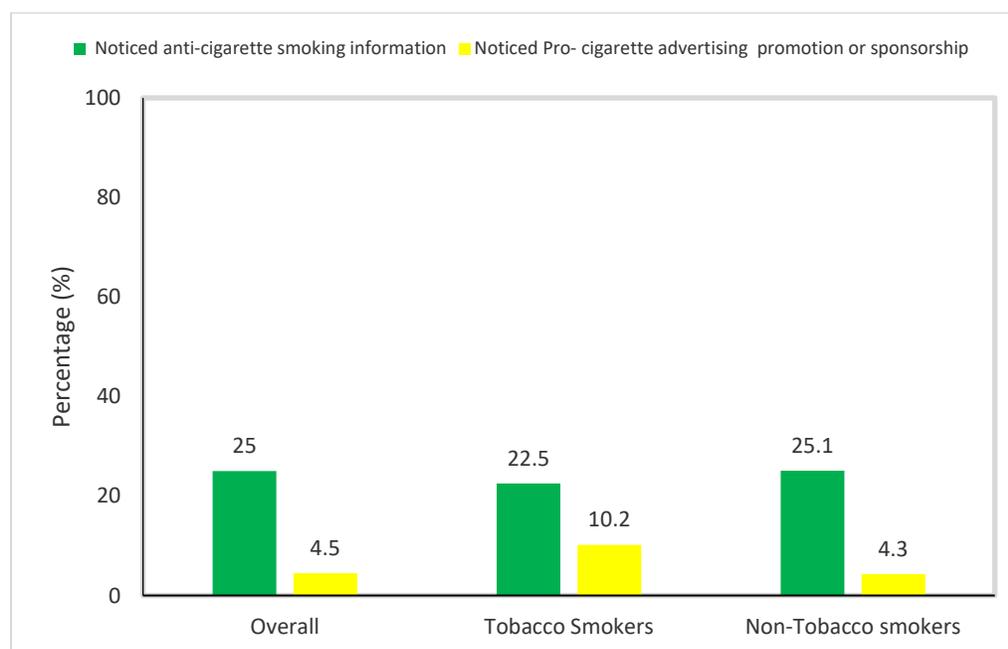
**Economics of Tobacco Smoking:** Overall, Nyala was the last brand of cigarettes purchased by manufactured-cigarette smokers, approximately 87.2% (92% in rural areas and 78.2% in urban areas). Among daily cigarette smokers, the median monthly cigarette expenditure was ETB<sup>3</sup> 150.1 . Among daily smokers, the median amount spent on a pack of 20 manufactured cigarettes was ETB 18.4, and the average cost of 2,000 manufactured cigarettes (100 packs) as a percentage of per capita gross domestic product (GDP) [2016] was 9.7%.

**Media:** Overall, 25% of adults (22.5% among current smokers and 25.1% among non-smokers) noticed anti-cigarette smoking information in any location, with 20.3% of adults noticing anti-cigarette smoking information on television or radio.

Among current tobacco smokers, 41.8% noticed health warnings on cigarette packages; 23.3% thought about quitting because of the warning labels on packages.

Overall, 4.5% of adults noticed any type of cigarette advertising, promotion or sponsorship in the past 30 days (10.2% among smokers and 4.3% among non-smokers). Overall, 1.3% of adults noticed sale prices on cigarettes (5.3% among current smokers). Among young current smokers, (15-24 years old) 13.6% noticed sale price on cigarettes.

**Figure 2: Type of Tobacco Use by Gender, Ethiopia GATS, 2016**



**Knowledge, Attitudes, and Perceptions:** Overall, 88% (72.1% among current smokers and 88.6% among non-smokers) believed that smoking causes serious illness: lung cancer (81.8%),

<sup>3</sup> ETB = Ethiopian Birr, the currency for Ethiopia

heart attack (69.5%), stroke (39.8%), bone loss (37.9%), bladder cancer (34.0%) and premature birth (32.6%).

Overall, 76% of adults believed second-hand smoke causes serious illness in non-smokers.

Overall, 4% of adults have ever heard of electronic cigarettes, and 0.2% had ever used electronic cigarettes.

### ***Conclusion***<sup>4</sup>

GATS Ethiopia 2016 was the first nationally representative household survey focusing on tobacco use and key tobacco control measures in the country. Tobacco use among adults in Ethiopia is low. Results from GATS can be used to inform and influence decision makers, the general population, and the local media. Key activities that could be aligned with Ethiopia GATS results are as follows:

Tobacco use is relatively low in Ethiopia, but the country is at risk of a tobacco epidemic given the industry's shift towards targeting low- and middle-income countries—particularly in Africa, Asia, and Eastern Europe—to recruit new users (5). To prevent this potential epidemic, it is important for Ethiopia to continue monitoring tobacco use and other tobacco control indicators by implementing national population surveys such as GATS and incorporating tobacco questions.

Exposure to second-hand smoke was high in various public places including bars/nightclubs, restaurants, government offices, universities, schools and public transport. The 2015 Tobacco Control Directive provides for smoke-free public places in the country but has provisions for smoking in designated rooms and areas (6). Adoption and implementation of a comprehensive smoke-free policy for all public places according to WHO FCTC Article 8 protects non-smokers from exposure to second-hand smoke (WHO FCTC Article 8) (7).

About four in ten (42%) current smokers<sup>5</sup> attempted to quit in the past 12 months, but among these, three quarters (75.9%) did so without assistance. According to WHO FCTC Article 14, taking into account national circumstances and priorities, effective measures shall be taken to promote tobacco cessation and adequate treatment for tobacco dependence (8). This may include providing accessible low- or no-cost smoking cessation services at both national and local levels to assist in quitting.

Less than half of the smokers noticed the health warning messages on cigarette packages, with only about one quarter (23.3%) thinking about quitting after seeing the message. Enhancing the health warning messages on cigarette packages in line with WHO FCTC Article 11 can help

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<sup>4</sup> The findings and conclusion in this executive summary are those of the author(s) and do not necessarily represent the official position of the U.S. Centers for Disease Control and Prevention.

<sup>5</sup> \* Among current tobacco smokers and former tobacco smokers who have abstained from smoking for less than 12 months

encourage smokers to quit and prevent non-smokers from starting to smoke. WHO FCTC Article 11 recommends that countries that are parties to the convention adopt well-designed health warnings and messages for tobacco products packaging (9). These health warnings, coupled with public health awareness, could be more effective and have a better impact.

Exposure to cigarette marketing on regular media channels, such as television and radio, was low in Ethiopia. However, GATS showed that about one in five adults noticed any cigarette advertisement, sponsorship, or promotion. A total ban on direct and indirect tobacco advertising, promotion and sponsorship, as provided in guidelines to Article 13 of the WHO FCTC, can substantially reduce tobacco consumption and protect people—particularly the youth—from industry marketing tactics (10).

The median amount spent on 20 manufactured cigarettes by a current daily cigarette smoker is ETB 18.4. The average cost of 2,000 manufactured cigarettes (100 packs) as a percentage of per capita GDP (2016) was 9.7%. The WHO recommends increasing taxes on tobacco as an effective way to reduce tobacco use (11) and that the tobacco excise taxes account for at least 70% of the retail prices of tobacco products (11). Increasing the price of tobacco through tobacco excise taxes encourages smokers to quit and prevents initiation among young people (11).

# 1.0 Introduction

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## *1.1 Global Situation*

The growing burden of chronic non-communicable diseases worldwide is gaining attention. Approximately 36 million people died from non-communicable diseases in 2008, representing 63% of the 57 million global deaths that year. Heart diseases, stroke, cancers, chronic respiratory diseases and diabetes by far constitute the leading causes of mortality in the world. In 2030, such diseases are projected to claim the lives of 52 million people (1).

As one of the modifiable risk factors for non-communicable diseases, tobacco use is responsible for almost seven million deaths worldwide each year, both from direct tobacco use and second-hand smoke. By 2020, this number will increase to ten million, accounting for 10% of all deaths. Smoking is estimated to cause about 71% of lung cancer cases, 42% of chronic respiratory disease cases and nearly 10% of cardiovascular disease cases. Tobacco use causes more than half a trillion dollars of economic damage each year. If the current trend is not curbed, it will be responsible for one billion deaths at the end of this century(4).

This epidemic is fueled by a combination of risk factors, including tobacco use, unhealthy diet, lack of physical activity, harmful alcohol use, obesity, and elevated blood pressure, blood sugar and cholesterol (2). For a long time, international focus has been centered on the prevention of HIV/AIDS, malaria and tuberculosis. As a result, non-communicable diseases have been left unnoticed in the developing world, becoming epidemics.

Eighty percent of chronic disease deaths occur in low- and middle-income countries, affecting the younger populations and leading to premature mortality due to lack of prevention, effective disease management or their risk factors. Thus, low- and middle-income countries are affected by the double burden of growing chronic and communicable diseases, maternal and perinatal conditions and nutritional problems (3).

To fight the global tobacco epidemic, the 56<sup>th</sup> World Health Assembly adopted the WHO FCTC on May 21, 2003 and entered it into force on February 27, 2005 (5).

Tobacco is becoming the leading cause of death worldwide, particularly in low- and middle-income countries, causing more deaths than HIV, tuberculosis, maternal mortality, road traffic accidents, homicide and suicide combined. If prevention and control mechanisms are not set and the current trends persist, about 650 million people will eventually be killed by tobacco, half of them in productive middle age, each losing 20 to 25 years of life (6). According to the Adventists Development And Relief Agency (ADRA) Network Journal report, tobacco is estimated to cost

the world nearly \$200 billion annually in increased health care costs, a sum that could easily double the current health budget of all developing countries.

Tobacco production and consumption is more than a health hazard: it challenges sustainable development with its multi-faceted consequences on environment, trade, taxation, social policy, direct and indirect health care costs, and power/gender/labor relations. It is well-known that at present, nearly 70% of the world's tobacco is grown in developing countries, yet tobacco farmers receive only a small percentage of the profits that tobacco production generates (Schweiz, 1995).

Moreover, poverty and tobacco have created a deadly cycle. Rather than spending on food, shelter, health care or education, people use income to purchase tobacco products. In addition, tobacco may contribute to increased poverty in many low- and middle-income countries due to its higher health care costs, loss of productivity from illness and early death, as well as deforestation and other environmental damage.

Therefore, tobacco prevention and control should take its rightful place on the global and national human development agenda. The WHO provides leadership to reduce the global burden of disease and death caused by tobacco, protecting present and future generations from the devastating health, social, environmental and economic consequences of exposure and consumption. The WHO FCTC and the MPOWER package of tobacco policies help to accomplish this. Parties to the WHO FCTC are obligated to adhere to the provisions and guidelines of the WHO FCTC.

An efficient and systematic surveillance mechanism to monitor the tobacco epidemic is one of the essential components of a comprehensive tobacco control program. GATS launched in February 2007 as a new component of the ongoing GTSS. GATS enables countries to measure tobacco use and other key tobacco control indicators in a country. Results from GATS assist countries in the formulation, implementation, tracking and evaluation of effective tobacco control interventions. GATS also allows for cross-country comparison.

## ***1.2 National Situation***

Evidences around tobacco smoking in Ethiopia are meager. The Ethiopian Demographic and Health Survey (EDHS) generated the only nationally representative evidence on tobacco use. The survey revealed that about 7% of men aged 15-49 use tobacco products of some kind; 6% smoked cigarettes. Men age 40-49 (11-13%) and men in Harari (27%), Somali and Dire Dawa (both 24%), and Afar (20%) are the most likely to smoke cigarettes. Among men age 15-49 who smoke cigarettes, about one third (34%) smoked three to five cigarettes in the previous 24 hours, while another 29% smoked ten or more cigarettes in the previous 24 hours (7).

In addition, a Global Youth Tobacco Survey (GYTS, 2005) conducted in secondary schools in Addis Ababa revealed that, overall, 10.1% of students (15.2% of boys and 5.7% of girls) had ever

smoked cigarettes (8.8% at age 13 to 12.6% at age 16 and older). Nine percent of students currently use any form of tobacco (3% currently smoke cigarettes, and 8% currently use some other form of tobacco). Among those who never smoke, 13.6% (one in seven) were likely to initiate smoking next year. Collectively, more than 20% of the youth surveyed associated smoking with a positive image (smokers more often than non-smokers), with boys higher than girls. This study showed that second-hand smoke exposure was high: almost two in ten students lived in homes where others smoke in their presence, and over four in ten were exposed to smoke in public places. One in ten had parents who smoked. Contrarily, over five in ten students think smoke from others is harmful to them, and almost all students think tobacco smoking in public places should be banned. Of the majority of the students who smoke, 89.9% received help to stop smoking. Finally, GYTS indicates that seven in ten students saw anti-smoking media messages in the past 30 days; over five in ten students saw pro-cigarette advertisements in the past 30 days (8).

The Ethiopia Federal Ministry of Health has put policies and appropriate strategies in place to tackle the effects of tobacco. The National Health Policy (1993) greatly emphasizes disease prevention and health promotion strategies to discourage acquisition of harmful habits and behaviors like cigarette smoking. Ethiopia has also issued a strategic framework for non-communicable diseases (NCD) (2010/11-2014/15), where tobacco remains among the major risk factors receiving attention to prevent and reduce the burden of morbidity, mortality and disability due to chronic diseases.

One of the country's milestones in the history of tobacco control and prevention is the ratification of the WHO FCTC in January 2014. This was ten years after the country signed the treaty in 2004. A series of proclamations were made before the ratification of the treaty to help speed up tobacco control and implementation of the FCTC. Tobacco directive 2014, which is comprised of regulations in line with demand and supply articles of the FCTC, came in to force and circulated to all regions and city administrations.

The need to oversee and monitor the FCTC implementation received serious attention. A national coordination committee comprised of relevant sector offices, civil societies, academia, public health professional associations and members of the private sector formed to begin developing a strategic plan covering the period from 2016-2020.

To strengthen tobacco surveillance and monitoring, the implementation of the FCTC, the Ethiopia Federal Ministry of Health, the FMHACA and EPHI have collaborated with the WHO and CDC to conduct GATS in 2016.

The purpose of GATS is to systematically monitor adult tobacco use (smoking and smokeless) and track key tobacco control measures.

### **1.3 Problem Statement**

One essential component of tobacco control is a systematic surveillance mechanism to monitor trends in tobacco use and other key control indicators. A comprehensive nationwide survey was required to generate comparable data within and across countries and monitor key indicators of the MPOWER package. Before GATS, Ethiopia participated in one other GTSS survey: GYTS in 2003.

GATS provides national estimates for tobacco use and cessation, second-hand smoke, media, attitudes and knowledge, and economics on tobacco use, classified by residence, gender and other socio-demographic characteristics.

### **1.4 Objectives**

#### **1.4.1 General objectives**

The general objective of this survey is to generate nationally representative data on adult tobacco use, main indicators of tobacco consumption and key tobacco control measures that can be compared across countries.

#### **1.4.2 Specific objectives**

- To estimate general tobacco use and, specifically, types of tobacco product used and age of initiation in general adult population and by various socio-demographic characteristics
- To estimate exposure to second-hand smoke at home, workplaces and in various public places
- To estimate quit attempts, cessation methods and health care provider support
- To assess knowledge, attitudes and perceptions towards tobacco use and exposure to second-hand smoke
- To assess exposure to tobacco messaging and tobacco advertising, promotion and sponsorship
- To estimate the economics of tobacco use in terms of cigarette purchase patterns, price, and tobacco product brands and sources

## 2.0 METHODOLOGY

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### 2.1 *Questionnaire*

The GATS core questionnaire is adapted for Ethiopia to include some optional questions through a process of intensive consultations to reflect country-specific questions, meetings and proposed edits by the Questionnaire Review Committee (QRC). Recognizing the high level of population diversity in Ethiopia—multiple nationalities and ethnicities, varying cultures, and 80 languages spoken—the GATS committee came to consensus to make use of three primary languages for interviewing: Amharic, Oromiffa, and Tigrigna. In addition, the English questionnaire was also included in the survey. To address language barriers, the committee recruited interviewers and supervisors who have skills speaking and writing these languages. The QRC approved and incorporated the pretest experience into the questionnaire.

#### 2.1.1 *Questionnaire Translation and Development*

The GATS Ethiopia questionnaire was translated into Amharic, Oromgna and Tigrigna. It is composed of the following sections:

- **Household questionnaire:** The household questionnaire provides information on members who consider the selected household as their primary place of residence a night prior to the survey date. The questionnaire identifies the number of household members eligible (15 years of age and older) for an interview. The respondent to the questionnaire is any adult 18 years of age or older living in the selected household. However, the head of the household was primarily asked to provide the information. In instances where the head of the household was nonexistent or absent, any person living in the household was a respondent. The household questionnaire collects information on the number of household members and their basic information including age, gender and current smoking status.
- **Individual questionnaire:** An individual questionnaire was used to collect information from selected males or females. Because of the sensitivity of some of the questions asked, care was taken to match the gender of interviewers with those of the respondents, but this matching did not required a gender randomization in the sample design when selecting the households. It was an essential requirement for the interviewer to obtain informed consent before beginning the interviewing process. The individual questionnaire consisted of eight sections:
  - **Section A-Background characteristics:** Gender, age, education, work status, and household items.
  - **Section B-Tobacco smoking:** Patterns of tobacco use (i.e., daily consumption, less than daily use, not at all), former/past tobacco use, age of initiation of daily smoking, use of different tobacco products (i.e., cigarettes,

pipes, cigars and other smoked tobacco), nicotine dependence, and frequency of quit attempts.

- **Section C-Smokeless tobacco:** Patterns of use (i.e., daily use, less than daily use, not at all), former/past use of smokeless tobacco, age of initiation of daily use of smokeless tobacco, consumption of different smokeless tobacco products, nicotine dependence, and frequency of quit attempts.
- **Section D-Cessation:** Advice to quit smoking by health care provider and method used to try to stop smoking. Similar information is asked for cessation on smokeless tobacco as well.
- **Section E-Second-hand smoke:** Exposure to second-hand smoke in indoor workplaces, at home and in public places (e.g., government buildings/offices, health care facilities, restaurants, public transportation, schools, universities, or bars/night clubs). There are some additional optional items on exposure that include universities, private workplaces, knowledge, etc.
- **Section F-Economics:** Type of tobacco product and quantity bought, and the cost, brand, type and place of last purchase of cigarettes product(s).
- **Section G-Media:** (1) Exposure to tobacco messaging and advertisement. (2) Various media promotion and sponsorships (e.g., television, radio, billboards, posters, newspapers/magazines, cinema, internet, public transportation, public walls, etc.). (3) Exposure to sporting events connected with tobacco; exposure to music, theatre, art or fashion events connected with tobacco; exposure to tobacco promotion activities; reaction to health warning labels on cigarette packages; and exposure to anti-tobacco advertising and information. Similar questions are included for smokeless tobacco as well. The reference period for the questions in this section is 30 days.
- **Section H-Knowledge, attitudes and perceptions:** Knowledge about health effects of both smoking and smokeless tobacco.

## 2.2 *Sample Design*

Researchers conducted a population-based descriptive cross-sectional study using the WHO and CDC GATS survey methods to determine adult tobacco use and key tobacco control measures in Ethiopia.

GATS Ethiopia obtained precise estimates nationally by gender and residence (urban/rural) separately, and by combination of gender and residence:

1. National estimates
2. Estimates by gender (males; females)
3. Estimates by residence (urban; rural)
4. Estimates by combination of gender and residence (male\*urban; female\*urban; male\*rural; female\*rural)

Hence, a minimum national sample of 10,875 respondents, including adjustments for non-respondents, was designed to achieve 8,000 completed interviews.

### 2.3 Target Population and Sample Frame

The target population included all men and women 15 years of age and older residing in any of the nine regional states and two city administrations in Ethiopia (see Figure 1 for the state structure). The sample selection did not include institutionalized adults. The survey was conducted in the target population with a usual member of the sampled household who either (1) did not have any other residence, or (2) had multiple residences but had been living in the sampled household for at least six months during the year prior to the survey. The institutional population living in prisons, hospitals, military barracks, school dormitories, etc. were excluded from the universe defined for the household surveys<sup>1</sup>.

The sampling frame for GATS was based on the Enumeration Areas (EA) from the CSA.

The prevalence is reported at the national level and is stratified by gender and residential areas. Sub-national prevalence was also considered and reported at the level of regions without any stratification.

**Table 2.1: Distribution of household in sample frame in nine regions and two city administrations, Ethiopian GATS, 2016**

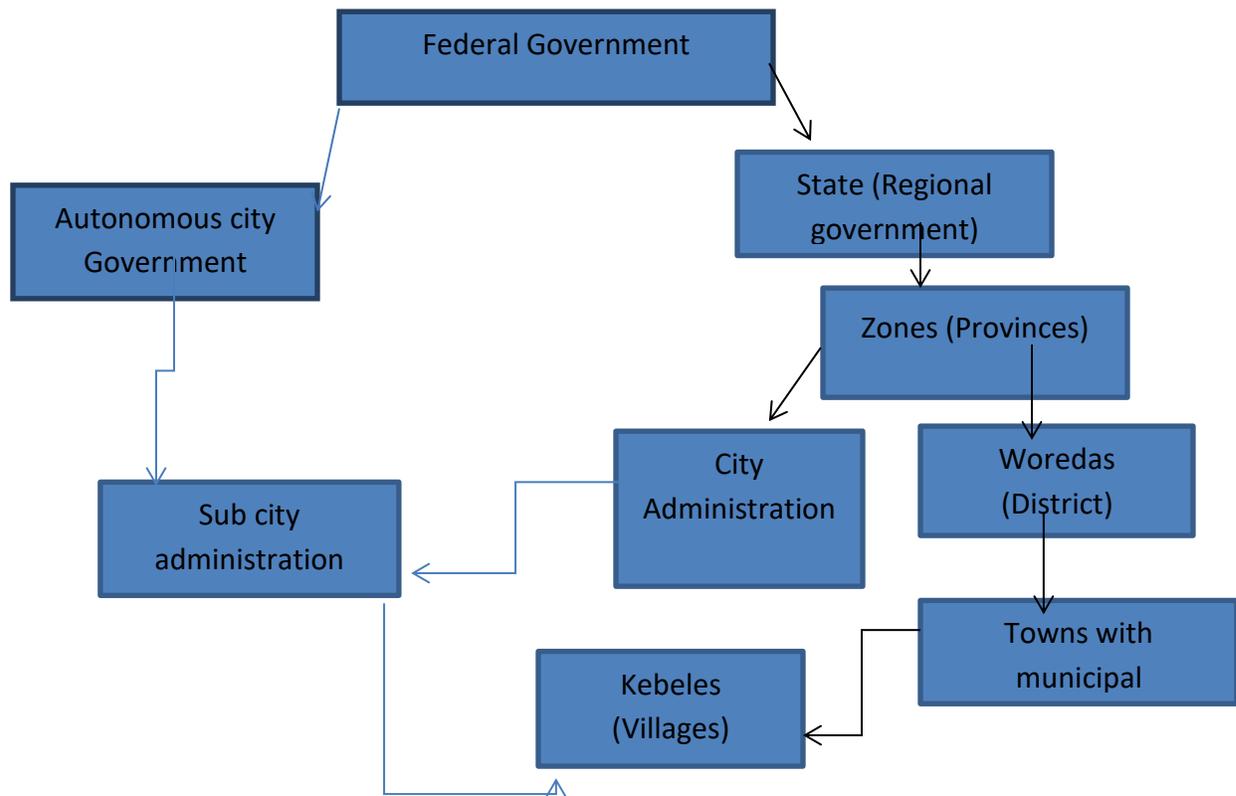
REGION	Urban	Rural	Total
TIGRAY	241,947	749,342	991,289
AFAR	46,455	187,745	234,200
AMHARA	626,998	3,348,277	3,975,275
OROMIA	884,518	4,698,411	5,582,929
SOMALIA	100,304	536,492	636,796
Benishangul	28,676	144,363	173,039
SNNPR	366,571	2,728,189	3,094,760
GAMBELA	19,811	39,074	58,885
HARARI	28,552	18,191	46,743
Addis Ababa	655,977		655,977
DIRE DAWA	54,505	22,240	76,745
Total	3,054,314	12,472,324	15,526,638

Source: Ethiopian population and house census 2007

**Table 2.2: Summary of household's distribution in urban and rural in all sample frame, Ethiopian GATS, 2016**

	No. EAs	No. HHs
Urban	17,100	3,054,314
Rural	68,450	12,472,324
Total	85,550	15,526,638

**Figure 1: State structure in Ethiopia**



#### **2.4 Inclusion and Exclusion Criteria**

All non-institutionalized citizens, both males and females 15 years of age and older, living in a sampled household met the household residence requirement if the sampled household was considered to be their usual place of residence at the time that the household questionnaire was completed. In addition, a person who had recently moved to the sampled household to make it his/her sole residence was considered a member of that household if he/she did not plan to return to his/her previous household. Institutional populations—including prisoners, hospital-admitted patients, students living in dormitories, and other similar populations—were excluded in this survey.

#### **2.5 Sample Size Determination**

A single proportion formula was used to determine the sample size. To adjust for the loss of precision due to cluster sampling, the committee multiplied the sample size by the design effect. To have an adequate level of precision for each age-sex estimate, the number of age-sex groups for which the estimates were reported were multiplied by the sample size. To adjust for the anticipated non-response, we used a 20% non-response rate based on CDC’s recommendation for GATS survey.

$n = NZ^2pq/d^2 (N-1) + Z^2pq$ , where  $q=1-p$

Thus, Z-score=1.96; Proportion=40% (GATS tobacco use prevalence, 2010) and marginal error=0.03; Design effect =1.5; age-sex estimate=10 % groups and non-response rate=20%. Thus, a total of 10,875 study subjects were included in the study.

### ***2.5.1 Sampling Procedure***

GATS Ethiopia used a mixture of sampling approaches (i.e., stratified, three-stage cluster sampling and simple random sampling using handheld device) to select the study settings and the study participants. A multi-stage geographically stratified cluster sampling and population proportion to size (PPS) designs were used to produce key indicators for the country as a whole and by gender and residence (urban or rural). The sampling frame was based on the population and housing census conducted for Ethiopia in 2007 as shown in Table 2 and Table 3 above. Adjusting for non-response and non-eligibility, the sample size was calculated to be 10,875 (5,481 rural and 5,394 urban) by taking into account the GATS Sample Design Manual requirements (at least a sample size of 8,000 households is required, with 4,000 for rural and 4,000 urban).

The total sample size calculated for the country was distributed across the regions based on population size; sample allocation using probability proportional to size (PPS) technique. With PPS, the percentage of the population that each region contributes to the national total was reflected in the distribution of the sample size. Based on the PPS calculation, most of the clusters were allocated to four major populous regions (Oromia, Amhara, Tigray and SNNP). If we strictly follow the PPS approach, it will not give us proportional estimates for each regional state and city administration.

Ethiopia is a country with diverse cultural practices that may influence individual behavior related to tobacco use. Therefore, the research team opted to use power allocation for the number of clusters to come up with a sufficient sample size to distribute nationally based on urban-rural estimates for region and city administrations proportionally. Power allocation was used after applying PPS to adjust the sample size in a representative manner.

In the first stage, a sub sample of 375 enumeration areas (EAs) — i.e., primary sampling units (PSUs) — was selected from the master sample using probability proportionate to size (PPS). An equal number of PSUs i.e. EAs were allocated to urban and rural domains before selection. Prior to selecting the household sample, a re-enumeration process of all 375 GATS EAs was conducted to update the household address information (since 2014). The process of re-enumeration allowed for complete household coverage with precise sampling results for the survey.

***Table 2.3: Power allocation of enumeration areas, Ethiopian GATS, 2016***

<b>REGION</b>	<b>urban</b>	<b>Rural</b>	<b>Total</b>
Tigray	18	20	38
Afar	15	17	32
Amhara	20	24	44
Oromia	21	25	46
Somali	16	20	36
Benishangul	14	17	31
SNNPR	19	23	42
Gambela	14	15	28
Harari	14	14	28
Addis Ababa	20	-	20
Dire Dawa	15	14	29
Total	186	189	375

In the second stage, 10,875 households were chosen systematically from selected PSUs/EAs (secondary sampling unit). Twenty-nine households were selected per PSU/EA.

**Table 2.4: Power allocation of households, Ethiopian GATS, 2016**

<b>REGION</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
Tigray	521	590	1,111
Afar	435	507	942
Amhara	579	696	1,275
Oromia	601	722	1,323
Somalia	473	569	1,042
Benishangul	412	492	905
SNNPR	546	680	1,226
Gambela	396	426	822
Harari	412	392	804
Addis Ababa	582	-	582
Dire Dawa	442	401	843
Total	5,399	5,288	10,875

In the last stage, one eligible member 15 years of age or older was selected randomly from the list (roster of 15+ eligible individuals) using handheld devices within each selected household.

**Table 2.5: Sampling Design Summary, Ethiopian GATS, 2016**

<b>Stage</b>	<b>Sampling Unit and Frame Source</b> <i>What is being sampled and from what sampling frame?</i>	<b>Stratification</b> <i>Stratify by what? Which sample allocation approach?</i>	<b>Sample Selection</b> <i>How will random selection be used?</i>	<b>Overall Sample Size</b>
<b>1</b>	Enumeration areas as Primary Sampling Unit (PSU): <ul style="list-style-type: none"> <li>• Divided into two groups: urban and rural</li> <li>• The 85,550 Enumeration Areas are divided into 9 regions and 2 City Administration</li> </ul>	Enumeration Area: <ul style="list-style-type: none"> <li>• Urban, 20%</li> <li>• Rural, 80%</li> </ul> It is the simplest stratification nationally	[INEC/Census] Master Sample:  Selection PPT (Selection probability proportional to population size)	<ul style="list-style-type: none"> <li>• Total number of PSUs:375</li> <li>• urban= 186</li> <li>• Rural= 189</li> </ul>
<b>2</b>	Secondary Sampling Unit (SSU): <ul style="list-style-type: none"> <li>• Households</li> <li>• Urban: 3,054,314</li> <li>• Rural: 12,472,324</li> <li>• Total: 15,526,638</li> </ul>	Average number of households (per EA) <ul style="list-style-type: none"> <li>• Urban: 200</li> <li>• Rural: 160</li> </ul>	Systematic Sampling <ul style="list-style-type: none"> <li>• One in every seven households</li> <li>• The minimum households visited :29 households) in Urban EAs and one in every five households in rural EAs</li> </ul>	<ul style="list-style-type: none"> <li>• 29 households will be selected in each EA</li> <li>• Total households selected: 10,875</li> </ul>
<b>3</b>	Tertiary Sampling Unit (TSU):  Final Sampling Unit: <ul style="list-style-type: none"> <li>• Individuals 15 years and over</li> <li>• Population 15 years and over by 2011: 3,233,882</li> </ul>	Distribution: <ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	Random selection by handheld device	<ul style="list-style-type: none"> <li>• One person per home</li> <li>• Sample: 10,875</li> </ul>

## **2.6 Pretest**

To test GATS survey instruments considering different socio-demographic structures and languages, researchers conducted a pre-test following Training of Trainers (TOT) in four EAs and in four regions. EAs were identified prior to TOT training, and they were excluded in the full field survey. Two EAs were allocated for urban settings and two were allocated for rural settings. An average of 29 households were selected per EA. In total, 116 individuals participated in this pretest following GATS eligibility criteria for both household and residence.

## **2.7 Training:**

There were two phases of GATS training:

1. Trainers' training, including the pre-test
2. Fieldworkers' training

### **2.7.1 Trainers' Pre-test Training**

The goal of information technology (IT) training was to build the capacity of the EPHI team's ability to support the successful implementation of both GATS pre-test and full survey.

The IT training focused on use of the GATS survey software, Android tablets, and hotspot connections from a sim-based tablet to a Wi-Fi-based tablet. It also focused on casefile preparation, and data transmission, management and aggregation. In addition, the training highlighted Android's tablets' maintenance, including battery performance.

All these IT aspects of GATs were tested during the pre-test fieldwork to assess the applicability of handhelds in the field, including data transfer and data aggregation. Even though data transmission through IFSS and ODK systems is a familiar method for EPHI, the use of Android tablets as a desynchronized dropbox is relatively new in Ethiopia, particularly in data collection. Finally, in addition to the multi-language questionnaires that would be used for the actual survey, GATS pre-test exercises allowed testing of all the instruments and equipment.

### **2.7.2 Fieldworkers' Training**

The field staff training started with an overall introduction to GATS, including eligibility, mapping and listing, sampling, questionnaires, interviewing techniques, etc. It took place August 23-24, 2016.

The training was used to introduce and train the GATS field staff to acquire all required skills and knowledge that will enable them to implement the survey. Instructors led class presentations, group reviews of how to administer paper-based questions, practice with the handheld devices and paired mock interviews. The different training methods helped participants understand the survey concepts, learn how to complete both household and individual questionnaires using handheld devices, and share best practices related to data transmission using hotspot connections. They also shared tips on interviewing techniques and fieldwork procedures.

CDC provided manuals for field interviewing, field supervising and question-by-question specification that were adapted to Ethiopian context and used for training field personnel. With the support of field supervisors, trainees reviewed the paper-based questionnaires, and further practiced interviewing using the questionnaire on handheld tablets. Additional

lessons on details of the survey procedures, eligibility criteria, interviewing techniques and clarifications on individual question codes were given emphasis to be considered during fieldwork.

On the other hand, question-by-question specification and the interviewer's manual described each question contained in both the household and individual questionnaires. Seventy-five field staff members (69 males and six females) were recruited by EPHI to participate.

## **2.8      *Fieldwork and Data Management***

### **2.8.1      *Mapping and Listing***

EPHI and CSA completed the mapping and listing procedure. Maps of selected PSUs (i.e., enumeration areas [EAs]) already obtained maps from EDHS/CSA. CSA supervised 375 enumerators and collected relevant information to update the maps of the selected secondary sampling units (SSUs). These data were fed into the computer database to prepare case assignment forms. The EA maps were used during data collection to locate the selected households.

### **2.8.2      *Data Collection Procedures***

EPHI IT staff uploaded the questionnaire onto the handheld device in collaboration with CDC and RTI IT experts. Field staff regularly sent the data they collected through sim-based tablets to the GATS dropbox. The survey employed college graduates with bachelor's degrees as field interviewers and as field supervisors.

There were 75 field staff members. Eight regional coordinators from EPHI were assigned to coordinate the implementation of the survey in eight different routes across the country.

### **2.8.3      *Data Collection and Transfer Mechanisms***

GATS Ethiopia used handheld devices for questionnaire administration. Each of the 50 interviewers and 25 field supervisors had one handheld tablet programmed with the final versions of both the household questionnaire and the individual questionnaire along with other necessary software for data transfer. The regional coordinators and central staff members also used handheld tablets for training and quality control procedures. The CDC Foundation provided the handhelds and associated accessories and shipped them to EPHI through the WHO country office.

Data from all handhelds were transferred to sim-based tablets through hotspot connections. Using mobile network coverage, the field supervisor then sent the data to the GATS dropbox while RTI International's file transfer software encrypted it. GATS IT specialists aggregated and periodically backed up the uploaded data using the software developed by RTI.

## 2.9 *Quality Assurance*

GATS is the first global and standard adult tobacco survey to provide comparable estimates across countries. Therefore, high quality assurance of data collection was critical. Four-step quality control measures were incorporated in the study to ensure quality data.

- a) The simultaneous collection and entry of data using inbuilt programmed questionnaires in handheld devices ensured data quality in the first stage. The programmed questionnaires used appropriate pre-coded answers and optional answers, a built-in skip pattern without any duplication, a callback registry, and provided the time and duration of data collection. Therefore, administrators anticipated minimum error in data collection.
- b) In the second step, the field supervisors ensured data quality through their active vigilance in the field. They enforced required logistics in the fields, communicated with the local authorities and regional coordinators, assigned households to the interviewers, and made themselves aware of where and when the team was working. They also assisted the team of interviewers to select the starting point, supervised them as they performed the survey, and observed the interview procedures. To reduce the non-response rate, field interviewers and field supervisors conducted up to four callbacks to complete interviews for selected individuals.
- c) In the third step, all the coordinators (general and zonal) played proactive roles in maintaining the quality of the data. Interviewers, supervisors and other participants were provided extensive training to ensure data quality. The regional coordinators made surprise visits to the field to check data randomly during the collection period. They also observed interviewing procedures and the preservation of data collection equipment and other materials required for GATS. General coordinators made surprise visits to the field and checked whether field staff members were maintaining GATS protocol.
- d) In the fourth step, an independent quality assurance team, comprised of members from EPHI, MoH, EFMHACA, CSA, the WHO and GATS TWG, was coordinated in the report checking and editing phases. They also conducted post enumeration checks of the collected data using a checklist. Members of the quality assurance team also attended coordination meetings to oversee the progress of the survey. CDC and RTI provided technical support remotely as required and also provided assistance based on quality control reports received regularly (bi-weekly) on fieldwork status from the national IT coordinator.

## 2.10 *Statistical Analysis*

Complex survey data analysis was used to obtain prevalence and population estimates with 95% confidence intervals. To improve the representativeness of the sample in terms of the size, distribution, and characteristics of the study population, they calculated sample weights for each respondent prior to the analysis. SPSS version 19, SAS version 9.2, and SUDAAN version 10.1 software were used for data analysis. Standard errors were calculated using Taylor series linearization (see Appendix for details).

Statistical significance was measured by comparing the 95% confidence intervals of two estimates to determine whether they were different statistically. This report states two estimates are different, either higher or lower, only if their confidence intervals are non-overlapping. Please note that this method is rather conservative.

## 3. Sample Characteristics and Population

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### 3.1 *Household and Person-Level Response Rate*

Table 3.1 presents the number of households and persons interviewed and the response rate by residence. Of the 10,875 sampled households, 10,649 completed the household screening, yielding a response rate of 97.9%. In urban areas, 5,291 of 5,394 sampled households completed the screening, yielding a response rate of 98.1%. In rural areas, 5,358 of 5,481 sampled households completed the screening with a response rate of 97.8%.

Out of 10,649 eligible people, 10,150 completed the survey. The overall person-level response rate was 95.4%: 95.8% (5,064 out of 5,291) for urban areas and 95% (5,086 out of 5,358) for rural areas.

The overall response rate was computed using the product of the household response rate and the person-level response rate. This rate was 93.4%; the response rate was 94% for urban areas and 92.9% for rural areas.

### 3.2 *Sample and Population Characteristics*

Table 3.2 presents the unweighted sample size and the weighted population estimates by selected demographic characteristics. The total unweighted sample was 10,150. Based on the 2007 Ethiopia population census, the weighted number of adults aged 15 years or above was 68.37 million. The distribution of the unweighted sample by gender shows that 4,627 men and 5,523 women completed the survey, with the weighted proportions by gender showing 49.9% (34.1 million) for men and 50.1% (34.25 million) for women. By residence, the number of unweighted respondents was 5,064 for urban areas and 5,086 for rural areas. The weighted population in urban areas was 24.1% (16.5 million) and 75.9% (51.9 million) for rural areas. Distribution by age group indicates that the number of unweighted respondents was 2,754 for ages 15-24 years; 5,341 for 25-44 years; 1,576 for 45-64 years; and 483 for age 65 years and over. The weighted percentages for these age groups were 45.3%, 36.1%, 14.3%, and 4.2% for age groups 15-24, 25-44, 45-64 and 65 years or more respectively. The weighted percentage with no formal education was 35.7%; primary school completed was 37.0%; secondary school completed was 21.3%, and higher than secondary school education was 6.0%.

**Table 3.1: Number and percent of household and persons interviewed and response rate by residence (unweighted).**

	Residence				Total	
	Urban		Rural		n	%
	n	%	n	%		
<i>Selected household</i>						
Completed, person selected for interview (HC)	5,291	98.1	5358	97.8	10,649	97.9
Completed, none eligible for interview (HCNE)	1	0.0	0	0.0	1	0.0
Incomplete (HINC)	1	0.0	0	0.0	1	0.0
No screening respondent (HNS)	24	0.4	0	0.0	24	0.2
Nobody home (HNH)	33	0.6	5	0.1	38	0.3
Refused (HR)	14	0.3	2	0.0	16	0.1
Unoccupied (HUO)	0	0.0	0	0.0	0	0.0
Address not a dwelling (HAND)	0	0.0	0	0.0	0	0.0
Other (HO) <sup>1, *</sup>	30	0.6	116	2.1	146	1.3
Total Households Selected	5,394	100	5,481	100	10,875	100
Household Response Rate <sup>2</sup>	98.1%		97.8%		97.9%	
<i>Selected person</i>						
Completed (PC)	5,064	95.7	5,086	94.9	10,150	95.3
Incomplete (PINC)	0	0.0	3	0.1	3	0.0
Not eligible (PNE)	3	0.1	5	0.1	8	0.1
Not at home (PNAH)	22	0.4	16	0.3	38	0.4
Refused	16	0.3	4	0.1	20	0.2
Incapacitated	185	3.5	243	4.5	428	4.0
Other <sup>1</sup>	1	0.0	1	0.0	2	0.0
Total Eligible Persons	5,291	100	5,358	100	10,649	100
Person-level Response Rate <sup>3</sup>	95.8%		95.0%		95.4%	
Total Response Rate <sup>4</sup>	94.0%		92.9%		93.4%	

<sup>1</sup> Other includes any other result not listed.

<sup>3</sup> The Person-level Response Rate (PRR) is calculated as:

$$\frac{PC * 100}{\dots}$$

<sup>2</sup> The Household Response Rate (HRR) is calculated as:

$$\frac{PC + PINC + PNH + PR + PI + PO}{\dots}$$

$$\frac{HC * 100}{\dots}$$

$$HC + HINC + HNS + HNH + HR + HO$$

<sup>4</sup> The Total Response Rate (TRR) is calculated as:

$$\frac{(HRR \times PRR) / 100}{\dots}$$

**Table 3.2: Distribution of adults  $\geq 15$  years old by selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Weighted		Number of Adults (in thousands)	Unweighted Number of Adults
	Percentage (95% CI <sup>1</sup> )			
<b>Overall</b>	100		68371.8	10150
<i>Gender</i>				
Male	49.9	(48.1, 51.8)	34,147.2	4,627
Female	50.1	(48.2, 51.9)	34,224.5	5,523
<i>Age (years)</i>				
15-24	45.3	(43.0, 47.7)	30,995.9	2,750
25-44	36.1	(34.2, 38.1)	24,692.7	5,341
45-64	14.3	(12.9, 15.8)	9,795.0	1,576
65+	4.2	(3.5, 5.1)	2,888.2	483
<i>Residence</i>				
Urban	24.1	(22.1, 26.3)	16,503.4	5,064
Rural	75.9	(73.7, 77.9)	51,868.4	5,086
<i>Education Level<sup>2</sup></i>				
No formal education	35.7	(32.8, 38.7)	24,399.9	3,768
Primary	37.0	(34.9, 39.1)	25,300.9	3,195
Secondary	21.3	(19.4, 23.4)	14,577.8	2,098
Higher than secondary	6.0	(5.0, 7.1)	4,084.0	1,070
<i>Wealth Index<sup>3</sup></i>				
Lowest	38.0	(33.7, 42.5)	25975.4	2324
Low	26.2	(23.0, 29.7)	17943.4	2016
Middle	13.9	(11.5, 16.7)	9498.0	1900
High	11.2	(9.4, 13.3)	7652.3	1924
Higher	10.7	(9.1, 12.4)	7302.7	1986

Note: The following observations were missing: [0] for age, [0] for gender, [0] for residence, and [22] for education

<sup>1</sup> 95 % Confidence Interval

<sup>2</sup> Education Level: No formal education = No formal schooling; Primary = Primary school first cycle (1-4) complete or Primary school second cycle (5-8) complete; Secondary = Secondary school first cycle (9-10) complete or Secondary school second cycle (11-12) complete; Higher than secondary = College/University completed or Post graduate degree completed

<sup>3</sup>Wealth Index:

## 4.0 TOBACCO USE

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This chapter describes the status of tobacco use, the use of various tobacco products, and demographic and behavioral patterns of smoking (i.e., number of cigarettes smoked daily, the average age of daily smokers and age of initiation, the prevalence of quitting tobacco use, and indicators of tobacco dependence) in Ethiopia.

### *Key Findings*

- *Approximately 8.1% of men, 1.8% of women, and 5% of adults overall (3.2 million) currently use tobacco products.*
- *Approximately 6.2% of men, 1.2% of women, and 3.7% of adults overall (2.5 million) currently smoke tobacco.*
- *Approximately 2.6% of men, 0.8% of women, and 1.7% of adults overall (394,300) currently use smokeless tobacco.*
- *Approximately 5.5% of men, 0.2% of women, and 5.7% of adults overall (1.9 million) currently smoke cigarettes.*
- *Approximately 5.2% of men, 1.1% of women, and 3.2% of adults overall (2.5 million) currently smoke tobacco on a daily basis.*
- *Daily cigarette smokers smoked an average of 26 cigarettes per day: 41.3 cigarettes per day in urban areas and 20.8 cigarettes per day in rural areas.*
- *More than half (50.9%) of males who had ever smoked on a daily basis started smoking daily before the age of 20 years.*
- *Nearly five in ten (46.9%) of all current daily tobacco users had their first use of tobacco within 30 minutes of waking up.*

### **4.1 Tobacco Smoking**

Around 3.7% of adult Ethiopians smoked tobacco in some form in 2016. Of that number, more than eight in ten (86% of all adults) smoked on a daily basis and less than two in ten (14% of all adults) were occasional smokers. The prevalence of current tobacco smokers was 6.2% among men and 1.2% among women.

Among non-smokers, 1.2% of Ethiopian adults were former daily smokers (1.9% of males and 0.5% of females), and 0.5% were former occasional smokers. The majority of Ethiopian adults (94.7%) had never smoked tobacco in their lifetime (91.1% of men and 98.2% of women, Table 4.1).

Table 4.1 shows percentage distributions of Ethiopian adults by current smoking status. Overall, 3.7% of adults were current tobacco smokers (3.2% current daily smokers, 0.5% current occasional (less than daily) smokers). Among all adults, 1.2% were former daily smokers and 95.1% were

never daily smokers. Overall, 0.5% of adults were former occasional smokers, and 94.7% were never tobacco smokers.

Smoking Status	Overall	Male	Female
	<i>Percentage (95% CI)</i>		
<b>Current tobacco smoker</b>	3.7 (2.7, 5.0)	6.2 (4.8, 7.9)	1.2 (0.5, 3.1)
Daily smoker	3.2 (2.3, 4.5)	5.2 (4.0, 6.9)	1.1 (0.4, 3.0)
Occasional smoker	0.5 (0.3, 0.8)	0.9 (0.6, 1.5)	0.1 (0.0, 0.3)
Occasional smoker, formerly daily	0.1 (0.1, 0.3)	0.3 (0.2, 0.5)	0.0 (0.0, 0.1)
Occasional smoker, never daily	0.4 (0.2, 0.6)	0.7 (0.4, 1.1)	0.1 (0.0, 0.3)
<b>Non-smoker</b>	96.3 (95.0, 97.3)	93.8 (92.1, 95.2)	98.8 (96.9, 99.5)
Former daily smoker	1.2 (0.8, 1.8)	1.9 (1.3, 2.6)	0.5 (0.2, 1.1)
Never daily smoker	95.1 (93.7, 96.2)	91.9 (90.0, 93.5)	98.3 (96.6, 99.2)
Former occasional smoker	0.5 (0.3, 0.8)	0.8 (0.5, 1.3)	0.1 (0.1, 0.3)
Never smoker	94.7 (93.2, 95.8)	91.1 (89.2, 92.7)	98.2 (96.5, 99.0)

Note: Current use includes both daily and occasional (less than daily) use.

Table 4.2 presents the estimated weighted number of users of any tobacco product classified by detailed smoking status and gender. There were 2,530,200 tobacco smokers aged 15 years or above in Ethiopia. Of this group, 2,113,600 were men and 416,500 were women. GATS Ethiopia estimated the number of daily tobacco smokers to be 2,176,100 (1,792,500 men and 383,500 women). In addition to these daily tobacco smokers, an estimated 354,100 adults smoked tobacco occasionally.

Smoking Status	Overall	Male	Female
	<i>Number in thousands</i>		
<b>Current tobacco smoker</b>	2530.2	2113.6	416.5
Daily smoker	2176.1	1792.5	383.5
Occasional smoker	354.1	321.1	33.0
Occasional smoker, formerly daily	101.8	95.6	6.2
Occasional smoker, never daily	252.3	225.5	26.8
<b>Non-smoker</b>	65841.6	32033.6	33808.0
Former daily smoker	806.5	638.8	167.7
Never daily smoker	65035.1	31394.8	33640.4
Former occasional smoker	317.4	272.9	44.5
Never smoker	64717.7	31121.9	33595.8

Note: Current use includes both daily and occasional (less than daily) use.

## 4.2 Smokeless Tobacco

Table 4.2 presents the percentage of adult Ethiopians aged 15 years and older who currently used smokeless tobacco. The use of smokeless tobacco was lower than the use of smoked tobacco. Overall, 1.7% of adults aged 15 years or older used smokeless tobacco. By gender, 2.6% of men and 0.8% of women used smokeless tobacco. The majority of smokeless tobacco users were daily users (1.5%).

**Table 4.2 A: Number of adults ≥15 years old, by detailed smokeless tobacco use status and gender – GATS Ethiopia, 2016.**

Smokeless Tobacco Use Status	Overall	Male	Female
<i>Number in thousands</i>			
<b>Current smokeless tobacco user</b>	1089.7	844.2	245.5
Daily user	952.9	751.2	201.8
Occasional user	136.7	93.0	43.7
Occasional user, formerly daily	41.9	34.7	7.2
Occasional user, never daily	94.8	58.3	36.5
<b>Non-user of smokeless tobacco</b>	64395.3	31986.4	32408.9
Former daily user	126.9	98.3	28.6
Never daily user	64268.4	31888.1	32380.3
Former occasional user	55.2	48.8	6.4
Never user	64213.2	31839.3	32373.9

Note: Current use includes both daily and occasional (less than daily) use.

## 4.3 The Prevalence of Various Smoked Tobacco Products

Overall, 3.7% of adults were current smokers of any smoked tobacco product: 2.9% smoked cigarettes (2.7% smoked manufactured cigarettes; 1% smoked hand-rolled cigarettes), and 0.7% smoked other types of tobacco products<sup>6</sup>. Among Ethiopian men, 6.2% smoked any tobacco product, 5.5% smoked cigarettes (5.3% smoked manufactured cigarettes; 2.0% smoked hand-rolled), and 1.2% smoked other tobacco products. Among women, 1.2% smoked any tobacco product, 0.2% smoked cigarettes (0.2% smoked manufactured cigarettes; 0.1% smoked hand-rolled cigarettes), and 0.9%, smoked other tobacco products.

By age group, adults aged 15-24 had the lowest percentage (2.2%) of using any smoked tobacco or cigarette products (2.1%) or manufactured cigarettes (1%).

By place of residence, there was a difference between urban and rural residents who used any tobacco product (3.4%, 3.8% respectively), mainly attributing to a slightly higher level of use of

<sup>6</sup> Includes pipes full of tobacco, cigars and any other reported smoking tobacco products.

Gaya, water pipe and other forms of tobacco. There were no significant differences among users of cigarettes between urban and rural (6% and 5.4% respectively).

Across regions, percentages of people who smoked any tobacco product ranged from 0.7% In Tigray to 15.5% in Afar. Five regions had smoking rates higher than the nation estimate of 3.7%: 15.5% in Afar, 11.2% in Gambella, 7.2% in Harrari, 6.6% in Benishangul Gumuz, 6.5% in Somali, 4.4% in Oromiya, 4.5% in SNNPR, and 4.4% in Dire Dawa .

Table 4.3 presents the prevalence of different types of smoked tobacco products by gender, selected demographic characteristics and regions. These products consisted of cigarettes (manufactured, hand-rolled) and other smoked tobacco products. The corresponding population estimates can be found in Table 4.4 which presents the number of current smokers aged 15 years or above by the same characteristics.

**Table 4.3: Percentage of adults ≥15 years old who are current smokers of various smoked tobacco products, by gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Any smoked tobacco product		Any cigarette <sup>1</sup>		Type of Cigarette				Gaya		Water pipe		Other smoked tobacco <sup>2</sup>	
					Manufactured		Hand-rolled							
<i>Percentage (95% CI)</i>														
<b>Overall</b>	3.7	(2.7, 5.0)	2.9	(2.2, 3.7)	2.7	(2.1, 3.5)	1.0	(0.7, 1.4)	1.0	(0.4, 2.4)	0.3	(0.1, 0.6)	0.7	(0.4, 1.0)
<i>Age (years)</i>														
15-24	1.6	(0.9, 3.0)	1.2	(0.6, 2.1)	1.2	(0.6, 2.1)	0.3	(0.1, 0.5)	0.5	(0.1, 2.2)	0.2	(0.1, 0.4)	0.1	(0.1, 0.4)
25-44	5.2	(3.7, 7.2)	4.1	(3.0, 5.6)	3.9	(2.8, 5.4)	1.4	(0.9, 2.0)	1.4	(0.6, 3.3)	0.3	(0.1, 0.5)	1.0	(0.6, 1.5)
45-64	6.6	(4.2, 10.3)	5.2	(3.1, 8.6)	4.9	(2.8, 8.3)	2.5	(1.3, 4.7)	1.7	(0.7, 4.0)	0.8	(0.1, 4.3)	1.5	(0.6, 3.8)
65+	3.4	(1.8, 6.4)	2.7	(1.3, 5.7)	2.1	(0.9, 4.7)	1.1	(0.3, 3.8)	0.2	(0.1, 0.6)	0.0	(0.0, 0.1)	0.8	(0.2, 2.6)
<i>Residence</i>														
Urban	3.4	(2.5, 4.5)	3.2	(2.4, 4.3)	3.2	(2.3, 4.3)	1.1	(0.8, 1.6)	0.4	(0.2, 0.7)	0.2	(0.1, 0.6)	0.6	(0.3, 1.0)
Rural	3.8	(2.6, 5.5)	2.8	(2.0, 3.8)	2.6	(1.8, 3.6)	1.0	(0.6, 1.6)	1.2	(0.4, 3.1)	0.3	(0.1, 0.8)	0.7	(0.4, 1.1)
<i>Region</i>														
Addis Asaba	2.2	(1.3, 3.9)	2.2	(1.3, 3.9)	2.2	(1.3, 3.9)	1.0	(0.5, 2.1)	0.0	N/A	0.2	(0.0, 1.1)	0.3	(0.1, 1.2)
Afar	15.5	(10.2, 22.9)	15.4	(10.1, 22.8)	15.3	(10.0, 22.7)	11.3	(6.7, 18.3)	0.1	(0.0, 0.4)	8.8	(4.4, 16.9)	1.2	(0.7, 2.0)
Amhara	1.4	(0.7, 2.7)	1.3	(0.6, 2.6)	1.3	(0.6, 2.6)	0.4	(0.2, 1.0)	0.2	(0.1, 0.8)	0.0	(0.0, 0.1)	0.2	(0.0, 0.6)
Benishangul Gumz	6.6	(3.6, 11.8)	4.9	(2.7, 8.8)	3.1	(1.8, 5.2)	4.0	(2.1, 7.6)	2.6	(1.2, 5.4)	1.1	(0.4, 3.0)	2.5	(1.2, 5.0)
Dire Dawa	4.4	(3.0, 6.2)	4.1	(2.9, 5.8)	4.1	(2.9, 5.7)	1.2	(0.5, 2.6)	0.5	(0.2, 1.2)	0.1	(0.0, 0.9)	0.9	(0.5, 1.7)
Gambela	11.2	(7.2, 17.0)	4.1	(2.5, 6.8)	3.3	(2.0, 5.3)	2.6	(1.4, 5.0)	6.6	(3.8, 11.3)	0.4	(0.2, 0.9)	2.8	(1.7, 4.5)
Harari	7.2	(5.4, 9.6)	6.2	(4.5, 8.3)	6.1	(4.4, 8.3)	2.9	(1.8, 4.7)	1.1	(0.5, 2.4)	1.4	(0.6, 3.3)	1.6	(0.9, 3.0)
Oromiya	4.4	(3.0, 6.4)	4.3	(2.9, 6.3)	3.9	(2.6, 6.0)	1.3	(0.7, 2.5)	0.4	(0.2, 0.9)	0.4	(0.1, 1.5)	1.0	(0.5, 1.9)
SNNPR	4.5	(1.8, 10.9)	1.2	(0.7, 2.1)	1.2	(0.7, 2.1)	0.6	(0.3, 1.5)	3.4	(1.0, 11.1)	0.2	(0.1, 0.8)	0.7	(0.3, 1.3)
Somalia	6.5	(4.8, 8.8)	6.3	(4.5, 8.6)	6.3	(4.5, 8.6)	1.2	(0.6, 2.5)	0.3	(0.1, 1.1)	0.0	N/A	0.7	(0.3, 1.5)
Tigray	0.7	(0.2, 2.1)	0.7	(0.2, 2.1)	0.7	(0.2, 2.1)	0.2	(0.1, 0.8)	0.0	N/A	0.0	N/A	0.0	N/A
<i>Education Level</i>														
No formal education	4.1	(2.2, 7.5)	2.1	(1.4, 3.3)	1.9	(1.1, 3.1)	0.8	(0.5, 1.4)	2.0	(0.6, 6.4)	0.1	(0.0, 0.4)	0.6	(0.3, 1.1)
Primary	3.9	(2.5, 5.8)	3.7	(2.4, 5.6)	3.5	(2.3, 5.5)	1.2	(0.7, 2.2)	0.4	(0.2, 0.8)	0.4	(0.1, 1.6)	0.9	(0.4, 1.9)
Secondary	3.0	(1.8, 5.2)	2.9	(1.6, 5.1)	2.9	(1.6, 5.0)	1.0	(0.6, 1.6)	0.4	(0.2, 0.8)	0.4	(0.2, 0.8)	0.3	(0.1, 0.8)
Higher than secondary	2.5	(1.5, 4.1)	2.3	(1.4, 3.8)	2.3	(1.4, 3.8)	0.8	(0.4, 2.0)	0.4	(0.1, 1.7)	0.6	(0.2, 2.1)	0.4	(0.1, 1.7)
<i>Wealth Index</i>														
Lowest	3.8	(2.1, 6.8)	2.0	(1.3, 3.0)	1.8	(1.2, 2.7)	0.8	(0.4, 1.6)	2.0	(0.7, 5.6)	0.1	(0.0, 0.4)	0.5	(0.3, 0.9)
Low	4.1	(2.6, 6.2)	3.8	(2.4, 5.9)	3.5	(2.1, 5.8)	0.7	(0.4, 1.3)	0.5	(0.2, 1.1)	0.1	(0.0, 0.5)	0.8	(0.4, 1.9)
Middle	3.1	(1.8, 5.3)	3.0	(1.7, 5.3)	3.0	(1.7, 5.3)	1.4	(0.5, 3.9)	0.3	(0.1, 0.7)	0.9	(0.2, 4.3)	1.1	(0.3, 4.0)
High	3.1	(2.0, 4.8)	3.1	(2.0, 4.8)	3.1	(2.0, 4.8)	1.4	(0.7, 2.9)	0.1	(0.0, 0.1)	0.2	(0.1, 0.4)	0.3	(0.1, 1.0)
Higher	3.7	(2.6, 5.3)	3.4	(2.3, 5.0)	3.4	(2.3, 4.9)	1.5	(0.9, 2.4)	0.4	(0.1, 1.2)	0.8	(0.4, 1.6)	0.6	(0.2, 1.4)

Note: Current use includes both daily and occasional (less than daily) use.

<sup>1</sup> Includes manufactured and hand rolled cigarettes.

<sup>2</sup> Includes pipes full of tobacco, cigars and any other reported smoking tobacco products.

N/A - The estimate is "0.0"

#### ***4.4 Number of Users of Various Smoked Tobacco Products***

There were 2,530,200 current adult tobacco smokers in Ethiopia (2,113,600 male, 416,500 female). Most of the current smokers, approximately 1,799,000, smoked manufactured cigarettes; additionally, 668,800 adults smoked hand-rolled cigarettes, and 403,800 adults smoked other tobacco products.

Overall, 25-44-year-olds had the highest number of current smokers in all categories, including other smoked tobacco products. An estimated 1,123,000 used any smoked tobacco product, 979,200 used cigarettes, 934,500 used manufactured cigarettes, and 325,400 used hand-rolled cigarettes. The remaining 217,900 used other smoked tobacco.

By residence, the overall number of smokers for any smoked tobacco product and for any cigarette was more than three times more in rural areas (1,606,900 people smoked tobacco, and 1,398,600 smoked any cigarette) than in urban areas (506,800 people smoked tobacco, and 493,600 smoked any cigarette).

In terms of education, the number of smokers was smallest for those who completed a primary education and highest for those with no education, where the majority of smokers are.

Table 4.4 presents the number of users of different smoked tobacco products classified by age, residence, gender and other demographic characteristics.

**Table 4. 4: Number of adults  $\geq 15$  years old who are current smokers of various smoked tobacco products, by gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Any smoked tobacco product	Any cigarette <sup>1</sup>	Type of Cigarette			Gaya	Waterpipe	Other smoked tobacco <sup>2</sup>
			Manufactured	Hand-rolled				
<i>Number in thousands</i>								
<b>Overall</b>	2530.2	1966.9	1863.0	693.3	659.3	194.4	447.6	
<i>Age (years)</i>								
15-24	499.4	361.1	358.5	82.7	151.6	55.5	42.8	
25-44	1284.9	1016.4	965.6	337.5	337.3	62.8	235.7	
45-64	648.0	510.5	478.5	241.0	163.7	75.5	146.1	
65+	97.9	78.9	60.4	32.1	6.8	0.7	23.0	
<i>Residence</i>								
Urban	556.7	530.4	522.6	184.3	60.4	40.5	96.8	
Rural	1973.5	1436.5	1340.4	508.9	598.9	154.0	350.8	
<i>Region</i>								
Addis Asasa	89.2	89.2	89.2	39.6	0.0	6.1	12.5	
Afar	80.5	80.1	79.4	58.3	0.5	45.6	6.1	
Amhara	192.4	176.9	176.9	61.3	29.3	1.6	21.0	
Benishangul Gumz	43.6	32.6	20.3	26.6	17.0	7.2	16.3	
Dire Dawa	15.8	15.0	14.7	4.3	1.8	0.4	3.3	
Gambela	37.3	13.7	10.9	8.7	22.0	1.3	9.4	
Harari	17.6	15.1	14.9	7.2	2.6	3.4	3.9	
Oromiya	1166.0	1127.4	1039.6	348.8	100.6	98.2	257.5	
SNNPR	639.1	177.0	177.0	86.5	476.7	30.7	93.8	
Somalia	216.8	208.3	208.3	40.8	8.8	0.0	23.8	
Tigray	31.9	31.9	31.9	11.2	0.0	0.0	0.0	
<i>Education Level</i>								
No formal education	1008.9	518.2	453.1	201.6	494.0	24.7	149.4	
Primary	974.8	930.7	897.7	312.5	98.0	90.3	233.1	
Secondary	442.6	423.0	417.4	144.3	51.4	55.1	50.3	
Higher than secondary	102.9	94.2	94.2	34.2	15.7	24.3	14.4	

**Table 4.4 (Cont.): Number of adults  $\geq 15$  years old who are current smokers of various smoked tobacco products, by gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Any smoked tobacco product	Any cigarette <sup>1</sup>	Type of Cigarette			Gaya	Waterpipe	Other smoked tobacco <sup>2</sup>
			Manufactured	Hand-rolled				
<i>Number in thousands</i>								
<i>Wealth Index</i>								
Lowest	993.1	515.6	463.7	216.8	513.0	21.1	129.8	
Low	728.9	674.9	630.1	133.9	86.1	18.7	147.5	
Middle	295.5	289.0	288.1	128.4	25.0	86.1	102.9	
High	240.9	236.3	236.3	105.6	4.7	12.7	25.8	
Higher	271.7	251.1	244.8	108.6	30.5	55.9	41.7	

Note: Current use includes both daily and occasional (less than daily) use.

<sup>1</sup> Includes manufactured and hand rolled cigarettes.

<sup>2</sup> Includes pipes full of tobacco, cigars and any other reported smoking tobacco products.

#### ***4.5 Frequency of Smoking***

The prevalence of daily smokers differed by age group and ranged from 1.4% in the 15–24 age group to 6% in the 45-64 age group. The prevalence of daily smokers in the 65 and above age group was over 3%.

The percentage of daily smokers in rural areas was 3.4%, and the percentage in urban areas was 2.6%. There was a slight difference between occasional smokers in rural areas (0.4%) and in urban (0.8%). The percentage of non-smokers was high in both places at 96.6% in urban areas and 96.2% in rural areas.

The results suggest that the percentage of daily smokers is lower among adults with a higher education. The following reflects the percentage of adults who were daily smokers, distributed by level of education: 3.5% had no education, 3.6 % had low education, 2.7% had middle education, 2.1% had high education, and 2.7% had higher education.

Table 4.5 presents the percentage distribution of the adult population by smoking frequency (i.e., daily use, occasional use, and non-smoker). Among Ethiopian adults, 3.2% were daily smokers, 0.5% were occasional smokers, and the remaining 96.3% were non-smokers. The percentage of men who were daily smokers, occasional smokers, and non-smokers was 5.2%, 0.98%, and 93.8% respectively. Among the women, 1.1% were daily smokers, 0.1% was occasional smokers, and the remaining 98.8% were non-smokers.

**Table 4.5: Percentage distribution of adults ≥15 years old, by smoking frequency, gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Smoking Frequency						Total
	Daily		Occasional <sup>1</sup>		Non-smoker		
	<i>Percentage (95% CI)</i>						
<b>Overall</b>	3.2	(2.3, 4.5)	0.5	(0.3, 0.8)	96.3	(95.0, 97.3)	100
<i>Age (years)</i>							
15-24	1.4	(0.7, 2.8)	0.2	(0.1, 0.5)	98.4	(97.0, 99.1)	100
25-44	4.2	(2.9, 6.2)	1.0	(0.6, 1.5)	94.8	(92.8, 96.3)	100
45-64	6.0	(3.7, 9.7)	0.6	(0.2, 2.2)	93.4	(89.7, 95.8)	100
65+	3.3	(1.7, 6.4)	0.1	(0.0, 0.1)	96.6	(93.6, 98.2)	100
<i>Residence</i>							
Urban	2.6	(1.9, 3.5)	0.8	(0.4, 1.4)	96.6	(95.5, 97.5)	100
Rural	3.4	(2.2, 5.1)	0.4	(0.3, 0.7)	96.2	(94.5, 97.4)	100
<i>Education Level</i>							
No formal education	4.0	(2.1, 7.4)	0.2	(0.1, 0.5)	95.9	(92.5, 97.8)	100
Primary	3.0	(1.9, 4.7)	0.9	(0.5, 1.5)	96.1	(94.2, 97.5)	100
Secondary	2.5	(1.3, 4.7)	0.5	(0.2, 1.1)	97.0	(94.8, 98.2)	100
Higher than secondary	2.1	(1.2, 3.6)	0.4	(0.2, 1.1)	97.5	(95.9, 98.5)	100
<i>Wealth Index</i>							
Lowest	3.5	(1.9, 6.6)	0.3	(0.1, 0.7)	96.2	(93.2, 97.9)	100
Low	3.6	(2.2, 5.9)	0.4	(0.2, 1.0)	95.9	(93.8, 97.4)	100
Middle	2.7	(1.4, 4.9)	0.5	(0.2, 1.3)	96.9	(94.7, 98.2)	100
High	2.1	(1.4, 3.1)	1.1	(0.4, 2.9)	96.9	(95.2, 98.0)	100
Higher	2.7	(1.8, 4.1)	1.0	(0.5, 2.2)	96.3	(94.7, 97.4)	100

<sup>1</sup> Occasional refers to less than daily use.

**Table 4. 5: (cont.): Percentage distribution of adults ≥15 years old, by smoking frequency, gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Smoking Frequency						Total
	Daily		Occasional <sup>1</sup>		Non-smoker		
	<i>Percentage (95% CI)</i>						
<b>Male</b>	5.2	(4.0, 6.9)	0.9	(0.6, 1.5)	93.8	(92.1, 95.2)	100
<i>Age (years)</i>							
15-24	1.9	(0.9, 3.7)	0.3	(0.1, 1.1)	97.8	(96.0, 98.8)	100
25-44	7.5	(5.3, 10.5)	1.7	(1.1, 2.7)	90.8	(87.6, 93.2)	100
45-64	10.3	(6.3, 16.5)	1.2	(0.3, 4.3)	88.5	(82.4, 92.6)	100
65+	6.0	(2.8, 12.3)	0.1	(0.0, 0.2)	93.9	(87.7, 97.1)	100
<i>Residence</i>							
Urban	4.8	(3.5, 6.5)	1.4	(0.7, 2.7)	93.8	(91.8, 95.4)	100
Rural	5.4	(3.8, 7.5)	0.8	(0.5, 1.4)	93.8	(91.6, 95.5)	100
<i>Education Level</i>							
No formal education	7.4	(4.6, 11.7)	0.3	(0.1, 1.1)	92.3	(88.0, 95.2)	100
Primary	4.9	(3.0, 7.7)	1.4	(0.8, 2.5)	93.7	(90.6, 95.8)	100
Secondary	4.3	(2.3, 8.2)	0.8	(0.4, 1.8)	94.8	(91.1, 97.0)	100
Higher than secondary	2.8	(1.5, 5.0)	0.7	(0.3, 1.8)	96.5	(94.1, 98.0)	100
<i>Wealth Index</i>							
Lowest	4.9	(3.0, 7.8)	0.5	(0.2, 1.3)	94.6	(91.7, 96.6)	100
Low	6.4	(3.8, 10.6)	0.8	(0.4, 1.9)	92.8	(88.7, 95.4)	100
Middle	4.7	(2.4, 8.9)	0.7	(0.2, 2.4)	94.6	(90.5, 97.0)	100
High	4.3	(2.9, 6.3)	2.1	(0.7, 5.9)	93.6	(90.2, 95.9)	100
Higher	5.3	(3.4, 8.1)	2.0	(0.9, 4.3)	92.8	(89.6, 95.0)	100

**Table 4. 5(cont.): Percentage distribution of adults  $\geq 15$  years old, by smoking frequency, gender and selected demographic characteristics – GATS Ethiopia, 2016.**

<b>Female</b>	1.1	(0.4, 3.0)	0.1	(0.0, 0.3)	98.8	(96.9, 99.5)	100
<i>Age (years)</i>							
15-24	1.0	(0.2, 4.3)	0.0	(0.0, 0.1)	99.0	(95.7, 99.8)	100
25-44	1.1	(0.4, 2.7)	0.2	(0.1, 0.7)	98.7	(97.1, 99.4)	100
45-64	1.8	(0.6, 5.2)	0.0	(0.0, 0.1)	98.2	(94.8, 99.4)	100
65+	0.5	(0.2, 1.4)	0.0	(0.0, 0.2)	99.4	(98.6, 99.8)	100
<i>Residence</i>							
Urban	0.4	(0.2, 0.9)	0.2	(0.1, 0.4)	99.4	(98.7, 99.7)	100
Rural	1.3	(0.4, 4.0)	0.1	(0.0, 0.4)	98.6	(96.0, 99.5)	100
<i>Education Level</i>							
No formal education	2.0	(0.6, 6.6)	0.1	(0.0, 0.6)	97.9	(93.4, 99.4)	100
Primary	0.4	(0.2, 1.0)	0.1	(0.0, 0.3)	99.5	(98.9, 99.8)	100
Secondary	0.2	(0.1, 0.8)	0.1	(0.0, 0.3)	99.7	(99.1, 99.9)	100
Higher than secondary	1.1	(0.3, 4.2)	0.0	(0.0, 0.2)	98.9	(95.8, 99.7)	100
<i>Wealth Index</i>							
Lowest	2.2	(0.7, 7.3)	0.1	(0.0, 0.7)	97.6	(92.8, 99.3)	100
Low	0.6	(0.3, 1.5)	0.0	(0.0, 0.1)	99.3	(98.5, 99.7)	100
Middle	0.4	(0.1, 1.5)	0.1	(0.0, 0.8)	99.4	(97.8, 99.8)	100
High	0.1	(0.0, 0.3)	0.1	(0.0, 0.6)	99.8	(99.4, 99.9)	100
Higher	0.2	(0.1, 0.8)	0.1	(0.0, 0.2)	99.7	(99.2, 99.9)	100

#### ***4.6 Number of Manufactured Cigarettes Smoked per Day***

The number of cigarettes smoked per day (including manufactured and hand-rolled cigarettes) is a key indicator in determining nicotine dependence. Daily cigarette smokers in Ethiopia smoked 26 cigarettes per day. Overall, 28.8% of daily cigarette smokers smoked fewer than five cigarettes a day; 13.4% smoked five to nine per day; 12.9% smoked 10-14 per day; 22.5% smoked 15-24 per day; and 22.4% smoked 25 or more cigarettes per day (Table 4.6).

By residence, those in urban areas smoked 41.3 cigarettes per day, and those in rural areas smoked 20.8 cigarettes per day.

**Table 4.6: Average number and percentage distribution of cigarettes smoked per day among daily cigarette smokers ≥15 years old, by gender and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Average number of cigarettes smoked per day <sup>1</sup>		Distribution of number of cigarettes smoked on average per day <sup>1</sup>										Total
			<5		5-9		10-14		15-24		≥25		
	Mean (95% CI)		Percentage (95% CI)										
<b>Overall</b>	26.0	(18.9, 33.0)	28.8	(18.4, 42.1)	13.4	(7.4, 23.0)	12.9	(7.8, 20.5)	22.5	(14.3, 33.8)	22.4	(15.1, 31.9)	100
<i>Gender</i>													
Male	26.3	(19.1, 33.5)	28.8	(18.1, 42.5)	13.6	(7.4, 23.6)	12.2	(7.3, 19.8)	22.6	(14.1, 34.3)	22.8	(15.3, 32.5)	100
Female	17.8	(8.0, 27.6)	29.9	(8.3, 66.8)	8.0	(2.3, 24.4)	28.8	(5.4, 74.3)	20.2	(5.7, 51.3)	13.1	(4.8, 30.9)	100
<i>Age (years)</i>													100
15-24	17.2	(8.5, 25.9)	31.4	(16.0, 52.3)	22.2	(8.7, 46.1)	15.1	(3.4, 47.8)	14.1	(4.5, 36.3)	17.2	(7.1, 35.9)	100
25-44	32.8	(22.2, 43.5)	23.7	(14.1, 37.1)	13.6	(7.3, 24.0)	14.6	(8.6, 23.6)	20.9	(14.9, 28.5)	27.2	(17.0, 40.5)	100
45-64	22.4	(9.0, 35.8)	31.5	(7.9, 71.1)	9.1	(3.0, 24.5)	8.2	(2.2, 26.3)	32.7	(10.9, 66.0)	18.6	(7.9, 37.6)	100
65+	-	-	-	-	-	-	-	-	-	-	-	-	100
<i>Residence</i>													
Urban	41.3	(27.2, 55.5)	25.9	(14.4, 41.9)	13.0	(6.0, 25.9)	11.5	(5.3, 23.1)	17.2	(11.3, 25.2)	32.4	(23.7, 42.6)	100
Rural	20.8	(14.1, 27.4)	29.8	(17.0, 46.8)	13.5	(6.3, 26.4)	13.3	(7.2, 23.4)	24.4	(13.9, 39.1)	19.0	(10.9, 31.1)	100
<i>Education Level</i>													
No formal education	30.2	(16.7, 43.7)	23.8	(12.9, 39.7)	9.2	(2.8, 26.0)	9.4	(5.2, 16.2)	33.2	(18.8, 51.7)	24.5	(12.7, 41.9)	100
Primary	17.5	(11.6, 23.3)	26.2	(15.7, 40.2)	18.1	(7.8, 36.5)	18.2	(8.8, 34.0)	22.4	(9.6, 44.0)	15.2	(7.7, 27.7)	100
Secondary	33.2	(11.0, 55.4)	43.5	(15.1, 76.8)	10.1	(2.9, 29.5)	9.5	(3.2, 25.1)	7.5	(2.8, 18.6)	29.4	(13.2, 53.4)	100
Higher than secondary	43.1	(18.3, 67.9)	19.5	(4.8, 53.8)	11.5	(3.7, 30.4)	1.9	(0.3, 9.8)	24.4	(9.5, 49.8)	42.7	(20.1, 68.8)	100
<i>Wealth Index</i>													
Lowest	24.8	(15.3, 34.3)	17.4	(6.6, 38.8)	14.4	(5.9, 31.0)	10.5	(4.6, 22.5)	31.6	(16.0, 52.8)	26.1	(13.9, 43.6)	100
Low	13.5	(7.2, 19.9)	47.9	(26.8, 69.9)	15.7	(6.1, 34.7)	15.6	(6.0, 35.1)	11.9	(4.9, 26.0)	8.8	(3.7, 19.6)	100
Middle	30.1	(10.8, 49.5)	20.7	(7.1, 47.0)	2.5	(0.8, 7.6)	14.4	(5.1, 34.4)	43.7	(17.2, 74.4)	18.7	(7.4, 40.0)	100
High	33.7	(21.2, 46.3)	20.1	(9.0, 39.1)	18.6	(7.0, 41.1)	10.4	(2.5, 34.3)	16.0	(6.5, 34.2)	34.8	(20.2, 53.0)	100
Higher	56.6	(36.7, 76.4)	13.3	(5.0, 31.2)	13.4	(5.1, 30.8)	9.6	(2.5, 30.7)	12.1	(4.8, 27.5)	51.5	(37.0, 65.8)	100

<sup>1</sup> Among daily cigarette smokers. Cigarettes include manufactured and hand-rolled.

--Indicates estimates based on less than 25 unweighted cases and has been suppressed.

N/A - The estimate is "0.0"

#### 4.7 Average Age at Initiation of Daily Smoking and Distribution of Initial Age

Among daily cigarette smokers aged 20-34 at the time of the survey, 26.5% started smoking daily before the age of 15; 14.8% started at age 15-16; 17.1% started at age 17-19; and 41.6% started at age 20 or older.

Table 4.7 shows the distribution of daily smokers aged 20–34 by average age at daily smoking initiation.

**Table 4. 7: Percentage distribution of ever daily smokers 20-34 years old by age at daily smoking initiation, gender and residence – GATS Ethiopia, 2016.**

Demographic Characteristics	Age at Daily Smoking Initiation (years) <sup>1</sup>								Total
	<15		15-16		17-19		20+		
	Percentage (95% CI)								
<b>Overall</b>	26.5	(12.9, 46.9)	14.8	(9.3, 22.7)	17.1	(10.4, 26.6)	41.6	(25.7, 59.5)	100
<i>Gender</i>									
Male	20.8	(10.5, 36.8)	11.3	(6.3, 19.6)	18.8	(11.7, 28.9)	49.1	(32.5, 65.9)	100
Female	55.4	(26.6, 81.0)	31.9	(14.9, 55.6)	8.4	(2.1, 28.7)	4.2	(1.2, 14.3)	100
<i>Residence</i>									
Urban	17.9	(7.2, 38.1)	15.2	(9.6, 23.4)	24.4	(14.1, 38.7)	42.5	(25.3, 61.7)	100
Rural	30.1	(12.6, 56.4)	14.6	(7.7, 25.9)	14.0	(7.0, 26.2)	41.2	(21.0, 64.9)	100
<i>Education Level</i>									
No formal education	45.4	(14.1, 80.8)	25.8	(11.1, 49.2)	6.8	(1.5, 26.6)	21.9	(6.1, 55.0)	100
Primary	19.3	(6.9, 43.8)	9.3	(2.8, 26.7)	18.8	(9.5, 33.6)	52.6	(30.0, 74.2)	100
Secondary	31.2	(12.6, 58.9)	2.3	(0.9, 6.3)	33.2	(16.7, 55.2)	33.2	(16.8, 55.1)	100
Higher than secondary	0.3	(0.1, 1.7)	46.0	(25.5, 68.0)	0.8	(0.1, 6.4)	52.8	(31.1, 73.5)	100
<i>Wealth Index</i>									
Lowest	44.5	(19.2, 73.0)	15.4	(7.4, 29.2)	8.5	(2.5, 25.7)	31.6	(11.5, 62.2)	100
Low	17.7	(6.2, 41.2)	15.9	(5.7, 37.1)	17.3	(8.3, 32.8)	49.0	(26.1, 72.4)	100
Middle	40.4	(12.0, 77.0)	10.1	(2.9, 30.0)	10.5	(2.5, 34.7)	39.1	(16.7, 67.3)	100
High	6.8	(1.5, 26.2)	25.9	(10.1, 52.2)	39.3	(18.3, 65.2)	27.9	(13.9, 48.2)	100
Higher	1.4	(0.3, 7.4)	3.0	(1.0, 8.4)	31.8	(12.7, 59.7)	63.9	(36.9, 84.2)	100

<sup>1</sup> Among respondents 20-34 years of age who are ever daily smokers.

#### 4.8 Prevalence of Former Daily Smoking and the Quit Ratio

In Ethiopia, 1.2% of all adults formerly smoked tobacco daily. Since few Ethiopians smoke, it is best to examine the quit ratio than the percentage of former daily smokers to understand their success in quitting. The quit ratio is the percentage of former daily smokers among daily smokers. Overall, among adults, the quit ratio was 26.1%: meaning, 26% of daily smokers had completely stopped smoking.

Table 4.8 presents the prevalence of former daily smokers among all adults aged 15 years or older and quit ratios<sup>7</sup> by selected demographic characteristics.

**Table 4. 8: Percentage of all adults and ever daily smokers ≥15 years old who are former daily smokers, by selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Former Daily Smokers <sup>1</sup> (Among All Adults)		Former Daily Smokers <sup>1</sup> (Among Ever Daily Smokers) <sup>2</sup>	
	Percentage (95% CI)			
<b>Overall</b>	1.2	(0.8, 1.8)	26.1	(17.8, 36.6)
<i>Gender</i>				
Male	1.9	(1.3, 2.6)	25.3	(18.7, 33.2)
Female	0.5	(0.2, 1.1)	30.1	(10.2, 62.0)
<i>Age (years)</i>				
15-24	0.5	(0.2, 1.4)	27.3	(10.4, 55.0)
25-44	1.0	(0.7, 1.5)	18.2	(11.5, 27.5)
45-64	3.0	(1.6, 5.5)	32.8	(19.8, 49.1)
65+	3.2	(1.5, 6.9)	48.9	(25.5, 72.9)
<i>Residence</i>				
Urban	1.8	(1.3, 2.6)	38.4	(28.7, 49.1)
Rural	1.0	(0.5, 1.8)	21.9	(12.3, 35.9)
<i>Education Level</i>				
No formal education	0.9	(0.4, 2.0)	18.5	(7.4, 39.0)
Primary	1.3	(0.7, 2.4)	29.4	(17.4, 45.0)
Secondary	1.1	(0.6, 1.8)	28.0	(14.9, 46.3)
Higher than secondary	2.3	(1.3, 3.9)	50.7	(33.9, 67.4)
<i>Wealth Index</i>				
Lowest	0.5	(0.2, 1.5)	13.4	(4.2, 35.1)
Low	1.6	(0.7, 3.3)	29.4	(14.6, 50.3)
Middle	1.2	(0.5, 3.1)	30.0	(18.7, 44.4)
High	1.8	(1.1, 3.0)	42.0	(26.8, 58.8)
Higher	1.8	(1.1, 2.8)	36.8	(24.0, 51.7)

<sup>1</sup> Current non-smokers.

<sup>2</sup> Also known as the quit ratio for daily smoking.

<sup>7</sup> Quit ratio is the percentage of ever daily tobacco smokers who currently do not smoke tobacco. The indicator indicates the success of efforts to encourage cessation among established tobacco smokers

By age, the prevalence of former daily smokers ranged from 0.5% in the 15-24-year-old age group to 3.2% among those aged 65 or older. The quit ratio ranged from 27.3% in 25-44-year-olds to 48.9% among those aged 65 or older.

By residence, the prevalence of former daily smokers was higher in rural areas (1.8%) than in urban areas (1.0%), and, similarly, the quit ratio followed the same pattern: it was 21.9% in rural areas and 38.4% in urban areas. The prevalence of former daily smokers was 0.9% among those with no formal education, 1.3% among those with primary education, 1.1% for those with secondary education and 2.3% among those with higher than secondary-level education.

#### ***4.9 Time since Quitting Smoking***

One important dimension of the quitting phenomenon is how long smokers can stop smoking since there is a possibility they will relapse and start smoking again. In Ethiopia, more than five in ten (55.4%) former adult daily smokers stopped smoking for ten years or longer; 20.5% stopped smoking for five to less than ten years; 13.4% stopped for one to less than five years; and 10.6% stopped for less than one year.

The length of time since smoking cessation was longer among those who lived in rural areas than those who lived in urban areas. Almost two-thirds (59.7%) of former smokers in rural areas quit smoking for ten years or longer, whereas less than half (48.1%) of former smokers in urban areas stopped smoking for the same period. By education, the proportion of former daily smokers who had quit for ten years or longer was 73.3% among those with no education; 48.2% among those with primary education; and 51.1% among those with secondary education or higher.

Among those with a low wealth index, the proportion of former daily smokers who quit for ten years or longer was 50.8%. It was 59.2% among those with a high wealth index and 61.4% among those with a higher wealth index.

Table 4.9 presents the percentage distribution of former daily smokers (who are current non-smokers) by duration in years since quitting.

**Table 4. 9: Percentage distribution of former daily smokers ≥15 years old, by time since quitting smoking and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Time since quitting smoking (years) <sup>1</sup>								Total
	<1		1 to <5		5 to <10		≥10		
	<i>Percentage (95% CI)</i>								
<b>Overall</b>	10.6	(4.8, 22.0)	13.4	(5.1, 31.1)	20.5	(10.3, 36.6)	55.4	(37.6, 72.0)	100
<i>Gender</i>									
Male	12.1	(5.5, 24.7)	16.5	(6.1, 37.6)	21.1	(9.9, 39.6)	50.2	(31.8, 68.6)	100
Female	4.8	(1.1, 18.9)	1.8	(0.4, 8.7)	18.2	(7.4, 38.0)	75.2	(55.6, 88.0)	100
<i>Age (years)</i>									
15-24	-	-	-	-	-	-	-	-	100
25-44	22.2	(8.7, 46.1)	7.7	(3.4, 16.4)	28.6	(13.7, 50.2)	41.5	(22.1, 63.9)	100
45-64	3.9	(0.6, 22.4)	4.8	(0.8, 24.8)	13.9	(4.4, 36.2)	77.5	(52.6, 91.4)	100
65+	-	-	-	-	-	-	-	-	100
<i>Residence</i>									
Urban	20.7	(9.7, 38.7)	8.1	(3.4, 18.3)	22.7	(7.8, 50.3)	48.5	(31.9, 65.4)	100
Rural	4.4	(0.8, 21.2)	16.7	(4.7, 44.8)	19.2	(7.8, 39.9)	59.7	(34.2, 80.9)	100
<i>Education Level</i>									
No formal education	0.2	(0.0, 1.0)	3.3	(0.9, 10.8)	23.2	(9.7, 45.9)	73.3	(50.5, 88.1)	100
Primary	14.8	(4.9, 37.2)	22.7	(5.8, 58.3)	14.2	(4.3, 37.7)	48.2	(21.5, 76.0)	100
Secondary	8.2	(1.5, 33.7)	11.5	(4.2, 27.9)	29.2	(9.3, 62.5)	51.1	(26.3, 75.3)	100
Higher than secondary	-	-	-	-	-	-	-	-	100
<i>Wealth Index</i>									
Lowest	-	-	-	-	-	-	-	-	100
Low	2.9	(0.5, 16.3)	21.1	(4.4, 60.9)	25.2	(7.3, 59.0)	50.8	(22.1, 79.0)	100
Middle	-	-	-	-	-	-	-	-	100
High	1.3	(0.3, 5.6)	12.7	(4.6, 30.6)	26.8	(10.7, 52.8)	59.2	(33.9, 80.4)	100
Higher	25.0	(9.4, 51.6)	7.2	(2.2, 21.3)	6.4	(1.9, 19.5)	61.4	(37.7, 80.7)	100

<sup>1</sup> Among former daily smokers (current non-smokers).

--Indicates estimates based on less than 25 un weighted cases and has been suppressed.

#### ***4.10 Prevalence of Current Tobacco Users by Type of Tobacco Product Used***

The overall prevalence of current tobacco users (including daily and occasional tobacco smokers and all smokeless tobacco users) was 5%, of whom 65.8% only smoked tobacco products; 22.5% used smokeless tobacco only; and 11.8% used both smoked and smokeless tobacco products. More than six in ten men (67.6%) who were current tobacco users smoked tobacco only; 21.3% used smokeless tobacco only; and 11.1% used both smoked and smokeless tobacco. However, more than half of women (57.3%) who were current tobacco users used smokeless tobacco, while 27.8% used smoked tobacco. The percentage of women tobacco users who both smoked and used smokeless tobacco was 14.8%.

Table 4.10 presents the percentage of current tobacco users aged 15 years or older and tobacco use patterns—tobacco smoked only, smokeless tobacco users only, and smoked and smokeless tobacco users.

Across the age groups, current tobacco use prevalence were 2.2% among 15-24 age group, 6.4% among 25-44 8.9% among 45--64 and 5.9% among 65 years and older age group.

The proportion of adults who smoked tobacco was highest among the 25-44 age group. The proportion of smokeless tobacco users was high among age groups 15-24 (30.9%) and 65 and older (41.0%) compared to users aged 25-44 (16.1%) and 45-64 (23.4%). The proportion of tobacco users who used both smoked and smokeless tobacco ranged from 10.6% among the 25-44 age group to 19.4% among the 65 and older age group.

The use of smokeless tobacco was higher among rural tobacco smokers (25.8%) than among urban tobacco users (6.95%). In addition, rural smokers used both smoked and smokeless tobacco products more than urban smokers did (13.3% vs. 4.2%).

As much as 87.8% of current users with secondary level education used smoked tobacco only; 11.2% used smokeless tobacco only; and 1% used both. Comparatively, 55% of current users with no education used smoked tobacco only; 26.5% used smokeless tobacco only; and 17.9% used both.

**Table 4.10: Percentage distribution of current tobacco users  $\geq 15$  years old, by tobacco use pattern and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Current Tobacco Users <sup>1</sup>		Type of Current Tobacco Use						
			Smoked only		Smokeless only		Both smoked and smokeless		Total
<i>Percentage (95% CI)</i>									
<b>Overall</b>	5.0	(3.5, 6.9)	65.8	(53.4, 76.3)	22.5	(15.7, 31.2)	11.8	(6.5, 20.4)	100
<i>Gender</i>									
Male	8.1	(6.2, 10.6)	67.6	(54.9, 78.2)	21.3	(13.4, 32.2)	11.1	(6.3, 18.7)	100
Female	1.8	(0.7, 4.3)	57.3	(39.5, 73.5)	27.8	(17.2, 41.7)	14.8	(6.2, 31.5)	100
<i>Age (years)</i>									
15-24	2.4	(1.1, 5.2)	57.4	(30.0, 80.9)	30.9	(13.1, 56.9)	11.7	(5.8, 22.2)	100
25-44	6.4	(4.7, 8.8)	73.3	(64.6, 80.4)	16.1	(10.9, 23.1)	10.6	(5.4, 19.8)	100
45-64	8.9	(6.2, 12.8)	64.4	(42.4, 81.6)	23.4	(9.7, 46.3)	12.3	(4.4, 29.7)	100
65+	5.9	(2.8, 12.1)	39.6	(13.8, 72.9)	41.0	(19.9, 66.1)	19.4	(8.2, 39.1)	100
<i>Residence</i>									
Urban	3.8	(2.9, 5.0)	88.9	(81.3, 93.6)	6.9	(3.7, 12.4)	4.2	(1.9, 9.3)	100
Rural	5.3	(3.5, 8.0)	60.9	(47.6, 72.7)	25.8	(18.1, 35.3)	13.3	(7.2, 23.4)	100
<i>Education Level</i>									
No formal education	5.8	(3.3, 10.3)	55.7	(40.5, 69.8)	26.5	(18.1, 37.0)	17.9	(8.8, 32.9)	100
Primary	5.3	(3.4, 8.0)	67.7	(52.5, 79.8)	23.5	(12.4, 39.8)	8.9	(3.8, 19.1)	100
Secondary	3.5	(2.2, 5.7)	87.8	(69.4, 95.8)	11.2	(3.6, 29.7)	1.0	(0.3, 3.9)	100
Higher than secondary	2.8	(1.8, 4.5)	79.9	(60.6, 91.1)	7.6	(2.2, 23.2)	12.6	(4.2, 31.9)	100
<i>Wealth Index</i>									
Lowest	5.9	(3.2, 10.5)	47.6	(34.5, 61.1)	32.5	(23.5, 42.9)	19.9	(11.2, 32.9)	100
Low	5.2	(3.4, 8.0)	74.4	(58.3, 85.8)	19.6	(10.0, 34.9)	5.9	(2.2, 15.1)	100
Middle	3.7	(2.3, 6.1)	83.9	(65.7, 93.4)	12.9	(5.6, 26.9)	3.2	(0.7, 13.3)	100
High	3.6	(2.4, 5.4)	88.3	(77.2, 94.3)	6.6	(2.9, 14.5)	5.1	(1.7, 14.3)	100
Higher	4.0	(2.8, 5.7)	94.6	(87.5, 97.8)	3.0	(1.5, 6.1)	2.4	(0.4, 12.9)	100

<sup>1</sup> Includes daily and occasional (less than daily) smokers or smokeless users.

#### 4.11 Time to First Tobacco Use after Awakening

Nicotine contained in tobacco products is highly addictive; therefore, using tobacco within a short time after awakening is an indirect indicator of nicotine dependence (reference). Nearly five in ten adult daily tobacco users aged 15 years old or older (46.9%) used tobacco within 30 minutes of waking up. Approximately 26.6% smoked within the first five minutes, and 19% smoked within 6-30 minutes. One-fifth (20.3%) of tobacco users first used tobacco 31 to 60 minutes after waking up, and 33.6% used tobacco more than one hour after awakening.

Table 4.11 presents the distribution of daily tobacco users by the amount of time between waking up and having the first tobacco use of the day.

**Table 4. 11: Percentage distribution of daily tobacco users ≥15 years old, by time to first tobacco use upon waking and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Time to first smoke								Total
	≤5 minutes		6-30 minutes		31-60 minutes		>60 minutes		
	<i>Percentage (95% CI)</i>								
<b>Overall</b>	26.6	(17.0, 38.9)	20.3	(13.9, 28.7)	20.3	(13.8, 28.8)	32.8	(22.4, 45.1)	100
<i>Gender</i>									
Male	26.0	(16.2, 39.0)	19.0	(12.7, 27.6)	21.3	(13.4, 32.1)	33.6	(22.2, 47.3)	100
Female	29.2	(14.3, 50.3)	26.5	(12.6, 47.3)	15.4	(6.6, 32.0)	28.9	(16.6, 45.5)	100
<i>Age (years)</i>									
15-24	18.4	(7.5, 38.4)	13.7	(6.9, 25.2)	8.1	(2.7, 22.0)	59.8	(37.8, 78.4)	100
25-44	27.8	(17.4, 41.2)	16.1	(9.3, 26.4)	20.8	(13.7, 30.3)	35.4	(22.3, 51.1)	100
45-64	27.9	(8.4, 61.9)	29.7	(13.1, 54.2)	30.8	(12.3, 58.5)	11.6	(4.2, 28.4)	100
65+	43.6	(16.1, 75.7)	40.2	(15.6, 71.0)	6.8	(1.6, 24.6)	9.4	(2.5, 29.5)	100
<i>Residence</i>									
Urban	18.8	(12.4, 27.5)	17.6	(10.2, 28.6)	28.1	(17.8, 41.5)	35.5	(21.3, 52.7)	100
Rural	28.5	(17.1, 43.5)	21.0	(13.4, 31.4)	18.4	(11.0, 29.0)	32.1	(20.1, 47.1)	100
<i>Education Level</i>									
No formal education	35.1	(24.1, 47.9)	22.7	(12.3, 38.0)	19.2	(12.7, 28.0)	23.1	(15.9, 32.2)	100
Primary	7.2	(4.0, 12.7)	17.0	(8.9, 30.0)	21.1	(8.3, 44.3)	54.6	(35.4, 72.6)	100
Secondary	45.4	(18.4, 75.4)	15.3	(6.5, 31.8)	23.4	(10.3, 44.9)	16.0	(5.9, 36.4)	100
Higher than secondary	21.0	(8.7, 42.7)	45.4	(23.0, 69.9)	11.4	(3.5, 31.8)	22.1	(6.3, 54.3)	100
<i>Wealth Index</i>									
Lowest	25.0	(11.6, 45.7)	22.4	(11.8, 38.6)	23.4	(14.9, 34.8)	29.2	(18.8, 42.3)	100
Low	36.0	(15.0, 64.2)	14.9	(7.2, 28.2)	5.6	(2.3, 13.4)	43.5	(21.3, 68.7)	100
Middle	12.9	(5.2, 28.8)	17.7	(6.4, 40.2)	34.4	(9.1, 73.2)	35.0	(13.4, 65.2)	100
High	16.6	(7.6, 32.8)	35.8	(19.4, 56.5)	18.9	(8.2, 38.0)	28.6	(15.3, 47.0)	100
Higher	28.5	(18.4, 41.4)	19.6	(10.2, 34.1)	37.2	(22.9, 54.2)	14.7	(6.7, 29.3)	100

The results further show that a slightly higher proportion of females than males used tobacco within five minutes of waking up (29.2% vs 26%). Considering residence, 28.5% of those in rural areas used tobacco within five minutes of waking up compared to 18.8% of urban residents. The pattern of distribution for education shows that 45.4% of those with secondary education used tobacco within five minutes of waking up compared to all age groups, followed by those with no education (35.1%), with higher than secondary education (21%), and lowest among those with primary education (7.2%).

***For smokeless***

Nearly seven in ten adult daily tobacco users aged 15 years or older (70.3%) used smokeless tobacco within 30 minutes of waking up. Over 40% used smokeless tobacco within the first five minutes of waking up; 16.8% used smokeless tobacco within 6-30 minutes; 16.8% used smokeless tobacco within 31-60 minutes, and 12.9% used smokeless tobacco within more than one hour of waking up.

**Table 4.11: Percentage distribution of daily smokers  $\geq 15$  years old, by time to first tobacco use upon waking and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Smokeless use								Total
	$\leq 5$ minutes		6-30 minutes		31-60 minutes		$>60$ minutes		
	<i>Percentage (95% CI)</i>								
<b>Overall</b>	29.9	(13.5, 53.8)	40.4	(27.5, 54.8)	16.8	(6.8, 35.9)	12.9	(5.7, 26.5)	100
<i>Gender</i>									
Male	36.8	(18.0, 60.7)	32.9	(17.3, 53.4)	17.6	(5.1, 45.9)	12.7	(5.4, 27.0)	100
Female	4.2	(0.8, 20.3)	68.6	(34.0, 90.3)	13.6	(5.7, 28.9)	13.6	(2.0, 55.6)	100
<i>Age (years)</i>									
15-24	-	-	-	-	-	-	-	-	100
25-44	34.7	(17.1, 57.8)	25.9	(15.4, 40.1)	14.6	(5.1, 35.3)	24.8	(11.7, 45.1)	100
45-64	41.5	(13.7, 76.0)	33.4	(13.0, 62.6)	14.8	(3.8, 43.2)	10.3	(1.7, 43.8)	100
65+	-	-	-	-	-	-	-	-	100
<i>Residence</i>									
Urban	20.7	(9.7, 38.8)	55.9	(33.9, 75.9)	16.2	(8.0, 30.2)	7.1	(2.6, 17.8)	100
Rural	30.3	(13.4, 55.0)	39.8	(26.6, 54.8)	16.8	(6.5, 36.8)	13.1	(5.7, 27.4)	100
<i>Education Level</i>									
No formal education	26.4	(14.2, 43.6)	34.2	(23.9, 46.3)	28.1	(12.1, 52.7)	11.3	(4.0, 28.0)	100
Primary	34.9	(9.9, 72.4)	50.0	(20.0, 79.9)	3.4	(0.8, 13.9)	11.7	(3.5, 32.8)	100
Secondary	-	-	-	-	-	-	-	-	100
Higher than secondary	-	-	-	-	-	-	-	-	100
<i>Wealth Index</i>									
Lowest	21.8	(9.4, 42.7)	44.3	(32.6, 56.7)	20.8	(8.7, 41.9)	13.1	(4.9, 30.9)	100
Low	50.2	(19.9, 80.3)	30.2	(10.4, 61.8)	5.8	(2.1, 15.3)	13.8	(2.5, 50.4)	100
Middle	63.3	(23.1, 90.8)	23.3	(4.2, 67.7)	7.1	(1.7, 25.2)	6.3	(1.9, 18.6)	100
High	-	-	-	-	-	-	-	-	100
Higher	-	-	-	-	-	-	-	-	100

The results further show that a significant proportion of males (36.8%) used smokeless tobacco within five minutes of waking up than females (4.2%). Considering residence, 30.3% of residents in rural areas used smokeless tobacco within five minutes of waking up compared to 20.7% of urban residents. The pattern of distribution for education shows that (34.9%) of those with primary education used tobacco within five minutes of waking up compared to those with no education (26.4%).

#### **4.12 Electronic Cigarette Awareness and Use**

Of all adults, 4% had ever heard of electronic cigarettes while 0.2% ever used electronic cigarettes. Of those who have ever heard of electronic cigarettes, .1% were current users (daily or less than daily). By age, 5.5% of adults age 25-44 had ever heard of electronic cigarettes; 4.1%

of adults aged 65-years-old or older; and 3.5% of adults age 45-64. Considering residence, 8.3% of residents in urban areas had ever heard of electronic cigarettes compared to 2.6% of rural residents.

**Table 4.12: Presents the distribution of adults  $\geq 15$  years old by knowledge and use of electronic cigarettes, by selected demographic characteristics - GATS Ethiopia, 2016.**

Demographic Characteristics	Ever heard of electronic cigarettes <sup>1</sup>		Ever used an electronic cigarette <sup>1</sup>		Current user of electronic cigarettes <sup>1,2</sup>	
	Percentage	(95% CI)	Percentage	(95% CI)	Percentage	(95% CI)
<b>Overall</b>	4.0	(3.3, 4.9)	0.2	(0.1, 0.3)	0.1	(0.0, 0.2)
<i>Gender</i>						
Male	5.2	(4.2, 6.5)	0.3	(0.1, 0.5)	0.1	(0.0, 0.3)
Female	2.7	(2.1, 3.6)	0.1	(0.0, 0.5)	0.0	(0.0, 0.3)
<i>Age (years)</i>						
15-24	2.9	(2.1, 4.1)	0.2	(0.0, 0.5)	0.1	(0.0, 0.2)
25-44	5.5	(4.4, 6.8)	0.2	(0.1, 0.5)	0.1	(0.0, 0.3)
45-64	3.5	(2.3, 5.4)	0.3	(0.1, 0.9)	0.1	(0.0, 0.8)
65+	4.1	(1.3, 12.2)	0.0	N/A	0.0	N/A
<i>Residence</i>						
Urban	8.3	(6.7, 10.2)	0.4	(0.2, 0.8)	0.2	(0.1, 0.6)
Rural	2.6	(1.9, 3.7)	0.1	(0.0, 0.3)	0.0	(0.0, 0.2)
<i>Education Level</i>						
No formal education	2.4	(1.6, 3.6)	0.1	(0.0, 0.3)	0.0	(0.0, 0.4)
Primary	3.3	(2.2, 4.8)	0.3	(0.1, 0.7)	0.1	(0.0, 0.3)
Secondary	5.1	(3.8, 6.7)	0.2	(0.1, 0.6)	0.1	(0.0, 0.5)
Higher than secondary	14.0	(10.3, 19.2)	0.5	(0.2, 1.4)	0.2	(0.0, 0.9)
<i>Wealth Index</i>						
Lowest	2.3	(1.4, 3.7)	0.1	(0.0, 0.3)	0.0	(0.0, 0.3)
Low	3.5	(2.1, 5.6)	0.3	(0.1, 1.0)	0.1	(0.0, 0.5)
Middle	3.0	(2.0, 4.4)	0.2	(0.1, 0.7)	0.0	(0.0, 0.0)
High	4.5	(3.4, 6.1)	0.1	(0.0, 0.5)	0.0	(0.0, 0.2)
Higher	12.0	(9.0, 15.8)	0.4	(0.2, 1.0)	0.2	(0.1, 1.0)

<sup>1</sup> Among all adults.

<sup>2</sup> Current use includes daily or less than daily use.

N/A - The estimate is "0.0"

The pattern of distribution for education shows that adults with higher than secondary education had ever heard of electronic cigarettes (14%), more than all their counterparts. The pattern decreases as education level decreases: 5.1% for those with a secondary-level education, 3.3% for those with a primary-level education, and 2.4% for those with no education.

The pattern of wealth index also showed that adults with higher wealth had ever heard of electronic cigarettes, more than all their counterparts (12%). Both groups with a higher level of

education (0.5 %) and wealth index (0.4%) had ever used electronic cigarettes, whereas current users accounted for 0.2% for each group.

## 5.0 CESSATION

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This chapter discusses the findings on tobacco cessation attempts, cessation methods, and interest in quitting tobacco use. It also highlights the extent to which health care providers ask patients about their use and advise them to quit tobacco.

### *Key Findings*

- *More than four out of ten smokers aged 15 years or above attempted to quit smoking in the past 12 months.*
- *Three out of four smokers who attempted to quit in the past 12 months tried without any assistance.*
- *About five out of ten smokers who visited a health care provider in the past 12 months received advice to quit smoking.*

### **5.1 Quit Attempts, Visits to Health Care Provider and Advice to Quit Smoking**

Nearly 23% (22.8%) of current and former smokers who had been abstinent for less than 12 months in the past year visited a health care provider (HCP) in the previous 12 months. Of this group, HCPs asked 56% of patients if they smoked, and they advised 53% to quit. There was no difference in the distribution of those whose HCP asked about their smoking status and those whose HCP advised them to quit in both urban and rural areas.

Around 14% of women who smoke tobacco made a quit attempt in the last 12 months; 47.4% of men who smoke made a quit attempt. More females (33.9%) visited HCPs than men (20.6%).

By age, approximately half (50.9%) of adults aged 15-24 attempted to quit—more than all of the other age groups. The proportions of 25-44-year-olds, 45-64-year-olds, and 65-year-olds and older who attempted to quit was 42%, 39.7% and 9.7% respectively. By residence, approximately three in five (60.3%) adults living in urban areas made a quit attempt. This proportion was higher than in rural areas, where 36.4% of adults made quit attempts. HCPs asked a higher proportion of adults in urban areas (82%) than adults in rural areas (45.8%) who attempted to quit if they smoke (82%).

Nearly three quarters (73.2%) of smokers with a secondary education attempted to quit for less than 12 months in the past year while nearly 22% (21.8%) of those with no education attempted to quit in the past 12 months. However, 29% of those with no education visited HCPs compared to 20.3% of those with a secondary education (Table 5.1).

**Table 5. 1: Percentage of smokers  $\geq 15$  years old who made a quit attempt and received health care provider advice in the past 12 months, by selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Smoking cessation and health care seeking behavior							
	Made quit attempt <sup>1</sup>		Visited a HCP <sup>1,2</sup>		Asked by HCP if a smoker <sup>2,3</sup>		Advised to quit by HCP <sup>2,3</sup>	
	Percentage (95% CI)							
<b>Overall</b>	42.0	(31.2, 53.6)	22.8	(16.6, 30.4)	56.0	(44.2, 67.1)	53.0	(39.7, 65.9)
<i>Gender</i>								
Male	47.4	(37.8, 57.2)	20.6	(14.6, 28.4)	59.4	(44.0, 73.1)	55.6	(41.3, 69.0)
Female	14.0	(4.8, 34.5)	33.9	(19.4, 52.2)	45.1	(16.4, 77.5)	44.8	(16.2, 77.2)
<i>Age (years)</i>								
15-24	50.9	(23.7, 77.6)	23.3	(12.9, 38.3)	88.3	(72.1, 95.7)	88.3	(72.1, 95.7)
25-44	42.0	(31.7, 53.0)	21.0	(14.4, 29.6)	57.8	(38.8, 74.7)	51.9	(33.6, 69.7)
45-64	39.7	(18.6, 65.5)	26.5	(12.6, 47.4)	29.4	(15.8, 48.0)	28.8	(15.4, 47.3)
65+	9.7	(2.7, 29.2)	19.5	(5.8, 49.2)	-	-	-	-
<i>Residence</i>								
Urban	60.3	(50.0, 69.8)	27.1	(18.2, 38.2)	82.0	(68.8, 90.4)	78.6	(65.2, 87.9)
Rural	36.4	(24.0, 50.9)	21.5	(14.2, 31.1)	45.8	(32.9, 59.4)	43.1	(28.4, 59.1)
<i>Education Level</i>								
No formal education	21.8	(12.6, 35.0)	29.0	(19.1, 41.5)	45.9	(31.2, 61.4)	41.9	(24.6, 61.4)
Primary	47.3	(33.4, 61.7)	15.9	(8.7, 27.5)	59.6	(34.4, 80.6)	57.6	(32.7, 79.1)
Secondary	73.2	(55.5, 85.7)	20.3	(9.1, 39.4)	60.1	(32.0, 82.8)	59.7	(31.8, 82.5)
Higher than secondary	45.8	(30.9, 61.4)	38.1	(23.6, 55.0)	-	-	-	-
<i>Wealth Index</i>								
Lowest	22.6	(13.7, 35.1)	29.6	(19.7, 42.0)	48.4	(32.5, 64.7)	44.5	(25.9, 64.9)
Low	56.5	(36.0, 75.0)	13.0	(6.0, 25.7)	51.0	(22.4, 78.9)	50.4	(22.0, 78.5)
Middle	35.9	(16.8, 60.7)	30.5	(14.7, 52.8)	63.4	(30.8, 87.1)	60.8	(29.2, 85.3)
High	56.4	(36.8, 74.2)	13.3	(6.6, 25.0)	58.8	(25.6, 85.6)	55.5	(23.4, 83.5)
Higher	65.7	(50.8, 78.0)	23.1	(12.1, 39.4)	82.2	(64.6, 92.1)	80.0	(63.0, 90.4)

<sup>1</sup> Among current smokers and former smokers who have been abstinent for less than 12 months.

<sup>2</sup> HCP = health care provider.

<sup>3</sup> Among current smokers and former smokers who have been abstinent for less than 12 months, and who visited a HCP during the past 12 months.

--Indicates estimates based on less than 25 unweighted cases and has been suppressed.

## 5.2 Cessation Methods Used by Those Who Attempted to Quit Smoking

Among all smokers who attempted to quit smoking in the past 12 months, 75.9% attempted to quit without any assistance while 3.1% used pharmacotherapy (nicotine replacement and/or prescription medications). Almost 15% (14.7%) used counseling or advice, 5.6% used traditional medicine, and 13.7% used other quit methods.

There were more smokers (78.3%) in rural areas who attempted to quit without assistance than smokers in urban areas (71.3%) (Table 5.2).

**Table 5. 2: Percentage of smokers  $\geq 15$  years old who attempted to quit smoking in the past 12 months, by cessation methods used and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Use of Cessation Method <sup>1</sup>									
	Pharmacotherapy <sup>2</sup>		Counseling/Advice <sup>3</sup>		Attempt to quit without assistance		Traditional Medicine		Other <sup>4</sup>	
	Percentage (95% CI)									
<b>Overall</b>	3.1	(1.0, 9.0)	14.7	(8.7, 23.7)	75.9	(57.2, 88.1)	5.6	(2.5, 12.2)	13.5	(6.6, 25.8)
<i>Gender</i>										
Male	3.3	(1.1, 9.5)	13.4	(7.5, 22.7)	74.7	(55.4, 87.5)	5.9	(2.6, 12.9)	14.3	(7.0, 26.9)
Female	0.0	N/A	37.0	(10.5, 74.5)	97.5	(91.8, 99.3)	0.4	(0.1, 3.6)	0.0	N/A
<i>Age (years)</i>										
15-24	6.4	(0.8, 35.5)	27.1	(8.7, 59.2)	39.9	(14.0, 73.0)	6.9	(1.1, 34.4)	32.2	(15.1, 56.0)
25-44	3.0	(1.0, 8.4)	14.3	(8.6, 22.7)	82.6	(69.5, 90.8)	7.6	(3.2, 17.1)	7.7	(2.7, 20.2)
45-64	0.0	N/A	3.3	(0.7, 13.9)	97.5	(87.7, 99.5)	0.0	N/A	7.4	(1.4, 31.7)
65+	-	-	-	-	-	-	-	-	-	-
<i>Residence</i>										
Urban	4.2	(1.5, 11.3)	22.2	(11.8, 37.8)	71.3	(53.7, 84.2)	8.9	(3.4, 21.2)	19.0	(9.3, 34.9)
Rural	2.5	(0.4, 14.3)	10.8	(5.1, 21.6)	78.3	(49.2, 93.0)	3.9	(1.0, 13.8)	10.7	(3.3, 30.0)
<i>Education Level</i>										
No formal education	7.7	(1.1, 39.3)	14.5	(4.4, 38.7)	90.2	(63.5, 98.0)	7.9	(1.1, 39.0)	17.0	(5.3, 42.9)
Primary	0.9	(0.2, 3.6)	16.1	(7.4, 31.3)	67.1	(33.6, 89.2)	3.2	(0.8, 11.4)	15.0	(4.3, 40.6)
Secondary	2.1	(0.4, 11.2)	6.0	(1.7, 19.2)	81.0	(55.7, 93.5)	6.6	(1.5, 24.2)	5.8	(1.4, 21.0)
Higher than secondary	10.0	(1.3, 48.1)	54.3	(24.3, 81.4)	66.4	(36.1, 87.3)	11.4	(2.8, 36.2)	33.7	(8.3, 74.0)
<i>Wealth Index</i>										
Lowest	7.5	(1.1, 37.8)	22.4	(9.8, 43.3)	81.7	(59.9, 93.1)	11.8	(3.0, 36.4)	5.9	(0.9, 29.8)
Low	0.2	(0.0, 1.2)	8.0	(2.6, 22.1)	72.5	(28.9, 94.5)	0.0	(0.0, 0.2)	15.5	(3.9, 45.3)
Middle	0.3	(0.1, 1.3)	17.4	(4.2, 50.0)	65.5	(36.8, 86.1)	1.1	(0.2, 6.2)	13.3	(2.2, 51.2)
High	0.7	(0.1, 5.1)	13.0	(4.9, 30.3)	84.6	(61.6, 95.0)	4.3	(1.0, 17.1)	5.7	(1.3, 21.1)
Higher	7.2	(2.6, 18.8)	19.3	(5.9, 47.8)	76.5	(51.9, 90.8)	13.4	(4.5, 33.6)	23.4	(8.4, 50.7)

<sup>1</sup> Among current smokers who made a quit attempt in the past 12 months and former smokers who have been abstinent for less than 12 months.

<sup>2</sup> Pharmacotherapy includes nicotine replacement therapy and prescription medications.

<sup>3</sup> Includes counseling and a telephone helpline.

<sup>4</sup> Other includes switching to smokeless tobacco and any other reported methods.

N/A - The estimate is "0.0"

--Indicates estimates based on less than 25 unweighted cases and has been suppressed.

### 5.3 Interest in Quitting Smoking

Nearly a quarter (23.6%) of current daily or less than daily smokers indicated their interest in quitting smoking (those who plan to quit within the next month and those who plan to quit within the next 12 months combined) as shown in Table 5.3. Only 12.9% of the current smokers 15-years-old and older planned to quit within the next month, 10.7% planned to quit within the next 12 months and 45.2% were not planning to quit in the next 12 months or not interested in quitting at all.

**Table 5. 3: Percentage distribution of current smokers ≥15 years old by interest in quitting smoking and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Interest in Quitting Smoking <sup>1</sup>						Total				
	Planning to Quit Within Next Month	Thinking About Quitting Within Next 12 Months	Will Quit Someday, But Not in the Next 12 Months	Not Interested in Quitting	Don't Know						
<b>Overall</b>	12.9	(6.9, 22.6)	10.7	(6.8, 16.3)	45.2	(34.8, 56.0)	22.1	(12.6, 35.9)	9.2	(5.9, 14.1)	100
<i>Gender</i>											
Male	13.9	(8.0, 23.2)	10.9	(7.5, 15.6)	49.7	(39.6, 59.7)	16.2	(10.6, 23.9)	9.3	(5.4, 15.5)	100
Female	7.3	(1.7, 27.1)	9.3	(2.1, 33.2)	22.2	(9.8, 42.8)	52.3	(31.4, 72.5)	8.7	(4.1, 17.8)	100
<i>Age (years)</i>											
15-24	15.8	(5.4, 38.2)	6.9	(1.8, 22.7)	51.2	(26.7, 75.2)	24.3	(6.2, 60.8)	1.8	(0.4, 7.5)	100
25-44	11.6	(5.8, 21.7)	17.5	(10.5, 27.6)	39.6	(31.8, 47.9)	21.3	(13.9, 31.1)	10.1	(5.2, 18.6)	100
45-64	14.2	(5.3, 33.0)	1.5	(0.4, 4.9)	51.6	(28.1, 74.5)	21.0	(9.3, 40.7)	11.6	(4.5, 27.0)	100
65+	5.5	(0.9, 27.9)	1.1	(0.3, 3.9)	44.6	(18.4, 74.2)	29.6	(8.0, 67.0)	19.2	(3.1, 63.7)	100
<i>Residence</i>											
Urban	21.2	(11.6, 35.6)	18.6	(11.0, 29.8)	40.5	(31.2, 50.5)	11.0	(6.2, 18.9)	8.7	(3.8, 18.7)	100
Rural	10.5	(4.3, 23.5)	8.4	(4.6, 15.0)	46.5	(33.4, 60.1)	25.3	(13.7, 41.8)	9.4	(5.6, 15.3)	100
<i>Education Level</i>											
No formal education	3.8	(0.8, 17.1)	10.5	(3.9, 25.4)	33.1	(21.7, 47.0)	37.9	(21.4, 57.7)	14.7	(9.0, 23.0)	100
Primary	24.0	(12.2, 41.7)	7.5	(3.7, 14.6)	49.9	(36.0, 63.9)	12.8	(7.1, 21.9)	5.8	(2.2, 14.6)	100
Secondary	10.4	(4.6, 22.0)	18.2	(7.8, 36.9)	57.2	(33.5, 78.0)	10.0	(4.1, 22.5)	4.1	(1.4, 11.6)	100
Higher than secondary	6.7	(1.8, 21.5)	9.3	(2.6, 28.0)	66.6	(44.0, 83.4)	8.4	(2.9, 22.0)	9.0	(2.5, 27.5)	100
<i>Wealth Index</i>											
Lowest	9.7	(3.1, 26.3)	9.3	(3.2, 23.8)	34.0	(20.6, 50.5)	34.1	(17.9, 55.1)	13.1	(7.5, 21.6)	100
Low	10.1	(2.9, 29.6)	8.6	(3.7, 19.1)	58.6	(36.9, 77.4)	15.6	(7.4, 30.0)	7.0	(2.0, 21.4)	100
Middle	9.0	(2.1, 31.6)	9.7	(3.1, 26.8)	62.3	(38.4, 81.4)	11.2	(3.1, 33.6)	7.8	(2.3, 23.2)	100
High	26.5	(9.5, 55.1)	15.4	(6.9, 30.8)	45.2	(27.0, 64.9)	11.5	(4.2, 28.1)	1.4	(0.5, 4.0)	100
Higher	23.9	(11.2, 43.9)	18.0	(8.6, 34.1)	31.4	(18.8, 47.5)	17.2	(8.6, 31.5)	9.5	(3.5, 23.5)	100

<sup>1</sup> Among current daily or less than daily smokers.

## 6.0 SECOND-HAND SMOKE

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This chapter provides estimates on exposure to second-hand smoke (SHS) among adults aged 15 years or above at home, at the workplace, and in various public places, (i.e., government buildings, health care facilities, restaurants, public transportation, bars/nightclubs, cafes/coffee shops/tea houses, private workplaces, universities, and schools/educational facilities).

### *Key Findings*

- *Among Ethiopians who worked indoors, 29.3% or 6,460,200 were exposed to SHS in the workplace.*
- *Over 12%, (12.6%) or 8,418,000, of Ethiopians were exposed to tobacco smoke at home.*
- *Over 60% (60.4%) of adults who visited bars or nightclubs were exposed to tobacco smoke.*
- *Over 30% (31.1%) of adults were exposed to SHS when visiting restaurants.*
- *Approximately 20% (19.7%) of adults were exposed to SHS when visiting government buildings, and 11.4% of adults were exposed to SHS when using public transportation.*
- *Seven percent of adults were exposed to SHS when visiting health care facilities.*
- *Over 29% (29.4 %) of adults were exposed to SHS at universities and 11.2% in schools.*

## 6.1 Exposure to Second-hand Smoke in the Workplace

The prevalence and estimated numbers of adults exposed to SHS at the workplace (among those working exclusively indoors or both indoors and outdoors) over the past 30 days by smoking status are shown in Table 6.1. Exposure to SHS in the workplace was measured only among adults who worked outside of their home. Table 6.1 shows that in Ethiopia, 29.3% of adults (6,460,200 people) were exposed to SHS in the workplace in the past 30 days; among non-smokers only, 27.1% (5,707,000 people) were exposed to SHS.

**Table 6.1: Percentage and number of adults ≥15 years old who work indoors and are exposed to tobacco smoke at work, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke at Work <sup>1</sup>				
	Overall		Non-smokers		
	Percentage (95% CI)	Number in thousands	Percentage (95% CI)	Number in thousands	
<b>Overall</b>	29.3 (24.7, 34.4)	6460.2	27.1 (22.4, 32.5)	5707.0	
<i>Gender</i>					
Male	31.6 (26.1, 37.8)	4093.5	28.7 (22.9, 35.3)	3466.8	
Female	26.0 (21.3, 31.4)	2366.7	25.0 (20.4, 30.3)	2240.3	
<i>Age (years)</i>					
15-24	27.7 (22.6, 33.4)	2774.3	26.4 (21.2, 32.3)	2580.3	
25-44	32.4 (26.7, 38.5)	2828.2	29.6 (23.9, 36.0)	2427.6	
45-64	24.6 (18.2, 32.2)	672.4	21.2 (14.8, 29.4)	541.4	
65+	35.8 (16.9, 60.5)	185.3	32.3 (13.5, 59.3)	157.8	
<i>Residence</i>					
Urban	33.1 (28.8, 37.7)	1976.2	31.3 (26.7, 36.2)	1788.3	
Rural	27.9 (21.9, 34.9)	4484.0	25.6 (19.4, 32.9)	3918.7	
<i>Education Level</i>					
No formal education	33.2 (21.8, 47.0)	2258.1	29.8 (18.0, 45.1)	1902.3	
Primary	27.5 (22.1, 33.7)	2240.2	26.0 (20.6, 32.2)	2016.7	
Secondary	31.0 (24.4, 38.6)	1483.6	29.3 (22.6, 37.1)	1358.5	
Higher than secondary	20.7 (15.8, 26.6)	478.0	19.2 (14.2, 25.4)	429.1	
<i>Wealth Index</i>					
Lowest	29.0 (20.9, 38.6)	2280.2	26.4 (18.5, 36.1)	1968.9	
Low	26.1 (18.8, 35.0)	1479.1	24.1 (16.4, 33.9)	1301.8	
Middle	31.5 (24.5, 39.4)	981.8	28.8 (21.8, 37.0)	857.3	
High	29.4 (23.4, 36.3)	766.7	27.4 (21.4, 34.4)	688.9	
Higher	34.5 (28.3, 41.3)	952.5	33.4 (27.0, 40.4)	890.1	

<sup>1</sup> In the past 30 days. Among those respondents who work outside of the home who usually work indoors or both indoors and outdoors.

Men (31.6% overall and 28.7% of non-smokers) were exposed to SHS at the workplace at a higher rate than women (26.0% overall and 25.0% of non-smokers). The number of residents in rural

areas who were exposed to SHS was more than double (4,484,000) those residing in urban areas (1,976, 200). However, the prevalence in urban areas (33.1% overall) is greater than rural areas (27.9% overall). Adults with no education (33.2% overall and 29.8% of non-smokers) had the highest exposure to SHS in the workplace. Workplace exposure among adults with primary, secondary and higher than secondary education was 27.5%, 31.0% and 20.7% respectively.

### ***6.2 Exposure to Second-hand Smoke at Home***

GATS measured exposure to SHS among adults who lived in homes where smoking occurred daily, weekly or monthly. The prevalence and estimated numbers of people exposed to SHS at home both overall and among non-smokers (Table 6.2) shows that 12.6% of adults in Ethiopia (8.4 million people) were exposed to SHS at home; among non-smokers, only 9.9% of adults (6.3 million people) had been exposed.

Overall, men (12.7%; 4.3 million) had a slightly higher prevalence of exposure to SHS at home than women (12.5%; 4.2 million). Adults living in rural areas (13.8%; nearly 7 million) had a higher prevalence of exposure than those living in urban areas (9%; 1.4 million).

By educational attainment, adults with a higher than secondary education (7.1% or 282,500 people) had the lowest estimate of SHS exposure at home. The findings for other groups were 18.2% (4.3 million) for those with no education; 10.4% (2.6 million) for primary education; and 8.8% (1.3 million) for those with secondary education.

Among current non-smokers, 9.9% (6.3 million people) were exposed to SHS at home. Female non-smokers (11.4% or 3,773,200 females) had a higher prevalence of SHS exposure at home than male non-smokers (8.2% or 2,569,000 males). Among non-smokers living in rural areas, 10.7% (5.24 million people) were exposed to SHS at home, and 7.2% (1.1 million people) of non-smokers residing in urban areas were exposed. Exposure to tobacco smoke at home decreased with the level of education; for example, non-smokers with no education had 15%, 7.5% among primary, 6.9% among secondary and 5.4% among higher than secondary education.

**Table 6.2: Percentage and number of adults ≥15 years old who are exposed to tobacco smoke at home, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke at Home <sup>1</sup>				
	Overall			Non-smokers	
	Percentage (95% CI)	Number in thousands	Percentage (95% CI)	Number in thousands	
<b>Overall</b>	12.6 (9.7, 16.2)	8418.1	9.9 (7.5, 12.8)	6342.2	
<i>Gender</i>					
Male	12.7 (9.8, 16.4)	4248.6	8.2 (5.9, 11.3)	2569.0	
Female	12.5 (9.1, 16.8)	4169.5	11.4 (8.4, 15.4)	3773.2	
<i>Age (years)</i>					
15-24	11.0 (7.8, 15.2)	3332.8	9.9 (7.0, 13.8)	2953.2	
25-44	13.5 (10.2, 17.7)	3266.2	9.8 (7.3, 13.0)	2237.7	
45-64	16.1 (11.4, 22.4)	1535.5	10.8 (6.8, 16.8)	958.1	
65+	10.2 (5.5, 18.2)	283.6	7.2 (3.3, 15.0)	193.2	
<i>Residence</i>					
Urban	9.0 (6.4, 12.4)	1438.2	7.2 (5.0, 10.2)	1111.7	
Rural	13.8 (10.1, 18.5)	6979.9	10.7 (7.8, 14.6)	5230.4	
<i>Education Level</i>					
No formal education	18.2 (13.1, 24.6)	4306.0	15.0 (10.8, 20.3)	3400.7	
Primary	10.4 (7.8, 13.6)	2566.3	7.5 (5.4, 10.2)	1774.4	
Secondary	8.8 (5.6, 13.5)	1262.3	6.9 (4.0, 11.6)	959.9	
Higher than secondary	7.1 (4.1, 12.2)	282.5	5.4 (2.7, 10.3)	207.1	
<i>Wealth Index</i>					
Lowest	14.2 (9.3, 21.1)	3603.6	11.2 (7.3, 16.8)	2733.4	
Low	14.2 (10.2, 19.4)	2487.0	10.9 (7.6, 15.4)	1834.7	
Middle	11.7 (7.8, 17.3)	1074.5	9.3 (6.0, 14.3)	827.6	
High	8.3 (5.1, 13.2)	624.0	6.4 (3.4, 11.5)	465.9	
Higher	8.8 (6.5, 11.8)	629.0	7.0 (4.9, 9.8)	480.5	

<sup>1</sup> Adults reporting that smoking inside their home occurs daily, weekly, or monthly.

### ***6.3 Exposure to Second-hand Smoke in Public Places***

GATS estimated exposure to SHS for a variety of public places: government buildings, health care facilities, restaurants, public transportation, universities, schools and bars/nightclubs. Table 6.3 presents population-level SHS exposure prevalence in various public places in the past 30 days by smoking status, while Table 6.4 shows the prevalence of exposure to SHS among those who had visited these places. The population exposure rates are much lower than the rates shown in Table 6.4, because many people did not visit the specific places of interest. For example, the prevalence of SHS exposure for people visiting restaurants was rather high, but because many adults did not go to restaurants, prevalence of population SHS exposure was very low.

#### ***6.3 Population Level Exposure to SHS in Various Public Places***

From highest to lowest, the overall prevalence of SHS exposure was 8.5% in restaurants, 4.8% on public transportation, 4.4% in government buildings, 4% in bars/nightclubs, 2.5% in schools, 2.1% in health care facilities and 1.5% in universities. Men had a higher prevalence of exposure to SHS than women for most of the public places studied except for schools, where the prevalence was almost the same. Overall, residents in urban areas had a higher prevalence of exposure to SHS than residents in rural areas did for all public places covered. An examination of exposure across age groups found that there was higher exposure to SHS in public places in the age groups 15-24 and 25-46 than the other groups (45-64 and 65 and older). Similarly, exposure to SHS for all public places by education level shows that there was a high level of exposure among those with secondary and higher than secondary education than the other groups with no education and primary education.

Table 6.3 presents the prevalence of SHS exposure for the various public places at the population level.

**Table 6.3: Percentage of adults ≥15 years old who were exposed to tobacco smoke in various public places in the past 30 days, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke <sup>1</sup> in...													
	Government buildings		Health care facilities		Restaurants		Public transportation		Universities		Schools		Bars/Nightclubs	
	Percentage (95% CI)													
<b>Overall</b>	4.4	(3.5, 5.4)	2.1	(1.5, 2.8)	8.5	(7.2, 10.0)	4.8	(4.1, 5.6)	1.5	(1.1, 2.1)	2.5	(1.7, 3.6)	4.0	(3.2, 5.0)
<i>Gender</i>														
Male	6.0	(4.6, 7.7)	2.2	(1.5, 3.2)	11.5	(9.5, 13.7)	5.5	(4.5, 6.7)	1.7	(1.2, 2.4)	2.5	(1.5, 4.1)	5.9	(4.5, 7.7)
Female	2.8	(2.1, 3.7)	2.0	(1.3, 3.1)	5.5	(4.4, 6.8)	4.1	(3.1, 5.3)	1.4	(0.8, 2.2)	2.5	(1.7, 3.6)	2.2	(1.6, 2.9)
<i>Age (years)</i>														
15-24	4.1	(2.9, 5.7)	2.2	(1.5, 3.3)	9.1	(7.1, 11.7)	6.1	(4.9, 7.6)	2.3	(1.6, 3.3)	4.1	(2.6, 6.4)	4.5	(3.2, 6.2)
25-44	5.2	(4.0, 6.6)	2.2	(1.4, 3.4)	9.1	(7.6, 10.7)	4.2	(3.3, 5.3)	1.2	(0.7, 1.9)	1.6	(1.0, 2.5)	4.8	(3.7, 6.2)
45-64	3.8	(2.3, 6.1)	1.8	(0.9, 3.7)	6.1	(4.2, 8.8)	2.6	(1.8, 3.7)	0.3	(0.1, 0.7)	0.5	(0.3, 1.0)	1.7	(1.0, 2.9)
65+	2.4	(0.9, 6.1)	0.9	(0.4, 2.0)	4.2	(2.0, 8.6)	2.9	(1.4, 6.0)	0.3	(0.1, 1.2)	0.3	(0.1, 1.2)	0.6	(0.2, 1.7)
<i>Residence</i>														
Urban	6.0	(4.8, 7.5)	3.0	(2.2, 4.1)	15.4	(13.2, 18.0)	7.6	(6.1, 9.5)	3.8	(2.7, 5.5)	3.3	(2.3, 4.7)	9.7	(7.7, 12.1)
Rural	3.8	(2.8, 5.2)	1.8	(1.2, 2.8)	6.2	(4.8, 8.1)	3.9	(3.1, 4.8)	0.8	(0.4, 1.4)	2.3	(1.4, 3.7)	2.2	(1.4, 3.4)
<i>Education Level</i>														
No formal education	2.6	(1.6, 4.1)	1.3	(0.7, 2.2)	4.6	(3.1, 6.6)	2.8	(2.0, 4.0)	0.2	(0.1, 0.6)	0.6	(0.3, 1.1)	1.3	(0.8, 2.3)
Primary	4.2	(3.1, 5.6)	2.1	(1.2, 3.5)	7.1	(5.6, 9.1)	4.2	(3.1, 5.6)	0.6	(0.3, 1.1)	2.6	(1.7, 4.0)	2.8	(2.0, 3.9)
Secondary	6.1	(4.3, 8.4)	3.0	(1.8, 4.9)	13.8	(10.7, 17.5)	7.1	(5.2, 9.5)	2.5	(1.4, 4.5)	5.1	(3.0, 8.6)	6.9	(5.0, 9.3)
Higher than secondary	10.3	(7.6, 13.7)	4.1	(2.7, 6.3)	21.0	(16.2, 26.8)	12.0	(8.2, 17.1)	11.8	(7.9, 17.2)	3.9	(2.2, 6.9)	17.6	(12.9, 23.7)
<i>Wealth Index</i>														
Lowest	2.7	(1.9, 3.9)	1.1	(0.5, 2.4)	5.7	(3.9, 8.2)	2.5	(1.7, 3.8)	0.6	(0.3, 1.5)	1.6	(1.0, 2.7)	1.9	(1.1, 3.3)
Low	3.8	(2.2, 6.4)	1.9	(0.9, 3.8)	6.0	(3.7, 9.6)	4.1	(2.8, 6.1)	0.8	(0.4, 1.6)	2.8	(1.2, 6.1)	2.1	(0.7, 5.6)
Middle	6.5	(4.5, 9.3)	3.1	(1.5, 6.2)	9.8	(7.1, 13.4)	7.4	(5.2, 10.6)	2.1	(0.9, 4.8)	3.0	(1.6, 5.7)	4.2	(3.0, 5.8)
High	6.6	(4.4, 9.6)	2.8	(1.6, 5.1)	11.6	(9.2, 14.4)	7.6	(5.6, 10.1)	2.3	(1.3, 4.1)	3.8	(2.3, 6.4)	6.9	(5.2, 9.2)
Higher	6.4	(4.8, 8.3)	3.9	(2.6, 5.8)	19.4	(15.3, 24.2)	7.9	(5.9, 10.5)	5.0	(3.0, 8.1)	2.9	(1.8, 4.7)	13.0	(9.6, 17.3)

**Table 6.3 Continues: Percentage of adults ≥15 years old who were exposed to tobacco smoke in various public places in the past 30 days, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke <sup>1</sup> in...													
	Government buildings		Health care facilities		Restaurants		Public transportation		Universities		Schools		Bars/NightClubs	
	Percentage (95% CI)													
<b>Non-smokers</b>	4.1	(3.2, 5.2)	2.1	(1.5, 2.8)	7.9	(6.7, 9.4)	4.7	(4.0, 5.6)	1.5	(1.1, 2.1)	2.5	(1.7, 3.7)	3.7	(2.9, 4.7)
<i>Gender</i>														
Male	5.5	(4.2, 7.3)	2.1	(1.4, 3.2)	10.7	(8.8, 13.0)	5.4	(4.4, 6.6)	1.7	(1.1, 2.4)	2.5	(1.5, 4.2)	5.3	(3.9, 7.2)
Female	2.7	(2.0, 3.7)	2.0	(1.3, 3.1)	5.3	(4.3, 6.7)	4.1	(3.2, 5.3)	1.4	(0.8, 2.2)	2.5	(1.7, 3.7)	2.2	(1.7, 2.9)
<i>Age (years)</i>														
15-24	3.9	(2.8, 5.6)	2.2	(1.4, 3.2)	8.7	(6.6, 11.3)	6.1	(4.8, 7.6)	2.3	(1.5, 3.3)	4.1	(2.6, 6.5)	4.2	(2.9, 6.0)
25-44	4.7	(3.6, 6.2)	2.1	(1.3, 3.4)	8.3	(6.9, 10.0)	4.0	(3.1, 5.1)	1.1	(0.7, 1.9)	1.5	(1.0, 2.3)	4.3	(3.3, 5.6)
45-64	3.6	(2.1, 6.0)	1.9	(0.9, 3.9)	5.8	(3.9, 8.6)	2.6	(1.8, 3.9)	0.3	(0.1, 0.7)	0.5	(0.3, 1.0)	1.7	(1.0, 2.9)
65+	2.1	(0.7, 6.2)	1.0	(0.5, 2.1)	4.1	(1.9, 8.7)	3.0	(1.4, 6.2)	0.3	(0.1, 1.2)	0.3	(0.1, 1.2)	0.6	(0.2, 1.7)
<i>Residence</i>														
Urban	5.8	(4.6, 7.3)	2.9	(2.1, 4.0)	14.5	(12.2, 17.1)	7.7	(6.1, 9.6)	3.8	(2.6, 5.5)	3.3	(2.3, 4.8)	8.6	(6.8, 10.8)
Rural	3.5	(2.5, 4.9)	1.8	(1.1, 2.8)	5.8	(4.4, 7.7)	3.8	(3.0, 4.8)	0.8	(0.4, 1.4)	2.3	(1.3, 3.8)	2.1	(1.4, 3.3)
<i>Education Level</i>														
No formal education	2.1	(1.2, 3.8)	1.2	(0.7, 2.2)	4.0	(2.8, 5.6)	2.8	(2.0, 4.0)	0.2	(0.1, 0.6)	0.6	(0.3, 1.1)	1.4	(0.8, 2.3)
Primary	4.0	(2.9, 5.4)	2.0	(1.2, 3.6)	6.6	(5.1, 8.5)	4.1	(3.0, 5.6)	0.5	(0.3, 1.1)	2.6	(1.7, 4.0)	2.6	(1.8, 3.7)
Secondary	5.9	(4.1, 8.3)	2.9	(1.7, 5.0)	13.1	(10.0, 17.0)	6.9	(5.0, 9.4)	2.5	(1.3, 4.5)	5.2	(3.0, 8.8)	5.8	(4.1, 8.2)
Higher than secondary	9.7	(7.1, 13.1)	4.1	(2.6, 6.3)	21.0	(16.2, 26.8)	12.1	(8.2, 17.4)	11.6	(7.7, 17.1)	4.0	(2.2, 7.0)	17.2	(12.4, 23.4)
<i>Wealth Index</i>														
Lowest	2.4	(1.6, 3.6)	1.1	(0.5, 2.4)	5.3	(3.7, 7.5)	2.5	(1.7, 3.8)	0.6	(0.2, 1.5)	1.6	(0.9, 2.6)	1.9	(1.1, 3.4)
Low	3.5	(2.0, 6.1)	2.0	(1.0, 4.0)	5.5	(3.3, 9.1)	4.0	(2.7, 6.0)	0.8	(0.4, 1.7)	2.9	(1.3, 6.4)	2.0	(0.7, 5.8)
Middle	6.4	(4.4, 9.3)	3.1	(1.5, 6.3)	9.7	(6.9, 13.3)	7.5	(5.2, 10.8)	2.1	(0.9, 5.0)	3.1	(1.6, 5.9)	4.0	(2.8, 5.7)
High	6.4	(4.2, 9.6)	2.7	(1.4, 5.0)	10.8	(8.5, 13.6)	7.6	(5.6, 10.2)	2.2	(1.2, 4.1)	3.9	(2.3, 6.5)	6.2	(4.5, 8.4)
Higher	5.8	(4.4, 7.7)	3.8	(2.4, 5.8)	18.1	(14.1, 22.9)	7.6	(5.6, 10.3)	4.8	(2.9, 8.0)	2.9	(1.7, 4.7)	11.1	(7.9, 15.3)

<sup>1</sup> Among all adults in the past 30 days.

#### **6.4 Exposure to SHS When Visiting Various Public Places**

From highest to lowest, the prevalence of SHS exposure among those who visited various public places in the last 30 days were the following: 60.4% in bars/nightclubs, 31.1% in restaurants, 29.4% in universities, 19.7% in government buildings, 11.4 % on public transportation, 11.2% in schools, and 7% in health care facilities.

Table 6.4 shows the distribution of the percentage of adults exposed to SHS among people who visited the various public places.

**Table 6. 4: Percentage of adults ≥15 years old who visited various public places in the past 30 days and were exposed to tobacco smoke, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke <sup>1</sup> in...													
	Government buildings		Health care facilities		Restaurants		Public transportation		Universities		Schools		Bars/Nightclubs	
<i>Percentage (95% CI)</i>														
<b>Overall</b>	19.7	(16.2, 23.7)	7.0	(5.2, 9.4)	31.1	(27.2, 35.2)	11.4	(9.9, 13.2)	29.4	(22.0, 38.1)	11.2	(8.0, 15.5)	60.4	(52.0, 68.3)
<i>Gender</i>														
Male	21.2	(16.6, 26.7)	7.9	(5.3, 11.6)	30.9	(26.6, 35.5)	11.8	(9.7, 14.2)	28.9	(20.3, 39.4)	9.5	(5.9, 14.8)	63.4	(53.6, 72.2)
Female	17.1	(13.4, 21.7)	6.3	(4.2, 9.3)	31.6	(26.0, 37.7)	11.0	(8.6, 14.0)	30.0	(19.8, 42.7)	13.8	(9.7, 19.1)	53.6	(41.9, 65.0)
<i>Age (years)</i>														
15-24	19.3	(14.4, 25.4)	7.8	(5.3, 11.5)	31.3	(25.2, 38.2)	13.5	(11.0, 16.6)	31.9	(22.3, 43.4)	12.1	(7.8, 18.3)	62.6	(49.6, 74.0)
25-44	21.4	(17.2, 26.2)	6.5	(4.3, 9.9)	30.7	(26.6, 35.1)	9.9	(8.0, 12.2)	25.9	(16.9, 37.5)	11.2	(7.3, 16.7)	60.5	(49.3, 70.7)
45-64	18.2	(11.4, 27.8)	6.5	(3.1, 12.9)	31.7	(21.6, 43.8)	7.7	(5.3, 11.1)	19.1	(9.2, 35.6)	4.5	(2.2, 8.7)	50.5	(31.8, 69.0)
65+	12.3	(4.6, 29.3)	4.5	(2.1, 9.5)	29.7	(13.2, 53.9)	9.7	(4.5, 19.5)	-	-	4.0	(0.9, 17.0)	-	-
<i>Residence</i>														
Urban	18.8	(15.3, 23.0)	8.5	(6.3, 11.4)	35.8	(31.8, 40.0)	13.0	(10.7, 15.7)	34.5	(26.1, 44.0)	13.2	(9.6, 18.0)	71.9	(64.7, 78.2)
Rural	20.2	(15.3, 26.1)	6.4	(4.2, 9.8)	28.2	(22.5, 34.6)	10.6	(8.7, 13.0)	24.0	(13.4, 39.2)	10.5	(6.5, 16.4)	49.2	(35.4, 63.2)
<i>Education Level</i>														
No formal education	17.4	(11.1, 26.3)	4.7	(2.8, 7.8)	30.6	(21.9, 40.8)	9.7	(6.8, 13.6)	11.6	(5.8, 21.7)	7.7	(4.1, 14.0)	38.3	(25.1, 53.5)
Primary	20.3	(15.5, 26.1)	7.0	(4.2, 11.4)	27.4	(21.8, 33.8)	10.3	(7.6, 13.9)	16.2	(7.3, 31.9)	10.8	(7.2, 15.9)	59.7	(44.8, 73.0)
Secondary	22.0	(16.5, 28.7)	9.6	(5.9, 15.4)	34.1	(27.8, 41.0)	12.3	(9.2, 16.2)	32.6	(20.1, 48.1)	12.7	(7.5, 20.5)	64.4	(52.4, 74.8)
Higher than secondary	18.0	(12.9, 24.4)	9.1	(6.0, 13.5)	34.5	(27.6, 42.2)	17.0	(12.0, 23.5)	45.4	(33.1, 58.3)	11.8	(6.7, 20.0)	74.4	(64.3, 82.4)
<i>Wealth Index</i>														
Lowest	16.0	(11.2, 22.5)	4.1	(2.0, 8.2)	28.7	(20.4, 38.8)	7.5	(4.9, 11.1)	24.1	(9.8, 48.3)	7.2	(4.3, 11.9)	54.4	(37.0, 70.9)
Low	20.0	(12.7, 30.0)	7.7	(4.0, 14.3)	28.3	(19.3, 39.6)	12.3	(8.5, 17.5)	20.4	(10.0, 37.0)	14.3	(6.8, 27.6)	50.3	(23.0, 77.4)
Middle	26.7	(18.7, 36.7)	9.9	(5.0, 18.9)	30.1	(23.1, 38.2)	15.6	(11.0, 21.7)	35.3	(17.3, 58.7)	12.0	(6.6, 20.9)	50.4	(38.6, 62.2)
High	21.0	(15.0, 28.6)	7.5	(4.2, 13.0)	28.5	(23.0, 34.8)	13.3	(10.3, 16.9)	35.6	(21.8, 52.4)	16.1	(9.9, 25.1)	58.2	(42.7, 72.1)
Higher	18.1	(13.9, 23.2)	9.9	(6.7, 14.5)	40.7	(33.9, 47.9)	11.9	(9.0, 15.6)	32.5	(22.2, 44.8)	12.2	(7.4, 19.3)	79.0	(68.0, 87.0)

**Table 6.4 continued: Percentage of adults ≥15 years old who visited various public places in the past 30 days and were exposed to tobacco smoke, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults Exposed to Tobacco Smoke <sup>1</sup> in...													
	Government buildings		Health care facilities		Restaurants		Public transportation		Universities		Schools		Bars/Nightclubs	
	<i>Percentage (95% CI)</i>													
<b>Non-smokers</b>	18.9	(15.4, 23.1)	6.9	(5.0, 9.4)	29.9	(26.0, 34.1)	11.2	(9.7, 13.1)	29.3	(21.6, 38.3)	11.0	(7.8, 15.4)	57.9	(49.2, 66.2)
<i>Gender</i>														
Male	20.2	(15.4, 26.0)	7.7	(5.0, 11.7)	29.3	(24.9, 34.1)	11.5	(9.3, 14.0)	28.4	(19.5, 39.3)	9.1	(5.5, 14.7)	60.1	(49.6, 69.7)
Female	16.9	(13.1, 21.5)	6.2	(4.1, 9.3)	31.1	(25.6, 37.1)	11.0	(8.6, 14.0)	30.4	(20.0, 43.3)	13.8	(9.8, 19.1)	53.5	(41.7, 64.9)
<i>Age (years)</i>														
15-24	18.8	(13.8, 24.9)	7.7	(5.1, 11.4)	30.3	(24.1, 37.3)	13.4	(10.8, 16.5)	31.9	(22.1, 43.7)	12.1	(7.8, 18.4)	60.7	(47.3, 72.7)
25-44	20.2	(15.9, 25.4)	6.3	(4.0, 9.8)	29.2	(25.1, 33.8)	9.5	(7.6, 11.9)	25.4	(16.2, 37.3)	10.4	(6.8, 15.6)	57.2	(45.4, 68.2)
45-64	17.9	(10.7, 28.4)	6.5	(3.1, 13.3)	30.5	(20.3, 42.9)	7.6	(5.1, 11.3)	19.1	(9.1, 35.9)	4.2	(2.1, 8.3)	49.0	(30.5, 67.7)
65+	10.8	(3.5, 29.2)	4.6	(2.1, 9.8)	28.8	(12.5, 53.4)	9.9	(4.6, 20.0)	-	-	4.2	(0.9, 17.9)	-	-
<i>Residence</i>														
Urban	18.3	(14.6, 22.7)	8.1	(5.9, 11.0)	34.4	(30.3, 38.8)	13.0	(10.7, 15.8)	33.8	(25.4, 43.4)	13.2	(9.5, 18.0)	68.9	(61.6, 75.4)
Rural	19.3	(14.3, 25.5)	6.4	(4.1, 9.9)	27.0	(21.4, 33.4)	10.3	(8.3, 12.7)	24.2	(13.1, 40.4)	10.2	(6.2, 16.3)	48.0	(33.9, 62.4)
<i>Education Level</i>														
No formal education	15.2	(8.8, 24.9)	4.5	(2.7, 7.7)	27.6	(20.4, 36.3)	9.5	(6.6, 13.5)	12.0	(6.0, 22.5)	7.3	(3.8, 13.6)	37.6	(24.4, 53.1)
Primary	20.1	(15.1, 26.3)	6.9	(3.9, 11.7)	26.5	(20.7, 33.2)	10.2	(7.4, 14.0)	16.0	(6.8, 33.4)	10.5	(6.8, 15.7)	57.9	(42.4, 72.0)
Secondary	21.7	(16.0, 28.8)	9.5	(5.7, 15.4)	32.7	(26.3, 39.9)	12.0	(8.9, 15.9)	32.0	(19.3, 48.0)	12.6	(7.4, 20.6)	59.7	(47.0, 71.3)
Higher than secondary	17.1	(12.2, 23.5)	8.9	(5.8, 13.4)	34.6	(27.8, 42.2)	17.0	(12.0, 23.6)	44.5	(32.1, 57.5)	12.0	(6.8, 20.2)	73.5	(63.1, 81.9)
<i>Wealth Index</i>														
Lowest	14.8	(10.0, 21.2)	3.9	(1.8, 8.2)	27.6	(19.9, 37.0)	7.4	(4.9, 11.2)	23.7	(9.1, 48.9)	6.7	(3.9, 11.3)	53.7	(36.1, 70.4)
Low	19.4	(12.0, 29.8)	8.0	(4.1, 15.2)	26.9	(17.6, 38.8)	11.9	(8.0, 17.3)	22.2	(10.9, 40.1)	14.7	(7.0, 28.2)	50.4	(21.9, 78.6)
Middle	26.3	(18.2, 36.5)	9.9	(4.8, 19.3)	30.0	(22.8, 38.3)	15.6	(10.9, 21.8)	35.6	(17.4, 59.2)	12.0	(6.6, 21.0)	48.8	(36.8, 61.0)
High	20.7	(14.5, 28.8)	7.0	(3.7, 12.7)	27.1	(21.7, 33.2)	13.2	(10.2, 17.0)	34.3	(20.3, 51.7)	16.2	(9.8, 25.6)	54.8	(39.4, 69.3)
Higher	16.7	(12.7, 21.7)	9.5	(6.3, 14.1)	38.7	(31.9, 46.0)	11.4	(8.5, 15.2)	31.2	(20.9, 43.8)	11.6	(7.0, 18.6)	75.6	(63.2, 84.9)

<sup>1</sup> Among those that visited the place in the past 30 days.

## 7.0 ECONOMICS

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This chapter focuses on the economic aspects of tobacco use by current smokers of manufactured cigarettes. Findings are based on information from the most recent purchase, including cigarette brand purchased, source of purchase, and expenditure on cigarettes.

### **Key Findings**

- *The two most purchased cigarette brands in Ethiopia were Nyala (87.2%) and Gemdel (5.8%).*
- *Kiosks (78.9%), duty-free shops (7.1%) and stores (6%) were the primary sources of last-purchased cigarettes.*
- *The median monthly expenditure on cigarettes by a smoker was ETB 150.1.*

### **7.1 Brand of Manufactured Cigarettes at Last Purchase**

In GATS Ethiopia, the most used cigarette brands were Nyala (87.2%), Gemdel (5.8%) and Rothman (5.6%). The least smoked brands were Marlboro (0.9%) and Delight (0.5%) among others (Table 7.1).

The pattern of purchase by brand was similar across the various demographic characteristics. In all the age groups, residences and educational levels, smokers mainly purchased Nyala brands.

**Table 7. 1: Percentage of current manufactured cigarette smokers ≥15 years old, by last brand purchased and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Last cigarette brand purchased									
	NYALA		GEMDEL		ROTHMAN		MARLBORO		DELIGHT	
	<i>Percentage (95% CI)</i>									
<b>Overall</b>	87.2	(78.8, 92.6)	5.8	(2.5, 13.2)	5.6	(2.4, 12.4)	0.9	(0.2, 3.3)	0.5	(0.1, 2.8)
<i>Gender</i>										
Male	87.2	(78.5, 92.8)	6.0	(2.5, 13.7)	5.8	(2.5, 12.7)	0.5	(0.2, 1.8)	0.5	(0.1, 2.9)
Female	-	-	-	-	-	-	-	-	-	-
<i>Age (years)</i>										
15-24	81.2	(52.3, 94.4)	6.2	(0.9, 32.4)	12.6	(2.9, 41.4)	0.0	N/A	0.0	N/A
25-44	87.1	(75.4, 93.7)	8.0	(2.8, 20.9)	3.0	(0.9, 9.7)	1.0	(0.3, 3.4)	0.9	(0.2, 5.4)
45-64	93.5	(80.8, 98.0)	1.4	(0.3, 6.8)	3.6	(1.1, 11.5)	1.5	(0.2, 11.3)	0.0	N/A
65+	-	-	-	-	-	-	-	-	-	-
<i>Residence</i>										
Urban	78.2	(64.2, 87.8)	8.1	(2.4, 24.4)	10.4	(3.9, 24.6)	1.9	(0.4, 9.6)	1.4	(0.2, 7.9)
Rural	92.0	(81.8, 96.7)	4.6	(1.4, 14.2)	3.1	(0.8, 10.8)	0.3	(0.0, 2.2)	0.0	N/A
<i>Education Level</i>										
No formal education	86.5	(66.3, 95.4)	1.6	(0.4, 7.1)	10.8	(3.0, 32.2)	1.1	(0.1, 7.3)	0.0	N/A
Primary	88.8	(72.1, 96.0)	6.4	(1.8, 20.5)	4.6	(0.8, 22.3)	0.3	(0.0, 1.9)	0.0	N/A
Secondary	88.8	(70.9, 96.3)	7.7	(1.9, 26.2)	3.5	(0.6, 17.0)	0.0	N/A	0.0	N/A
Higher than secondary	70.3	(42.0, 88.6)	5.4	(1.0, 24.7)	7.8	(2.3, 23.3)	8.9	(1.3, 41.8)	7.7	(1.2, 35.5)
<i>Wealth Index</i>										
Lowest	83.1	(60.0, 94.1)	8.8	(2.0, 31.6)	7.2	(1.3, 31.7)	1.0	(0.1, 6.8)	0.0	N/A
Low	95.1	(78.4, 99.0)	3.9	(0.5, 22.8)	1.0	(0.1, 7.6)	0.0	N/A	0.0	N/A
Middle	87.6	(56.8, 97.4)	12.4	(2.6, 43.2)	0.0	N/A	0.0	N/A	0.0	N/A
High	90.2	(72.6, 97.0)	5.6	(0.9, 28.2)	3.4	(1.2, 9.0)	0.8	(0.1, 5.5)	0.0	N/A
Higher	73.6	(51.3, 88.1)	1.9	(0.3, 9.4)	18.7	(6.4, 43.5)	3.1	(0.4, 19.7)	2.7	(0.4, 15.1)

Note: Current manufactured cigarette smokers includes daily and occasional (less than daily) use. The top five reported brands last purchased among all manufactured cigarette smokers are shown here.

N/A - The estimate is "0.0"

## ***7.2 Source of Last Purchase of Cigarettes***

Table 7.2 shows that the most common source of the last purchase of manufactured cigarettes was kiosks (78.9%), followed by duty-free shops (7.1%) and stores (6.0%).

The largest proportions of people who purchased cigarettes at kiosks were females (81.5%), 15-24-year-olds (85.1%), and rural dwellers (79.9%).

**Table 7. 2: Percentage distribution of manufactured cigarette smokers  $\geq 15$  years old, by the source of last purchase of cigarettes and selected demographic characteristics – GATS Ethiopia, 2016.**

Source	Gender				Age (years)				Residence			
	Overall	Male	Female		15-24	25+			Urban	Rural		
	<i>Percentage (95% CI)</i>											
Store	6.0 (2.7, 12.9)	6.2 (2.8, 13.3)	0.0 N/A		8.5 (1.6, 35.2)	5.4 (2.5, 11.3)			13.5 (5.2, 30.8)	3.0 (0.9, 9.4)		
Street vendor	3.6 (1.7, 7.7)	3.5 (1.6, 7.7)	5.8 (0.7, 35.2)		5.0 (1.4, 16.6)	3.3 (1.3, 8.1)			7.4 (3.0, 17.4)	2.1 (0.6, 7.3)		
Duty-free shop	7.1 (3.1, 15.8)	7.1 (2.9, 16.3)	7.6 (1.0, 39.1)		0.5 (0.1, 2.2)	8.8 (3.8, 19.0)			1.6 (0.3, 9.0)	9.3 (3.9, 20.7)		
Kiosks	78.9 (68.3, 86.7)	78.8 (67.7, 86.9)	81.5 (51.2, 94.9)		85.1 (63.1, 95.0)	77.4 (65.7, 86.0)			76.5 (61.5, 86.9)	79.9 (65.6, 89.2)		
Internet	0.0 (0.0, 0.2)	0.0 (0.0, 0.2)	0.0 N/A		0.0 N/A	0.0 (0.0, 0.3)			0.0 N/A	0.0 (0.0, 0.3)		
From another person	0.3 (0.1, 1.0)	0.3 (0.1, 1.0)	0.0 N/A		0.0 N/A	0.3 (0.1, 1.3)			0.9 (0.2, 3.2)	0.0 (0.0, 0.1)		
Other	4.0 (0.6, 21.3)	3.9 (0.6, 22.6)	5.0 (1.1, 20.5)		0.9 (0.2, 3.8)	4.7 (0.7, 26.1)			0.0 N/A	5.6 (0.9, 28.4)		
<b>Total</b>	100	100	100		100	100			100	100		

N/A - The estimate is "0.0"

### *7.3 Expenditures on Cigarettes*

Researchers collected information on the amount of money manufactured cigarette smokers spent on their last purchase. The two indicators they calculated from this information were the median cost (amount spent) on 20 manufactured cigarettes (one pack) and the median expenditure on manufactured cigarettes per month. Table 7.3 presents the results for these two indicators.

Overall, the median amount spent on manufactured cigarettes per month was ETB 150.1. Smokers with higher levels of education spent more money per month on cigarette purchases than those with low levels or no education.

Smokers aged 15-24 years spent the highest on cigarette purchases per month at ETB 230. There was a difference in the amount spent on cigarettes per month between urban and rural dwellers. On average, cigarette smokers in rural areas spent more money per month (ETB 151) than those in rural areas (ETB 113.9), which is ETB 37.1 higher than the median amount spent by urban smokers.

**Table 7. 3: Average monthly cigarette expenditure for each manufactured cigarette smoker ≥ 15 years old, by selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Cigarette expenditure per month		Cigarette expenditure per month	
	(Ethiopian Birr)		(Ethiopian Birr)	
	Average (95% CI)		Median (95% CI)	
<b>Overall</b>	525.6	(135.8, 915.3)	150.1	(98.9, 258.4)
<i>Gender</i>				
Male	533.8	(130.5, 937.1)	150.0	(99.2, 291.7)
Female	292.5	(30.6, 554.4)	158.5	(49.9, 275.4)
<i>Age (years)</i>				
15-24	977.6	(-215.9, 2171.1)	230.1	(90.7, 1786.1)
25-44	511.3	(252.8, 769.8)	152.0	(93.5, 276.1)
45-64	195.6	(114.3, 276.8)	110.0	(92.2, 220.9)
65+	-	-	-	-
<i>Residence</i>				
Urban	520.3	(200.6, 840.0)	113.9	(85.7, 204.1)
Rural	527.8	(-8.0, 1063.7)	151.0	(96.9, 298.7)
<i>Education Level</i>				
No formal education	361.8	(220.3, 503.4)	190.5	(90.1, 299.3)
Primary	752.3	(-21.9, 1526.4)	150.6	(101.7, 299.7)
Secondary	290.5	(44.1, 537.0)	95.9	(90.6, 165.1)
Higher than secondary	376.6	(133.1, 620.0)	268.3	(62.2, 298.2)
<i>Wealth Index</i>				
Lowest	642.2	(173.1, 1111.4)	149.8	(109.1, 297.7)
Low	642.6	(-165.2, 1450.4)	118.0	(91.8, 400.2)
Middle	186.5	(142.6, 230.3)	90.6	(59.4, 240.0)
High	542.4	(-14.6, 1099.4)	154.6	(38.6, 266.8)
Higher	271.2	(158.4, 384.0)	144.7	(86.0, 282.4)

--Indicates estimates based on less than 25 unweighted cases and has been suppressed.

**Table 7. 4: Percentage distribution of manufactured cigarette smokers ≥15 years old, by the packaging type of last purchase of cigarettes selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Cigarette Type								Total
	Single Stick		Packs		Cartons		Other Quantities		
	<i>Percentage (95% CI)</i>								
<b>Overall</b>	61.4	(47.1, 73.9)	33.3	(21.2, 48.1)	0.4	(0.1, 2.9)	4.9	(1.1, 19.3)	100
<i>Gender</i>									
Male	61.9	(47.6, 74.4)	32.9	(20.9, 47.5)	0.2	(0.0, 1.1)	5.1	(1.2, 19.9)	100
Female	47.5	(15.3, 81.9)	45.2	(14.2, 80.5)	7.3	(0.9, 39.8)	0.1	(0.0, 0.7)	100
<i>Age (years)</i>									
15-24	83.7	(59.7, 94.7)	16.3	(5.3, 40.3)	0.0	N/A	0.0	N/A	100
25-44	65.2	(48.5, 78.8)	33.1	(19.5, 50.1)	0.3	(0.0, 2.1)	1.5	(0.4, 5.3)	100
45-64	34.8	(15.6, 60.8)	47.9	(20.9, 76.2)	1.0	(0.1, 7.0)	16.3	(2.9, 55.8)	100
65+	-	-	-	-	-	-	-	-	100
<i>Residence</i>									
Urban	60.5	(45.1, 74.0)	34.6	(21.7, 50.2)	1.4	(0.2, 9.7)	3.5	(0.9, 12.6)	100
Rural	61.7	(42.7, 77.7)	32.8	(17.6, 52.7)	0.0	N/A	5.5	(0.9, 27.8)	100
<i>Education Level</i>									
No formal education	58.0	(41.0, 73.2)	38.6	(23.3, 56.6)	0.0	N/A	3.4	(0.7, 14.1)	100
Primary	70.5	(47.0, 86.6)	21.3	(8.1, 45.4)	0.0	N/A	8.2	(1.3, 37.5)	100
Secondary	47.4	(23.3, 72.9)	52.6	(27.1, 76.7)	0.0	N/A	0.0	N/A	100
Higher than secondary	52.3	(29.0, 74.6)	36.8	(19.5, 58.4)	7.9	(1.2, 38.6)	2.9	(0.5, 16.8)	100
<i>Wealth Index</i>									
Lowest	70.5	(49.3, 85.4)	29.2	(14.3, 50.5)	0.0	N/A	0.3	(0.0, 2.3)	100
Low	55.6	(25.0, 82.4)	44.4	(17.6, 75.0)	0.0	N/A	0.0	N/A	100
Middle	57.6	(28.2, 82.4)	13.6	(5.4, 30.3)	0.0	N/A	28.8	(6.8, 68.9)	100
High	77.8	(57.4, 90.1)	18.9	(7.7, 39.4)	0.0	N/A	3.3	(0.4, 20.5)	100
Higher	47.5	(30.0, 65.7)	49.4	(31.7, 67.3)	3.1	(0.4, 19.1)	0.0	(0.0, 0.2)	100

## 8.0 MEDIA

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This chapter is organized into three sections: adults who noticed anti-cigarette information disseminated through various mass media channels; awareness of health warnings on cigarette packages and considering cessation; and adults who noticed cigarette marketing.

### *Key Findings*

- *A quarter (25%) of the people sampled noticed anti-smoking information: radio led as the main source of anti-smoking information with 16%, followed by television (9%) and newspapers or magazines (6.5%).*
- *About half (41.8%) of smokers noticed health warnings on cigarette packages, and 23.3% of those thought about quitting because of the warning signs.*
- *A small portion of the respondents (4.5%) noticed cigarette marketing.*

### *8.1 Noticing Anti-Cigarette Information*

Table 8.1 shows that 25% of Ethiopian adults overall noticed anti-cigarette information in the last 30 days. Of these, 16% noticed the information on radio, 9% on television and 6.5% in a newspaper or magazine. Non-smokers (25.1%) noticed more anti-cigarette information in the last 30 days than smokers (22.5%) did. More men (27.4%), younger people 15-24-years-old (28.4%), and residents of urban areas (38.3%) noticed anti-smoking information in any location compared to their counterparts (Table 8.1).

**Table 8. 1: Percentage of adults ≥15 years old who noticed anti-cigarette smoking information during the last 30 days in various places, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Places	Gender						Age (years)				Residence	
	Overall	Male	Female	15-24	25+	Urban	Rural					
<i>Percentage (95% CI)</i>												
<b>Overall</b>												
In newspapers or in magazines	6.5 (5.5, 7.8)	7.8 (6.2, 9.7)	5.3 (4.1, 6.8)	8.3 (6.6, 10.4)	5.1 (4.1, 6.3)	10.7 (8.7, 13.0)	5.2 (4.0, 6.7)					
On television or the radio	20.3 (18.1, 22.7)	22.3 (19.5, 25.4)	18.4 (15.8, 21.2)	22.5 (19.1, 26.3)	18.6 (16.5, 20.8)	31.3 (28.2, 34.6)	16.8 (14.3, 19.7)					
On television	9.0 (7.7, 10.6)	10.2 (8.5, 12.1)	7.9 (6.4, 9.6)	10.0 (7.7, 12.8)	8.2 (7.1, 9.5)	22.6 (20.0, 25.3)	4.7 (3.3, 6.6)					
On the radio	16.0 (13.9, 18.2)	17.6 (14.8, 20.7)	14.3 (12.1, 17.0)	18.1 (14.9, 21.8)	14.2 (12.3, 16.3)	18.7 (16.1, 21.7)	15.1 (12.6, 18.0)					
On billboards	1.7 (1.3, 2.1)	2.1 (1.5, 2.9)	1.3 (0.9, 1.8)	1.8 (1.2, 2.8)	1.6 (1.2, 2.1)	3.9 (3.0, 5.0)	1.0 (0.6, 1.5)					
Somewhere else	3.1 (2.3, 4.2)	3.4 (2.3, 4.9)	2.9 (2.0, 4.1)	3.4 (2.2, 5.2)	2.9 (2.2, 3.9)	4.5 (2.7, 7.4)	2.7 (1.9, 3.8)					
Any Location	25.0 (22.5, 27.6)	27.4 (24.2, 31.0)	22.5 (19.7, 25.5)	28.4 (24.6, 32.5)	22.1 (19.9, 24.6)	38.3 (34.9, 41.9)	20.7 (17.9, 23.8)					
<b>Current smokers<sup>1</sup></b>												
In newspapers or in magazines	8.8 (5.1, 14.8)	10.5 (6.3, 17.0)	0.1 (0.0, 0.6)	11.7 (3.7, 31.4)	8.1 (4.6, 14.0)	20.4 (12.3, 31.9)	5.5 (2.3, 12.7)					
On television or the radio	18.1 (11.7, 27.0)	21.4 (14.6, 30.2)	1.5 (0.5, 5.1)	31.9 (15.5, 54.5)	14.7 (9.9, 21.5)	37.0 (26.0, 49.6)	12.8 (6.5, 23.6)					
On television	9.9 (5.9, 15.9)	11.7 (7.3, 18.1)	0.7 (0.2, 2.5)	16.4 (5.8, 38.7)	8.3 (4.8, 13.8)	22.1 (14.6, 32.0)	6.4 (2.7, 14.5)					
On the radio	12.5 (7.9, 19.2)	14.7 (9.8, 21.5)	1.2 (0.3, 4.4)	16.6 (5.9, 38.7)	11.4 (7.3, 17.5)	22.6 (14.6, 33.3)	9.6 (5.0, 17.8)					
On billboards	2.1 (0.8, 5.4)	2.5 (1.0, 6.3)	0.0 (0.0, 0.2)	0.7 (0.1, 5.4)	2.4 (0.9, 6.5)	7.1 (2.4, 19.0)	0.7 (0.1, 3.5)					
Somewhere else	3.6 (1.7, 7.2)	3.4 (1.6, 7.3)	4.4 (1.3, 13.7)	3.5 (0.5, 21.4)	3.6 (1.5, 8.2)	5.1 (1.7, 14.6)	3.2 (1.2, 7.8)					
Any Location	22.5 (16.0, 30.6)	25.7 (18.6, 34.4)	5.9 (2.8, 12.3)	35.8 (17.9, 58.8)	19.2 (13.8, 26.0)	49.1 (39.1, 59.2)	14.9 (8.8, 24.3)					
<b>Non-smokers<sup>2</sup></b>												
In newspapers or in magazines	6.4 (5.4, 7.7)	7.6 (6.0, 9.5)	5.4 (4.2, 6.9)	8.2 (6.5, 10.4)	4.9 (3.9, 6.1)	10.3 (8.4, 12.7)	5.2 (4.0, 6.7)					
On television or the radio	20.4 (18.2, 22.8)	22.4 (19.5, 25.5)	18.6 (16.0, 21.4)	22.3 (18.9, 26.2)	18.8 (16.7, 21.1)	31.1 (28.0, 34.5)	17.0 (14.4, 19.9)					
On television	9.0 (7.6, 10.6)	10.1 (8.3, 12.1)	7.9 (6.5, 9.7)	9.9 (7.6, 12.7)	8.2 (7.0, 9.6)	22.6 (20.0, 25.4)	4.6 (3.2, 6.6)					
On the radio	16.1 (14.0, 18.4)	17.8 (14.9, 21.0)	14.5 (12.2, 17.1)	18.1 (14.9, 21.9)	14.3 (12.4, 16.5)	18.6 (15.9, 21.6)	15.3 (12.8, 18.2)					
On billboards	1.7 (1.3, 2.1)	2.1 (1.4, 2.9)	1.3 (0.9, 1.8)	1.8 (1.2, 2.8)	1.5 (1.1, 2.1)	3.8 (2.9, 4.9)	1.0 (0.6, 1.6)					
Somewhere else	3.1 (2.3, 4.2)	3.4 (2.3, 5.0)	2.9 (2.0, 4.1)	3.4 (2.2, 5.2)	2.9 (2.1, 3.9)	4.5 (2.6, 7.5)	2.7 (1.9, 3.9)					
Any Location	25.1 (22.6, 27.7)	27.6 (24.1, 31.3)	22.7 (19.9, 25.7)	28.3 (24.4, 32.4)	22.3 (20.0, 24.8)	37.9 (34.4, 41.6)	20.9 (18.1, 24.1)					

<sup>1</sup> Includes daily and occasional (less than daily) smokers. <sup>2</sup> Includes former and never smokers.

## 8.2 Health Warnings on Cigarette Packages and Thinking about Quitting

About half (41.8%) of current smokers noticed health warnings on cigarette packages, but only about a third (23.3%) of them thought about quitting as a result. More current smokers with secondary school education (77.1%) noticed health warnings than those with no education (16.1%) did. Similarly, 61.4% of current smokers with secondary school education thought about quitting because of the warning labels compared to 4.2% of those with no education (**Table 8.2**).

**Table 8. 2: Percentage of current smokers  $\geq 15$  years old who noticed health warnings on cigarette packages and considered quitting because of the warning labels during the last 30 days, by selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Current smokers <sup>1</sup> who...	
	Noticed health warnings on cigarette package <sup>2</sup>	Thought about quitting because of warning label <sup>2</sup>
	Percentage (95% CI)	
<b>Overall</b>	41.8 (28.3, 56.6)	23.3 (14.1, 36.0)
<i>Gender</i>		
Male	48.6 (35.5, 61.9)	27.4 (17.6, 40.1)
Female	7.1 (1.6, 26.9)	2.2 (0.5, 8.8)
<i>Age (years)</i>		
15-24	61.1 (28.2, 86.3)	33.0 (16.2, 55.7)
25-44	36.0 (25.1, 48.6)	17.9 (11.0, 27.7)
45-64	40.8 (19.6, 66.2)	29.8 (10.7, 60.2)
65+	24.6 (5.7, 63.6)	0.0 (0.0, 0.2)
<i>Residence</i>		
Urban	64.9 (52.4, 75.6)	35.1 (21.4, 51.6)
Rural	35.2 (20.6, 53.2)	19.9 (10.0, 35.8)
<i>Education Level</i>		
No formal education	16.1 (7.2, 32.2)	4.2 (1.4, 12.0)
Primary	49.1 (31.3, 67.1)	24.4 (14.9, 37.3)
Secondary	77.1 (57.7, 89.3)	61.4 (37.8, 80.6)
Higher than secondary	72.4 (48.1, 88.1)	35.5 (16.4, 60.6)
<i>Wealth Index</i>		
Lowest	18.9 (8.5, 37.0)	9.1 (3.4, 21.8)
Low	57.7 (33.6, 78.6)	32.6 (14.6, 57.8)
Middle	38.0 (18.4, 62.5)	19.1 (8.3, 38.1)
High	55.2 (32.6, 75.8)	32.0 (16.1, 53.7)
Higher	74.7 (59.1, 85.7)	46.9 (29.4, 65.2)

<sup>1</sup> Includes daily and occasional (less than daily) smokers.

<sup>2</sup> During the last 30 days.

### ***8.3 Adults Who Noticed Cigarette Marketing***

Overall, 4.5% of adults in Ethiopia noticed any form of advertisement, promotion or sponsorship of cigarettes in the last 30 days.

Men were more likely to notice any advertisement, promotion or sponsorship than women were (5.3% vs. 3.6%). See details in Table 8.3.

Urban residents noticed more cigarette advertising, promotion and sponsorships (6.9%) than rural residents did (3.7%). Primary locations where respondents noticed advertising were in sale prices (1.3%), on radio (0.6%), on public transportation (0.6%), on clothing/items with brand names (0.5%), on public walls (0.4%), in stores (0.3%) and on posters (0.3%) (Table 8.3).

**Table 8. 3: Percentage of adults ≥15 years old who noticed cigarette marketing during the last 30 days in various places, by selected demographic characteristics – GATS Ethiopia, 2016.**

Places	Gender						Age (years)				Residence			
	Overall	Male		Female		15-24		25+		Urban	Rural			
<i>Percentage (95% CI)</i>														
<i>Noticed advertisements</i>														
In stores	0.3	(0.2, 0.6)	0.6	(0.4, 1.1)	0.1	(0.0, 0.2)	0.3	(0.1, 0.8)	0.4	(0.2, 0.7)	0.7	(0.4, 1.1)	0.3	(0.1, 0.6)
On television	0.2	(0.1, 0.4)	0.4	(0.2, 0.7)	0.1	(0.1, 0.3)	0.2	(0.1, 0.6)	0.3	(0.1, 0.5)	0.7	(0.3, 1.3)	0.1	(0.0, 0.3)
On the radio	0.6	(0.4, 0.9)	0.6	(0.3, 1.2)	0.6	(0.3, 1.2)	0.6	(0.3, 1.3)	0.6	(0.4, 1.0)	0.4	(0.2, 0.7)	0.7	(0.4, 1.1)
On billboards	0.1	(0.0, 0.1)	0.1	(0.0, 0.3)	0.0	(0.0, 0.1)	0.1	(0.0, 0.2)	0.1	(0.0, 0.2)	0.1	(0.1, 0.4)	0.0	(0.0, 0.2)
On posters	0.3	(0.1, 0.6)	0.3	(0.1, 0.6)	0.3	(0.1, 0.8)	0.2	(0.1, 0.6)	0.3	(0.2, 0.7)	0.3	(0.1, 0.6)	0.3	(0.1, 0.7)
In newspapers or magazines	0.1	(0.1, 0.2)	0.2	(0.1, 0.4)	0.1	(0.0, 0.2)	0.1	(0.0, 0.3)	0.1	(0.1, 0.3)	0.3	(0.1, 0.6)	0.1	(0.0, 0.2)
In cinemas	0.1	(0.1, 0.3)	0.2	(0.1, 0.6)	0.0	(0.0, 0.1)	0.2	(0.0, 0.6)	0.1	(0.1, 0.2)	0.5	(0.2, 1.1)	0.0	(0.0, 0.1)
On the internet	0.2	(0.1, 0.4)	0.4	(0.2, 0.7)	0.1	(0.1, 0.2)	0.2	(0.1, 0.5)	0.3	(0.1, 0.4)	0.7	(0.4, 1.2)	0.1	(0.0, 0.3)
On public transportation	0.6	(0.4, 0.8)	0.9	(0.6, 1.4)	0.2	(0.1, 0.5)	0.4	(0.2, 0.9)	0.7	(0.4, 1.0)	0.9	(0.5, 1.5)	0.5	(0.3, 0.8)
On public walls	0.4	(0.2, 0.7)	0.4	(0.2, 0.9)	0.3	(0.1, 0.8)	0.4	(0.2, 1.0)	0.3	(0.2, 0.7)	0.6	(0.3, 1.1)	0.3	(0.1, 0.9)
Somewhere else	0.3	(0.1, 0.6)	0.4	(0.2, 1.2)	0.1	(0.0, 0.3)	0.3	(0.1, 1.2)	0.2	(0.1, 0.6)	0.5	(0.2, 1.2)	0.2	(0.1, 0.8)
Noticed sports sponsorship	0.3	(0.1, 0.5)	0.4	(0.2, 0.9)	0.1	(0.0, 0.3)	0.2	(0.0, 1.0)	0.3	(0.2, 0.5)	0.2	(0.1, 0.3)	0.3	(0.1, 0.6)
<i>Noticed cigarette promotions</i>														
Free samples	0.3	(0.2, 0.6)	0.4	(0.2, 0.8)	0.3	(0.1, 0.8)	0.2	(0.1, 0.5)	0.5	(0.3, 0.9)	0.3	(0.1, 0.6)	0.4	(0.2, 0.7)
Sale prices	1.3	(0.9, 1.9)	1.6	(1.1, 2.5)	1.0	(0.6, 1.7)	1.1	(0.7, 1.7)	1.5	(1.0, 2.3)	2.3	(1.6, 3.4)	1.0	(0.6, 1.8)
Coupons	0.1	(0.0, 0.2)	0.1	(0.0, 0.3)	0.1	(0.0, 0.4)	0.0	(0.0, 0.2)	0.1	(0.0, 0.4)	0.1	(0.0, 0.3)	0.1	(0.0, 0.3)
Free gifts/discounts on other products	0.3	(0.2, 0.6)	0.3	(0.2, 0.5)	0.3	(0.1, 0.9)	0.3	(0.1, 0.7)	0.4	(0.2, 0.6)	0.4	(0.2, 0.7)	0.3	(0.1, 0.6)
Clothing/item with brand name or logo	0.5	(0.4, 0.7)	0.6	(0.4, 0.9)	0.4	(0.3, 0.7)	0.4	(0.2, 0.6)	0.6	(0.4, 0.9)	1.1	(0.8, 1.6)	0.3	(0.2, 0.6)
Mail promoting cigarettes	0.2	(0.1, 0.5)	0.2	(0.1, 0.4)	0.2	(0.0, 0.8)	0.2	(0.0, 0.9)	0.2	(0.1, 0.4)	0.1	(0.0, 0.3)	0.2	(0.0, 0.6)
<b>Noticed any advertisement, sponsorship, or promotion</b>	<b>4.5</b>	<b>(3.7, 5.4)</b>	<b>5.3</b>	<b>(4.3, 6.5)</b>	<b>3.6</b>	<b>(2.8, 4.8)</b>	<b>4.2</b>	<b>(3.2, 5.3)</b>	<b>4.8</b>	<b>(3.8, 5.9)</b>	<b>6.9</b>	<b>(5.6, 8.3)</b>	<b>3.7</b>	<b>(2.9, 4.9)</b>

#### ***8.4 Smokers Who Noticed Cigarette Marketing***

Overall, 10.2% of current smokers noticed some form of cigarette marketing in the last 30 days: more males (11.8%) noticed cigarette marketing compared to females (1.9%). Younger people (aged 15-24) noticed more cigarette marketing (15.6%) compared to those aged 25 years or older (8.8%). Urban residents (13.5%) noticed more cigarette marketing than rural residents did (9.2%). Current smokers noticed cigarette marketing on sale prices (5.3%), clothing/items with brand names or logos (4.6%) and at stores (1.2%) (Table 8.4).

**Table 8. 4: Percentage of current smokers ≥15 years old who noticed cigarette marketing during the last 30 days in various places, by selected demographic characteristics – GATS Ethiopia, 2016.**

Places	Gender				Age (years)				Residence			
	Overall	Male	Female		15-24	25+			Urban	Rural		
<i>Percentage (95% CI)</i>												
<i>Noticed advertisements</i>												
In stores	1.2 (0.3, 4.4)	1.4 (0.4, 5.1)	0.1 (0.0, 0.5)		3.4 (0.5, 21.6)	0.7 (0.1, 3.3)			0.5 (0.1, 2.6)	1.4 (0.3, 5.8)		
On television	0.9 (0.2, 3.9)	0.8 (0.1, 5.1)	1.2 (0.1, 8.8)		0.0 (0.0, 0.3)	1.1 (0.2, 4.8)			0.8 (0.1, 5.8)	0.9 (0.1, 5.4)		
On the radio	0.7 (0.1, 4.2)	0.8 (0.1, 5.0)	0.1 (0.0, 0.5)		0.1 (0.0, 1.1)	0.9 (0.1, 5.3)			0.0 N/A	0.9 (0.2, 5.3)		
On billboards	0.0 (0.0, 0.1)	0.0 N/A	0.1 (0.0, 0.5)		0.0 N/A	0.0 (0.0, 0.1)			0.0 N/A	0.0 (0.0, 0.1)		
On posters	0.1 (0.0, 0.4)	0.1 (0.0, 0.4)	0.0 N/A		0.0 N/A	0.1 (0.0, 0.5)			0.4 (0.1, 1.7)	0.0 N/A		
In newspapers or magazines	0.0 (0.0, 0.2)	0.0 (0.0, 0.2)	0.1 (0.0, 0.5)		0.1 (0.0, 1.1)	0.0 (0.0, 0.1)			0.0 N/A	0.0 (0.0, 0.2)		
In cinemas	0.2 (0.0, 1.5)	0.2 (0.0, 1.7)	0.0 N/A		0.0 N/A	0.3 (0.0, 1.8)			0.9 (0.1, 6.3)	0.0 N/A		
On the internet	0.3 (0.1, 0.9)	0.4 (0.1, 1.0)	0.1 (0.0, 0.5)		0.1 (0.0, 0.6)	0.4 (0.1, 1.1)			1.0 (0.3, 3.0)	0.1 (0.0, 0.9)		
On public transportation	2.0 (0.7, 5.5)	2.4 (0.9, 6.3)	0.1 (0.0, 0.5)		0.0 N/A	2.5 (0.9, 7.1)			0.0 N/A	2.6 (0.9, 7.0)		
On public walls	0.1 (0.0, 0.7)	0.1 (0.0, 0.8)	0.1 (0.0, 0.5)		0.0 N/A	0.1 (0.0, 0.8)			0.0 N/A	0.1 (0.0, 0.9)		
Somewhere else	0.1 (0.0, 0.7)	0.1 (0.0, 0.8)	0.0 N/A		0.0 N/A	0.1 (0.0, 0.9)			0.0 N/A	0.1 (0.0, 0.9)		
Noticed sports sponsorship	0.8 (0.2, 4.1)	1.0 (0.2, 4.8)	0.0 (0.0, 0.2)		3.3 (0.4, 21.9)	0.2 (0.1, 0.9)			0.8 (0.2, 3.2)	0.8 (0.1, 6.1)		
<i>Noticed cigarette promotions</i>												
Free samples	0.6 (0.2, 1.9)	0.7 (0.2, 2.5)	0.0 N/A		0.0 N/A	0.7 (0.2, 2.5)			0.4 (0.1, 2.9)	0.6 (0.2, 2.4)		
Sale prices	5.3 (2.8, 10.0)	6.4 (3.4, 11.5)	0.1 (0.0, 0.5)		13.6 (4.9, 32.3)	3.3 (1.6, 6.6)			8.6 (4.7, 15.5)	4.4 (1.8, 10.5)		
Coupons	0.0 N/A	0.0 N/A	0.0 N/A		0.0 N/A	0.0 N/A			0.0 N/A	0.0 N/A		
Free gifts/discounts on other products	0.3 (0.1, 1.3)	0.4 (0.1, 1.5)	0.0 N/A		0.0 N/A	0.4 (0.1, 1.6)			1.4 (0.3, 5.5)	0.0 N/A		
Clothing/item with brand name or logo	4.6 (2.6, 8.0)	5.4 (3.1, 9.1)	0.8 (0.2, 3.6)		9.5 (3.2, 25.1)	3.4 (1.7, 6.6)			7.2 (4.1, 12.4)	3.9 (1.8, 8.3)		
Mail promoting cigarettes	0.0 (0.0, 0.1)	0.0 (0.0, 0.1)	0.1 (0.0, 0.5)		0.0 N/A	0.0 (0.0, 0.1)			0.1 (0.0, 0.5)	0.0 (0.0, 0.1)		
<b>Noticed any advertisement, sponsorship, or promotion</b>	<b>10.2 (6.6, 15.3)</b>	<b>11.8 (7.9, 17.2)</b>	<b>1.9 (0.4, 8.6)</b>		<b>15.6 (6.1, 34.5)</b>	<b>8.8 (5.4, 14.2)</b>			<b>13.5 (8.6, 20.6)</b>	<b>9.2 (5.2, 15.7)</b>		

Note: Current smokers includes daily and occasional (less than daily) smokers.

N/A - The estimate is "0.0"

### ***8.5 Non-smokers Who Noticed Cigarette Marketing***

Overall, 4.3% of non-smokers noticed some form of cigarette marketing in the last 30 days. Of that group, 4.9% of males noticed cigarette marketing compared to 3.7% of females. Cigarette marketing was more noticeable to urban residents (6.6%) compared to rural residents (3.5%). Non-smokers noticed cigarette marketing on sale prices (1.2%), on radio (0.6%), on clothing/items with brand names or logos (0.4%) and in stores (0.3%) (Table 8.5).

**Table 8. 5: Percentage of current non-smokers ≥15 years old who noticed cigarette marketing during the last 30 days in various places, by selected demographic characteristics – GATS Ethiopia, 2016.**

Places	Gender						Age (years)				Residence			
	Overall	Male		Female		15-24	25+		Urban	Rural				
<i>Percentage (95% CI)</i>														
<i>Noticed advertisements</i>														
In stores	0.3	(0.2, 0.5)	0.6	(0.3, 1.0)	0.1	(0.0, 0.2)	0.2	(0.1, 0.7)	0.4	(0.2, 0.7)	0.7	(0.4, 1.2)	0.2	(0.1, 0.5)
On television	0.2	(0.1, 0.4)	0.3	(0.1, 0.7)	0.1	(0.0, 0.3)	0.2	(0.1, 0.6)	0.2	(0.1, 0.4)	0.7	(0.3, 1.3)	0.1	(0.0, 0.2)
On the radio	0.6	(0.4, 0.9)	0.6	(0.3, 1.2)	0.6	(0.3, 1.2)	0.6	(0.3, 1.3)	0.6	(0.4, 1.0)	0.4	(0.2, 0.8)	0.7	(0.4, 1.1)
On billboards	0.1	(0.0, 0.2)	0.1	(0.0, 0.3)	0.0	(0.0, 0.1)	0.1	(0.0, 0.2)	0.1	(0.0, 0.2)	0.2	(0.1, 0.4)	0.0	(0.0, 0.2)
On posters	0.3	(0.1, 0.6)	0.3	(0.1, 0.6)	0.3	(0.1, 0.8)	0.2	(0.1, 0.6)	0.3	(0.2, 0.7)	0.2	(0.1, 0.6)	0.3	(0.1, 0.7)
In newspapers or magazines	0.1	(0.1, 0.2)	0.2	(0.1, 0.4)	0.1	(0.0, 0.3)	0.1	(0.0, 0.3)	0.1	(0.1, 0.3)	0.3	(0.1, 0.6)	0.1	(0.0, 0.2)
In cinemas	0.1	(0.1, 0.3)	0.2	(0.1, 0.6)	0.0	(0.0, 0.1)	0.2	(0.0, 0.6)	0.1	(0.1, 0.2)	0.5	(0.2, 1.2)	0.0	(0.0, 0.1)
On the internet	0.2	(0.1, 0.4)	0.4	(0.2, 0.7)	0.1	(0.1, 0.2)	0.2	(0.1, 0.5)	0.2	(0.1, 0.5)	0.7	(0.4, 1.2)	0.1	(0.0, 0.3)
On public transportation	0.5	(0.3, 0.8)	0.8	(0.5, 1.3)	0.2	(0.1, 0.5)	0.4	(0.2, 0.9)	0.6	(0.4, 0.9)	0.9	(0.5, 1.6)	0.4	(0.2, 0.7)
On public walls	0.4	(0.2, 0.8)	0.4	(0.2, 0.9)	0.3	(0.1, 0.8)	0.4	(0.2, 1.0)	0.3	(0.2, 0.7)	0.6	(0.3, 1.2)	0.3	(0.1, 0.9)
Somewhere else	0.3	(0.1, 0.7)	0.5	(0.2, 1.3)	0.1	(0.0, 0.3)	0.4	(0.1, 1.2)	0.2	(0.1, 0.7)	0.5	(0.2, 1.2)	0.2	(0.1, 0.8)
Noticed sports sponsorship	0.2	(0.1, 0.5)	0.4	(0.2, 0.9)	0.1	(0.0, 0.3)	0.2	(0.0, 1.1)	0.3	(0.2, 0.6)	0.1	(0.1, 0.3)	0.3	(0.1, 0.6)
<i>Noticed cigarette promotions</i>														
Free samples	0.3	(0.2, 0.6)	0.4	(0.2, 0.8)	0.3	(0.1, 0.8)	0.2	(0.1, 0.5)	0.5	(0.3, 0.9)	0.3	(0.1, 0.6)	0.3	(0.2, 0.7)
Sale prices	1.2	(0.8, 1.7)	1.3	(0.8, 2.1)	1.1	(0.6, 1.8)	0.9	(0.5, 1.5)	1.4	(0.9, 2.2)	2.1	(1.4, 3.1)	0.9	(0.5, 1.6)
Coupons	0.1	(0.0, 0.2)	0.1	(0.0, 0.3)	0.1	(0.0, 0.4)	0.0	(0.0, 0.2)	0.1	(0.0, 0.4)	0.1	(0.0, 0.4)	0.1	(0.0, 0.3)
Free gifts/discounts on other products	0.3	(0.2, 0.6)	0.3	(0.1, 0.5)	0.3	(0.1, 0.9)	0.3	(0.1, 0.7)	0.4	(0.2, 0.6)	0.3	(0.2, 0.7)	0.3	(0.1, 0.6)
Clothing/item with brand name or logo	0.4	(0.2, 0.5)	0.3	(0.2, 0.5)	0.4	(0.3, 0.7)	0.2	(0.1, 0.4)	0.5	(0.3, 0.8)	0.9	(0.6, 1.3)	0.2	(0.1, 0.4)
Mail promoting cigarettes	0.2	(0.1, 0.5)	0.2	(0.1, 0.4)	0.2	(0.0, 0.8)	0.2	(0.0, 1.0)	0.2	(0.1, 0.4)	0.1	(0.0, 0.3)	0.2	(0.0, 0.7)
<b>Noticed any advertisement, sponsorship, or promotion</b>	<b>4.3</b>	<b>(3.5, 5.2)</b>	<b>4.9</b>	<b>(3.9, 6.1)</b>	<b>3.7</b>	<b>(2.8, 4.8)</b>	<b>4.0</b>	<b>(3.1, 5.2)</b>	<b>4.5</b>	<b>(3.6, 5.7)</b>	<b>6.6</b>	<b>(5.4, 8.1)</b>	<b>3.5</b>	<b>(2.7, 4.7)</b>

Note: Current non-smokers includes former and never smokers.

## 9.0 KNOWLEDGE, ATTITUDES, AND PERCEPTIONS

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This chapter presents results on Ethiopians' knowledge, attitudes, and perceptions about tobacco.

### *Key Findings*

- *The majority of adult Ethiopians (88%) believed that smoking causes serious illness.*
- *The majority of the respondents believed that smoking causes lung cancer (81.8%), heart attack (69.5%) and stroke (39.8%).*
- *More than three quarters (75.9%) of adults—66.1% of current smokers and 76.3% of non-smokers—believed that breathing other people's smoke causes serious illness and disease.*
- *Over half (57.4%) of adults in Ethiopia (36.5% of current smokers and 59% of non-smokers) believed that smokeless tobacco causes serious illness.*

### *9.1 Belief That Smoking Causes Serious Illness and Various Specific Diseases*

Overall, 88% of adults (72.1% of current smokers and 88.6% of non-smokers) believed that smoking causes serious illness. Nearly 40% (39.8%) believed that smoking caused stroke, 81.8% believed that smoking caused lung cancer and 69.5% believed smoking caused heart attacks. Non-smokers were more aware than smokers of diseases associated with tobacco. Respondents believed stroke to be less associated with tobacco smoking than lung cancer and heart attack (Table 9.1).

Table 9.1 presents the percentage of adults who believe that smoking causes serious illness, stroke, heart attack or lung cancer by current smoking status and selected demographic characteristics.

**Table 9. 1: Percentage of adults ≥15 years old who believe that smoking causes serious illness and various diseases, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults who believe that smoking causes...													
	Serious illness		Stroke		Heart attack		Lung cancer		Bladder Cancer		Bone loss		Premature Birth	
	<i>Percentage (95% CI)</i>													
<b>Overall</b>	88.0	(85.4, 90.1)	39.8	(36.4, 43.2)	69.5	(66.3, 72.5)	81.8	(78.9, 84.3)	34.0	(31.0, 37.0)	37.9	(34.9, 41.0)	32.6	(29.7, 35.6)
<i>Smoking Status</i>														
Current smokers <sup>1</sup>	72.1	(53.4, 85.3)	29.6	(18.7, 43.6)	54.2	(38.0, 69.6)	69.4	(50.1, 83.7)	23.8	(14.5, 36.4)	25.6	(17.5, 35.6)	24.7	(16.2, 35.7)
Non-smokers <sup>2</sup>	88.6	(86.3, 90.5)	40.2	(36.7, 43.7)	70.1	(66.9, 73.0)	82.2	(79.6, 84.6)	34.3	(31.4, 37.4)	38.4	(35.4, 41.5)	32.9	(30.0, 35.9)
<i>Gender</i>														
Male	90.9	(88.4, 92.9)	43.4	(39.5, 47.4)	73.4	(70.0, 76.5)	86.2	(83.2, 88.8)	38.0	(34.0, 42.1)	40.5	(36.7, 44.5)	34.6	(30.8, 38.5)
Female	85.1	(81.7, 87.9)	36.2	(32.8, 39.7)	65.6	(61.8, 69.3)	77.3	(73.4, 80.8)	30.0	(26.7, 33.4)	35.3	(31.9, 38.9)	30.6	(27.6, 33.9)
<i>Age (years)</i>														
15-24	91.9	(88.6, 94.3)	43.4	(39.0, 47.9)	75.5	(71.1, 79.4)	87.3	(83.8, 90.1)	39.0	(34.8, 43.4)	43.4	(39.3, 47.5)	36.3	(32.2, 40.6)
25-44	87.0	(84.0, 89.5)	37.8	(34.0, 41.9)	66.5	(63.0, 69.7)	79.3	(75.9, 82.3)	31.8	(28.5, 35.4)	36.0	(32.6, 39.5)	31.8	(28.8, 35.1)
45-64	81.5	(76.8, 85.5)	34.9	(30.0, 40.1)	61.3	(55.5, 66.9)	74.8	(69.3, 79.5)	26.7	(22.3, 31.6)	28.4	(24.3, 33.0)	26.5	(21.9, 31.8)
65+	76.4	(65.4, 84.7)	35.0	(25.8, 45.6)	58.9	(47.3, 69.7)	67.3	(56.2, 76.7)	22.6	(15.2, 32.3)	27.9	(19.4, 38.2)	19.8	(13.2, 28.5)
<i>Residence</i>														
Urban	93.7	(91.9, 95.1)	45.2	(41.8, 48.6)	80.6	(77.6, 83.3)	91.9	(90.4, 93.1)	36.1	(33.0, 39.4)	43.8	(40.9, 46.8)	41.1	(37.6, 44.8)
Rural	86.2	(82.8, 89.0)	38.1	(33.9, 42.5)	66.0	(61.9, 69.8)	78.5	(74.7, 81.9)	33.3	(29.5, 37.2)	36.0	(32.2, 40.0)	29.9	(26.4, 33.6)
<i>Education Level</i>														
No formal education	78.6	(73.8, 82.8)	29.7	(25.9, 33.8)	54.0	(48.9, 58.9)	67.4	(61.7, 72.5)	21.9	(18.8, 25.4)	24.9	(20.8, 29.6)	21.4	(18.4, 24.7)
Primary	91.3	(88.5, 93.4)	38.5	(33.6, 43.7)	72.5	(68.1, 76.4)	85.4	(82.3, 88.0)	37.8	(33.3, 42.5)	40.7	(36.2, 45.4)	33.0	(29.1, 37.1)
Secondary	95.7	(93.7, 97.1)	52.2	(47.2, 57.1)	85.7	(82.1, 88.7)	95.3	(93.1, 96.8)	42.6	(37.7, 47.7)	48.4	(43.8, 53.0)	43.2	(38.8, 47.7)
Higher than secondary	95.8	(92.5, 97.7)	63.4	(56.9, 69.4)	85.9	(80.7, 89.9)	96.7	(94.6, 98.0)	51.0	(43.4, 58.5)	60.4	(52.2, 68.0)	59.1	(51.6, 66.3)
<i>Wealth Index</i>														
Lowest	84.5	(79.4, 88.5)	35.4	(30.2, 40.9)	61.4	(55.4, 67.1)	74.7	(69.1, 79.6)	31.3	(26.2, 36.8)	34.1	(29.3, 39.3)	27.3	(23.4, 31.5)
Low	86.8	(82.7, 90.1)	38.6	(33.0, 44.5)	68.1	(63.0, 72.8)	80.8	(76.3, 84.6)	32.9	(27.5, 38.8)	37.0	(31.1, 43.3)	29.9	(24.7, 35.7)
Middle	89.6	(85.5, 92.6)	46.6	(40.4, 52.9)	76.7	(72.0, 80.8)	86.0	(82.8, 88.7)	39.2	(33.7, 45.0)	38.2	(32.2, 44.6)	34.9	(30.4, 39.6)
High	93.9	(90.7, 96.1)	44.8	(40.2, 49.6)	78.9	(75.0, 82.3)	91.7	(89.2, 93.6)	37.3	(32.0, 43.0)	45.1	(40.7, 49.6)	42.5	(38.3, 46.9)
Higher	95.0	(91.9, 96.9)	44.3	(40.3, 48.4)	82.4	(77.9, 86.2)	93.3	(90.0, 95.6)	35.7	(31.9, 39.7)	45.8	(41.8, 49.9)	44.7	(40.5, 48.9)

<sup>1</sup> Includes daily and occasional (less than daily) smokers.

<sup>2</sup> Includes former and never smokers.

## 9.2 Levels of Belief That Breathing Other People's Smoke Causes Serious Illness in Non-Smokers

Overall, 75.9% of adults (66.1% of current smokers and 76.3% of non-smokers) believed that breathing other people's smoke caused serious illness (Table 9.2). There were no noticeable differences in beliefs between age groups, urban and rural or education levels.

Overall, 57.4% of smokeless and non-smokeless tobacco users believed that using smokeless tobacco causes serious illness. Over a third of current smokers (36.5%) and over half of non-users (59%) had the same belief. (Table 9.3).

**Table 9. 2: Percentage of adults ≥ 15 years old who believe that breathing other people's smoke causes serious illness in non-smokers, by smoking status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Belief that breathing other people's smoke causes serious illness in non-smokers	
	Percentage (95% CI)	
<b>Overall</b>	75.9	(72.7, 78.8)
<i>Smoking Status</i>		
Current smokers <sup>1</sup>	66.1	(47.8, 80.7)
Non-smokers <sup>2</sup>	76.3	(73.1, 79.1)
<i>Gender</i>		
Male	80.0	(77.0, 82.7)
Female	71.8	(67.0, 76.1)
<i>Age (years)</i>		
15-24	79.7	(74.3, 84.3)
25-44	75.9	(72.5, 79.1)
45-64	67.2	(61.6, 72.4)
65+	63.4	(52.3, 73.4)
<i>Residence</i>		
Urban	87.2	(85.1, 88.9)
Rural	72.3	(68.2, 76.0)
<i>Education Level</i>		
No formal education	62.2	(57.2, 66.9)
Primary	78.6	(74.5, 82.3)
Secondary	89.1	(85.7, 91.8)
Higher than secondary	93.6	(91.2, 95.4)
<i>Wealth Index</i>		
Lowest	69.2	(63.8, 74.2)
Low	72.9	(67.6, 77.6)
Middle	80.2	(76.4, 83.5)
High	87.1	(82.8, 90.5)
Higher	89.5	(86.6, 91.9)

<sup>1</sup> Includes daily and occasional (less than daily) smokers

<sup>2</sup> Includes former and never smokers.

**Table 9. 3: Percentage of adults  $\geq 15$  years old who believe that using smokeless tobacco causes serious illness, by smokeless status and selected demographic characteristics – GATS Ethiopia, 2016.**

Demographic Characteristics	Adults who believe that using smokeless products causes serious illness	
	Percentage (95% CI)	
<b>Overall</b>	57.4	(53.9, 60.8)
<i>Smokeless Status</i>		
Current users <sup>1</sup>	36.5	(17.2, 61.4)
Non-users <sup>2</sup>	59.0	(55.6, 62.4)
<i>Gender</i>		
Male	62.0	(57.6, 66.1)
Female	52.8	(49.0, 56.6)
<i>Age (years)</i>		
15-24	60.3	(55.6, 64.8)
25-44	56.9	(52.9, 60.7)
45-64	52.9	(46.8, 58.8)
65+	45.8	(35.6, 56.3)
<i>Residence</i>		
Urban	64.8	(61.5, 68.1)
Rural	55.0	(50.5, 59.5)
<i>Education Level</i>		
No formal education	46.0	(41.2, 50.9)
Primary	57.7	(52.9, 62.3)
Secondary	69.7	(64.9, 74.0)
Higher than secondary	79.8	(74.8, 84.0)
<i>Wealth Index</i>		
Lowest	53.5	(47.3, 59.5)
Low	55.4	(49.8, 60.8)
Middle	61.1	(56.7, 65.3)
High	62.7	(58.3, 66.8)
Higher	66.0	(61.1, 70.6)

<sup>1</sup> Includes daily and occasional (less than daily) users.

<sup>2</sup> Includes former and never users.

## 10.0 DISCUSSION AND RECOMMENDATIONS<sup>8</sup>

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Reducing future tobacco-related deaths and illnesses is fully achievable in Ethiopia through implementation of policies on use and exposure—especially in youth—and promoting tobacco cessation.

Ethiopia became a party to the WHO FCTC in February 2014. This international legal framework, together with its guidelines, provides the foundation for parties to implement and manage tobacco control measures in their respective countries. As a party to this treaty, the federal government in Ethiopia is obliged to adhere to and fulfill all the provisions contained in the WHO FCTC. By acting now, Ethiopia can prevent a future tobacco epidemic, saving lives and ensuring the future health and economic welfare of the country.

The provisions in this convention are comprehensive and require high-level commitment and resources. To realize the objectives of the WHO FCTC, WHO is supporting countries to implement tobacco control measures, including the MPOWER package. This package consists of six prioritized tobacco control measures with proven cost-effectiveness: **M**onitor tobacco use and prevention policies; **P**rotect people from exposure to tobacco smoke; **O**ffer help to quit tobacco use; **W**arn about the dangers of tobacco; **E**nforce bans on tobacco advertising, promotion, and sponsorship; and **R**aise taxes on tobacco products. Together, these six priorities have the ability to reduce the demand for tobacco.

The discussions and recommendations of the findings for the GATS Ethiopia report are based on the six elements of the MPOWER package<sup>9</sup>.

The process from which these recommendations were drawn involved a series of discussions held with tobacco control stakeholders in Ethiopia, specifically officers from the tobacco control program, EPHI, the WHO country office and the medico-legal directorate of FMHACA.

### *10.1 Monitor Tobacco Use and Prevention Policies (WHO FCTC Article 20 & 21)*

Good and reliable data is crucial to implementing and appraising effective tobacco control policies. Accurate measurement of the tobacco epidemic and a fair evaluation of the control actions are vital for instituting improved and effective interventions.

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<sup>8</sup> The policy recommendations in this chapter are consistent with the recommendations from the WHO FCTC and MPOWER. These recommendations are not necessarily those of the U.S. Centers for Disease Control and Prevention (CDC).

<sup>9</sup> **MPOWER** – **M**onitor tobacco use and prevention policies; **P**rotect people from exposure to tobacco smoke; **O**ffer help to quit tobacco use; **W**arn about the dangers of tobacco; **E**nforce bans on tobacco advertising, promotion, and sponsorship; and **R**aise taxes on tobacco products.

GATS Ethiopia 2016 was the first nationally representative household survey of its kind in Ethiopia to fully focus on tobacco use and key control indicators. Previously, tobacco control activities relied heavily on Ethiopian Demographic and Health Surveys and the recent WHO NCD STEP Survey for population-based tobacco estimates. GATS Ethiopia used a standardized methodology that has been used across various countries that have conducted GATS. GATS ably equips Ethiopia's tobacco control actors with much needed data to advocate for policy change at a time when a comprehensive draft tobacco control bill was about to be debated in Parliament.

To effectively monitor, appraise and evaluate tobacco control policies, good and reliable data is crucial because timely and accurate data facilitate appropriate policy implementation and accurate measurement of policy impact. The following are recommendations to ensure precise and accurate measurement of the tobacco epidemic and evaluation of tobacco control actions, which is vital for improved and effective interventions.

***Recommendations:***

- Institute GATS as part of a continuous surveillance system—similar to the Ethiopian demographic and health surveys that are repeated every five years—to effectively track tobacco use and other key control indicators.
- Strengthen capacity in the FMHACA's tobacco control program with both personnel and resources to maintain an efficient tobacco control surveillance system.
- Encourage and strengthen collaborations between FMHACA and other institutions such as EPHI, CSA, and other government, non-government, agencies and academia organizations.
- Disseminate GATS results and relevant research findings to the public, relevant policymakers and stakeholders through available communication channels (e.g., mass media, talk shows and policy briefs).
- Monitor tobacco use and other key tobacco indicators periodically to evaluate and assess the impact of control policies and programs.

***10.2 Protection from Tobacco Smoke (WHO FCTC Article 8)***

There is no safe level of exposure to second-hand tobacco smoke (SHS). In Ethiopia, findings from GATS revealed 60.4% of people were exposed to second-hand smoke in bars/nightclubs, 31.1% were exposed in restaurants, 29.3% were exposed in the workplace, 12.6% were exposed at home, and 11.4% were exposed on public transportation. The Federal Democratic Republic of Ethiopia (FDRE) constitution (Article 44 Environmental Rights and Article 92 Environmental Objectives) provides that every Ethiopian should enjoy a clean and healthy environment. A comprehensive ban on smoking in public places, including all indoor workplaces, protects people from the harms of second-hand smoke, helps smokers quit and reduces youth smoking. As proposed in the revised tobacco control bill, smoke-free legislation greatly improves public health by reducing public exposure to second-hand smoke and helping smokers reduce cigarette consumption.

### ***Recommendations:***

- Legislate and adopt a 100% smoke-free policy in all public places in line with the provisions under Article 8 of the WHO FCTC, including: government offices, restaurants, bars/nightclubs, health facilities, educational facilities, public transport, and all other indoor places. Designated smoking areas should not be allowed.
- Create a taskforce of all government enforcement departments and agencies, local government, and municipalities to instigate an effective and efficient multi-sectoral framework to ensure implementation of smoke-free policy. Taskforce performance should be monitored regularly.
- Establish a help-line to encourage the public to inform the authorities of any violations to the smoke-free law.
- Instill a continuous educational plan for the public to dispel misconceptions and empower the populace to exercise their rights to breathe clean, unpolluted air. The youth should be well oriented to understand SHS and encourage them to support and comply with 100% smoke-free policies.

### ***10.3 Offer Help to Quit Tobacco Use (WHO FCTC Article 14)***

Tobacco use is addictive mainly due to the presence of nicotine and other additives that are added to cigarettes during production. Quitting tobacco is the best thing that users can do to protect their health and the health of others. Cessation decreases the excess risk of many diseases in smokers, including risks for impotence. In addition, quitting reduces the exposure to second-hand smoke among non-smokers, particularly children and women. In children, this will help reduce the risk for SHS-related diseases such as respiratory diseases (e.g., asthma) and ear infections. In women, quitting helps reduce risks of pregnancy complications, premature births, babies with low birth weights and miscarriages.

Treating non-communicable diseases (NCDs) attributed to tobacco—such as cancer, cardiovascular diseases, respiratory diseases, and stroke—incur a heavy financial burden. Furthermore, premature deaths from these conditions lead to loss of productivity, high insurance costs, and socio-economic losses to the government, employers, and families. Provision of tobacco cessation services (e.g., ensuring health care workers provide counseling during examination) is a cost-effective investment that leads to social and economic returns in the short and long term.

In Ethiopia, 23.6% of current adult smokers plan to or are thinking about quitting in the next 12 months. In addition, 42% of current smokers attempted quitting in the past 12 months. However, 75.9% of smokers who attempted quitting in the past 12 months tried to quit without any assistance. Health care providers advised 53% of visitors who were current smokers to quit in the last 12 months.

There are limited efforts towards promoting cessation and providing tobacco dependence treatment in Ethiopia. National guidelines for treatment of tobacco dependence exist, but health professionals

have limited awareness of them. Cessation skills are not covered in the basic training of health professionals who are already in service. However, opportunities are available within the NCD strategic plan, which the FMHACA, MOH and other stakeholders' tobacco control programs will undertake. It should also be noted that there are no quit lines and very few trained staff providing proactive tobacco cessation support (only Zewditu Hospital) for those who may wish to quit.

Guidelines for WHO FCTC Article 14 provide detailed advice to strengthen or create a sustainable infrastructure that motivates attempts to quit, ensures wide access to support for tobacco users who wish to quit, and provides sustainable resources to ensure that such support is available. The guidelines also identify key effective measures needed to promote tobacco cessation and incorporate tobacco dependence treatment into national control programs and health care systems.

### ***Recommendations:***

- Integrate cessation services in the primary health care system, since cessation services are most effective when incorporated into a coordinated national tobacco control program.
- Include nicotine replacement therapy (NRT) in the Ethiopian Essential Medicines list to support the cessation programs in the government's health facilities.
- Strengthen public awareness on quitting tobacco using numerous channels (e.g., posters, leaflets, newspapers, TV, radio, websites, etc.) to increase the use of cessation services and other medicine.
- Set up quit lines to support tobacco users who are willing to stop.
- Employ capacity-building programs on tobacco control and smoking cessation for broad groups of medical and health providers including doctors, dentists, pharmacists, nurses, and other allied promotional health personnel. All health care workers should be encouraged to incorporate tobacco control and smoking cessation in their routine work with patients.
- Emphasize tobacco control and cessation as an integral part of the undergraduate and postgraduate curriculum for all relevant allied health graduate education and/or health training institutions including medical, dental, pharmacy, and public health programs.
- Strengthen the Tobacco Control Unit in FMHACA to establish a comprehensive national tobacco cessation program using the WHO FCTC Article 14 Guidelines as its basis.

### ***10.4 Warn about the Dangers of Tobacco (WHO FCTC Articles 11 and 12)***

As overwhelming as the evidence of the dangers of tobacco use is, many tobacco users in Ethiopia may not completely understand the various risks to their health. Moreover, most tobacco users are unaware of the extent of the harm that tobacco causes and tend to underestimate the risks to themselves and others. Most people are also unaware of the powerfully addictive properties of nicotine in tobacco. Hence, there is a critical need for the public to receive clear, simple and accurate information, especially tobacco users.

Ethiopia only has written health-warning messages on tobacco packages, but they need to be improved as described in Article 11 of the WHO FCTC. Warnings should appear on both the front and back of the packaging, with images and text that are large, evident, and descriptive of specific illnesses caused by tobacco. Pictorial health warnings are particularly effective in communicating risks and motivating behavioral change.

GATS findings indicate that only 39.8% of current adult smokers believed smoking causes stroke, and 36.5% of current smokeless tobacco users believed smokeless tobacco causes serious illness.

There is a lack of awareness about the dangers of tobacco use particularly among women and rural residents in Ethiopia. This lack of awareness may contribute to making cessation extremely difficult and may perpetuate the cycle of increased addiction, leading to devastating health effects. Beyond the health consequences, there is also a lack of awareness of the devastating social, economic and environmental consequences of tobacco use among both the public and policymakers.

There is sufficient evidence that packaging serves as one of the tobacco industry's central vehicles in initiating and maintaining addiction of its products among consumers. We recommend that countries like Ethiopia should also consider the introduction of graphic warning labels to eliminate the tobacco industry's ability to place targeted messages and designs on its packaging. This would also help to increase the impact of health warnings and reduce false and misleading messages.

***Recommendations:***

- Establish and enforce legislation that requires the tobacco industry to place health warning messages on tobacco packages in line with Article 11 of the WHO FCTC.
- Include standardized pictorial and/or text health warnings on all tobacco products in all types of packaging.
- Initiate effective anti-tobacco mass media campaigns to improve awareness of the harms of tobacco, increase quit attempts, and reduce tobacco use and second-hand smoke exposure.

***10.5 Enforce Bans on Tobacco Advertising, Promotion and Sponsorship (WHO FCTC Article 13)***

A total ban on direct and indirect tobacco advertising, promotion and sponsorship can substantially reduce consumption and protect people, particularly the youth, from industry marketing tactics. The bans must be complete to be effective and must apply to all marketing categories.

In Ethiopia, 4.5% of adults reported noticing cigarette advertisement, promotion and sponsorship in the past 30 days. Using sophisticated and covert forms of tobacco advertising, promotion and sponsorship (TAPS), the tobacco industry links its products with success, fun and glamour. It creates a climate where smoking is seen as socially accepted behavior and alludes that tobacco is just an ordinary consumer product, rather than a harmful habit with adverse effects. The results are

devastating for public health, with new users, particularly the youth and women, ultimately lured into a lifetime of addiction.

Therefore, it is important for the Ethiopian government to institute enforceable measures to ban both traditional and non-traditional media advertisement including the internet. Indirect forms of advertising such as brand stretching, point of sale display and tobacco industry-sponsored corporate social responsibility (CSR) programs should be addressed. Government should adopt legislation that enables implementation of a comprehensive ban on TAPS to reduce tobacco use and initiation among the youth.

***Recommendations:***

- Establish and enforce comprehensive legislation to ban and monitor procedures regularly. The ban should include:
  - All direct and indirect TAPS that use tobacco product names or imagery as well as any indication or link to tobacco industry names or imagery. This includes any form of paraphernalia and industry-sponsored CSR activities
  - Tobacco product displays at points of sale
  - Promotional discounts
  - Restrictions on cross-border TAPS via cyberspace such as the internet and/or social media
- Announce bans on advertisement, promotion and sponsorships well in advance of implementation.

***10.6 Raise Tobacco Taxes (WHO FCTC Article 6).***

Increasing the price of tobacco through higher taxes is the single most effective way to encourage tobacco users to quit and prevent children from starting to smoke. Taxes need to be increased regularly to adjust for inflation and consumer purchasing power. Tobacco taxes are generally well accepted by the public and increase government revenues. GATS findings (median of ETB 18.3 per pack of cigarettes) indicate that tobacco is cheap in Ethiopia. Allocating tax revenues for tobacco control and other important health and social programs further increases the popularity of taxes.

Unfortunately, in many low- to middle-income countries, including Ethiopia, tobacco taxes and prices have only increased minimally because of inefficiency in existing tax systems, structure and administration. Tobacco taxes can be used as a public health strategy, and allocating tobacco tax revenues for tobacco control and other important health and social programs further increases their support and popularity. GATS Ethiopia 2016 results showed a low price for tobacco products compared to other household necessities like bread and sugar. Raising the price of tobacco products through tax increase would make them less affordable for the majority of people. This will encourage cessation among tobacco users and prevent initiation among potential users.

The influence of the tobacco industry in the Ethiopia policy-making environment poses a huge challenge on the strategy for continuous tobacco tax increase. The usual argument from the tobacco industry is that raising tobacco tax will lead to increase in illicit trade and big losses to government revenue, which is untrue.

The increase in taxes should be standard and should take into consideration inflationary tendencies.

***Recommendations:***

Government should organize consultations between the FMHACA/MoH, Federal Ministry of Finance and Cooperation, Ethiopian Custom and Revenue Authority, Federal Ministry of Industries and the Federal Ministry of Trade. Together, these parties should study and apply an extensive evidence-based tobacco taxation structure that has been identified globally as a best practice. This includes the adoption of a relatively simple tax system that applies equivalent taxes to all tobacco products:

- At least 70% excise tax share in final consumer prices consistent with recommendations of the WHO and the World Bank
- Regular increases in tax that exceed increases in consumer prices and incomes to reduce the affordability of tobacco products
- Minimal incentives for tobacco users to switch to cheaper brands or products in response to tax increases
- Improved tobacco tax administration that reduces opportunities for tax avoidance and tax evasion (including implementing effective monitoring systems for production and transport of traded tobacco products)

## Conclusion

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GATS Ethiopia was the very first of its kind in Ethiopia, and it provided critical information on tobacco use and key tobacco control indicators for policymakers and the tobacco control community.

Under GTSS, the 2016 GATS Ethiopia used internationally standardized protocol developed by WHO, CDC and other partners. In addition to GATS, Ethiopia has also participated in GYTS in 2011 among youth aged 13-15 in schools found in Addis Ababa. Systematic repeats of these population-based surveys will ensure precise and accurate measurement of the tobacco epidemic and evaluation of tobacco control actions in Ethiopia.

It is important that Ethiopia widely disseminate findings and recommendations from GATS Ethiopia and use them as a national resource for monitoring, implementing and evaluating the national tobacco control program. In addition, these findings and recommendations can support strategic plans and advocacy for a comprehensive FCTC compliance Tobacco Control Law in Ethiopia.

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## Appendix A: Questionnaire

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# Global Adult Tobacco Survey (GATS) Ethiopia Questionnaire

Full Survey

# GATS Core Questionnaire Formatting Conventions

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Text in **RED FONT** = Programming logic and skip instructions.

Text in [BRACKETS] = Specific question instructions for interviewers—not to be read to the respondents.

Text in underline = Words that interviewers should emphasize when reading to respondents.

# Household Questionnaire

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**INTRO.** [THE HOUSEHOLD SCREENING RESPONDENT SHOULD BE 18 YEARS OF AGE OR OLDER AND YOU MUST BE CONFIDENT THAT THIS PERSON CAN PROVIDE ACCURATE INFORMATION ABOUT ALL MEMBERS OF THE HOUSEHOLD. IF NEEDED, VERIFY THE AGE OF THE HOUSEHOLD SCREENING RESPONDENT TO MAKE SURE HE/SHE IS 18 YEARS OF AGE OR OLDER.

THE HOUSEHOLD SCREENING RESPONDENT CAN BE LESS THAN 18 YEARS OLD, ONLY IF NO HOUSEHOLD MEMBERS ARE 18 YEARS OF AGE OR OLDER.]

**INTRO1.** An important survey of adult tobacco use behavior is being conducted by the Ethiopian Public Health Institute throughout Ethiopia and your household has been selected to participate. All houses selected were chosen from a scientific sample and it is very important to the success of this project that each participates in the survey. All information gathered will be kept strictly confidential. I have a few questions to find out who in your household is eligible to participate.

**HH1.** First, I'd like to ask you a few questions about your household. In total, how many persons live in this household?

[INCLUDE ANYONE WHO CONSIDERS THIS HOUSEHOLD THEIR USUAL PLACE OF RESIDENCE]

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**HH2.** How many of these household members are 15 years of age or older?

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**[IF HH2 = 00 (NO HOUSEHOLD MEMBERS ≥ 15 IN HOUSEHOLD)]**

[THERE ARE NO ELIGIBLE HOUSEHOLD MEMBERS.

THANK THE RESPONDENT FOR HIS/HER TIME.

THIS WILL BE RECORDED IN THE RECORD OF CALLS AS A CODE 201.]

**HH4.** I now would like to collect information about only these persons that live in this household who are 15 years of age or older. Let's start listing them from oldest to youngest.

**HH4a.** What is the {oldest/next oldest} person's first name? \_\_\_\_\_

**HH4b.** What is this person's age?

[IF RESPONDENT DOESN'T KNOW, PROBE FOR AN ESTIMATE]

--	--	--

**[IF REPORTED AGE IS 15 THROUGH 17, BIRTH DATE IS ASKED]**

**HH4c.** What is the month of this person's date of birth?

[MAKE SURE TO ENTER BIRTH MONTH USING THE GREGORIAN CALENDAR]

--	--

**HH4cYEAR.** What is the year of this person's date of birth?

[IF DON'T KNOW, ENTER 7777  
IF REFUSED, ENTER 9999]

[MAKE SURE TO ENTER BIRTH YEAR USING THE GREGORIAN CALENDAR]

--	--	--	--

**HH4d.** Is this person male or female?

MALE .....  1

FEMALE .....  2

**HH4e.** Does this person currently smoke tobacco, including cigarettes, cigars, pipes, gaya?

YES .....  1

NO .....  2

DON'T KNOW ..  7

REFUSED .....  9

**[REPEAT HH4a – HH4e FOR EACH PERSON REPORTED IN HH2]**

**HH5.** [NAME OF THE SELECTED ELIGIBLE PERSON IS:

**{FILL SELECTED HH MEMBER'S FIRST NAME}**

ASK IF SELECTED RESPONDENT IS AVAILABLE AND IF SO, PROCEED TO THE INDIVIDUAL QUESTIONNAIRE.

IF SELECTED RESPONDENT IS NOT AVAILABLE, MAKE AN APPOINTMENT AND RECORD IT AS A COMMENT ON RECORD OF CALLS.]

## Individual Questionnaire

---

**CONSENT1.** [SELECT THE APPROPRIATE AGE CATEGORY BELOW. IF NEEDED, CHECK THE AGE OF SELECTED RESPONDENT FROM THE “CASE INFO” SCREEN IN THE TOOLS MENU.]

15-17 ..... 1 → **GO TO CONSENT2**

18 OR OLDER ..... 2 → **GO TO CONSENT5**

EMANCIPATED MINOR (15-17) ..... 3 → **GO TO CONSENT5**

**CONSENT2.** Before starting the interview, I need to obtain consent from a parent or guardian of [NAME OF RESPONDENT] and from [NAME OF RESPONDENT].

[IF BOTH SELECTED RESPONDENT AND PARENT/GUARDIAN ARE AVAILABLE, CONTINUE WITH INTERVIEW.]

IF PARENT/GUARDIAN IS NOT AVAILABLE, BREAK-OFF INTERVIEW AND SCHEDULE AN APPOINTMENT TO RETURN.

IF MINOR RESPONDENT IS NOT AVAILABLE, CONTINUE WITH OBTAINING PARENTAL CONSENT.]

**CONSENT3.** [READ THE FOLLOWING TO THE PARENT/GUARDIAN AND SELECTED RESPONDENT (IF AVAILABLE):]

I am working with the Ethiopian Public Health Institute. This institution is collecting information about tobacco use in Ethiopia. This information will be used for public health purposes by the Ministry of Health.

Your household and [NAME OF RESPONDENT] have been selected at random. [NAME OF RESPONDENT] responses are very important to us and the community, as these answers will represent many other persons.

The interview will last around 30 minutes. [NAME OF RESPONDENT] participation in this survey is entirely voluntary. The information that [NAME OF RESPONDENT] will provide will be kept strictly confidential and [NAME OF RESPONDENT] will not be identified by his/her responses. Personal information will not be shared with anyone else, not even other family members including you. [NAME OF RESPONDENT] can withdraw from the study at any time, and may refuse to answer any question.

We will leave the necessary contact information with you. If you have any questions about this survey, you can contact the telephone numbers listed.

If you agree with [NAME OF RESPONDENT]’s participation in this survey, we will conduct a private interview with him/her.

[ASK PARENT/GUARDIAN:] Do you agree with [NAME OF RESPONDENT]’s participation?

YES ..... 1 → **GO TO CONSENT4**

NO ..... 2 → **END INTERVIEW**

**CONSENT4.** [WAS THE SELECTED MINOR RESPONDENT PRESENT?]

PRESENT ..... 1 → **GO TO CONSENT6**  
NOT PRESENT..... 2 → **GO TO CONSENT5**

**CONSENT5.** [READ TO THE SELECTED RESPONDENT:]

I am working with the Ethiopian Public Health Institute. This institution is collecting information about tobacco use in Ethiopia. This information will be used for public health purposes by the Ministry of Health.

Your household and you have been selected at random. Your responses are very important to us and the community, as these answers will represent many other persons. The interview will last around 30 minutes. Your participation in this survey is entirely voluntary. The information that you will provide us will be kept strictly confidential, and you will not be identified by your responses. Personal information will not be shared with anyone else, not even other family members. You can withdraw from the study at any time, and may refuse to answer any question.

We will leave the necessary contact information with you. If you have any questions about this survey, you can contact the telephone numbers listed.

**{FILL IF CONSENT4=2:** Your parent/guardian has given his/her permission for you to participate in this study}

If you agree to participate, we will conduct a private interview with you.

**CONSENT6.** [ASK SELECTED RESPONDENT:] Do you agree to participate?

YES ..... 1 → **PROCEED WITH INTERVIEW**  
NO ..... 2 → **END INTERVIEW**

**INTLANG.** [INTERVIEW LANGUAGE]

ENGLISH ..... 1  
AMHARIC..... 2  
OROMIFA ..... 3  
TIGRIGNA..... 4  
OTHER..... 4 → **INTLANG1.** [SPECIFY]: \_\_\_\_\_

## Section A. Background Characteristics

---

**A00.** I am going to first ask you a few questions about your background.

**A01.** [RECORD GENDER FROM OBSERVATION. ASK IF NECESSARY.]

MALE.....  1  
FEMALE ....  2

**A02a.** What is the month of your date of birth?

[MAKE SURE TO ENTER BIRTH MONTH USING THE GREGORIAN CALENDAR]

01 .....  1  
02 .....  2  
03 .....  3  
04 .....  4  
05 .....  5  
06 .....  6  
07 .....  7  
08 .....  8  
09 .....  9  
10 .....  10  
11 .....  11  
12 .....  12  
DON'T KNOW ..  77  
REFUSED .....  99

**A02b.** What is the year of your date of birth?

[IF DON'T KNOW, ENTER 7777  
IF REFUSED, ENTER 9999]

[MAKE SURE TO ENTER BIRTH YEAR USING THE GREGORIAN CALENDAR]

--	--	--	--

**[IF MONTH=77/99 OR YEAR=7777/9999, ASK A03. OTHERWISE SKIP TO A09.]**

**A03.** How old are you?

[IF RESPONDENT IS UNSURE, PROBE FOR AN ESTIMATE AND RECORD AN ANSWER.  
IF REFUSED, BREAK-OFF AS WE CANNOT CONTINUE INTERVIEW WITHOUT AGE]

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**A03a.** [WAS RESPONSE ESTIMATED?]

YES .....  1  
NO .....  2  
DON'T KNOW .....  7

**A09.** What is your racial/ethnic background?

- OROMO .....  1
- AMARA.....  2
- TIGRAY .....  3
- SOMALIA .....  4
- WOLAYITA.....  5
- SIDAMA .....  6
- GURAGE.....  7
- HADIYA.....  8
- AFAR.....  9
- GAMO .....  10
- OTHER.....  11
- DON'T KNOW .....  77
- REFUSED .....  99

**A10.** What is your religion?

- MUSLIM .....  1
- CHRISTIAN.....  2
- OTHER.....  3 → **A10a.** [SPECIFY]: \_\_\_\_\_
- NONE .....  4
- DON'T KNOW .....  7
- REFUSED .....  9

**A11.** What is your marital status? Are you currently single, married, cohabitating but not married, separated, divorced, or widowed?

- SINGLE .....  1
- MARRIED.....  2
- COHABITATING .....  3
- SEPARATED .....  4
- DIVORCED .....  5
- WIDOWED .....  6
- REFUSED .....  9

**A04.** What is the highest level of education you have completed?

[SELECT ONLY ONE CATEGORY]

- NO FORMAL SCHOOLING .....  1
- PRIMARY SCHOOL FIRST CYCLE (1-4) COMPLETE .....  2
- PRIMARY SCHOOL SECOND CYCLE (5-8) COMPLETE .....  3
- SECONDARY SCHOOL FIRST CYCLE (9-10) COMPLETE.....  4
- SECONDARY SCHOOL SECOND CYCLE (11-12) COMPLETE .....  5
- COLLEGE/UNIVERSITY COMPLETED .....  6
- POST GRADUATE DEGREE COMPLETED.....  7
- DON'T KNOW .....  77
- REFUSED .....  99

**A05.** Which of the following best describes your main work status over the past 12 months? Government employee, non-government employee, self-employed, student, homemaker, retired, unemployed-able to work, or unemployed-unable to work?

[INCLUDE SUBSISTENCE FARMING AS SELF-EMPLOYED]

- GOVERNMENT EMPLOYEE .....  1
- NON-GOVERNMENT EMPLOYEE .....  2
- SELF-EMPLOYED .....  3
- STUDENT .....  4
- HOMEMAKER (HOUSEWIFE) .....  5
- RETIRED .....  6
- UNEMPLOYED, ABLE TO WORK .....  7
- UNEMPLOYED, UNABLE TO WORK ....  8
- DON'T KNOW .....  77
- REFUSED .....  99

**A06.** Please tell me whether this household or any person who lives in the household has the following items:

	YES ▼	NO ▼	DON'T KNOW ▼	REFUSED ▼
a. Electricity? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. Flush toilet? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. Fixed telephone? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. Cell telephone? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Television? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. Radio? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
g. Refrigerator? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
h. Car? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
i. Moped/scooter/motorcycle? ..	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
j. Washing machine? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
k. Livestock (ox, goat, sheep) ...	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
l. Horse/donkey .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
m. Farmland .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

## Section B. Tobacco Smoking

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**B00.** I would now like to ask you some questions about smoking tobacco, including cigarettes, cigars, pipes, gaya, and shisha/waterpipe tobacco smoking.

Please do not answer about electronic cigarettes and smokeless tobacco at this time.

**B01.** Do you currently smoke tobacco on a daily basis, less than daily, or not at all?

- DAILY .....  1 → **SKIP TO B04**  
LESS THAN DAILY .....  2  
NOT AT ALL .....  3 → **SKIP TO B03**  
DON'T KNOW .....  7 → **SKIP TO NEXT SECTION EC (EC1)**  
REFUSED .....  9 → **SKIP TO NEXT SECTION EC (EC1)**

**B02.** Have you smoked tobacco daily in the past?

- YES .....  1 → **SKIP TO B08**  
NO .....  2 → **SKIP TO B10**  
DON'T KNOW .....  7 → **SKIP TO B10**  
REFUSED .....  9 → **SKIP TO B10**

**B03.** In the past, have you smoked tobacco on a daily basis, less than daily, or not at all?

[IF RESPONDENT HAS DONE BOTH "DAILY" AND "LESS THAN DAILY" IN THE PAST, CHECK "DAILY"]

- DAILY .....  1 → **SKIP TO B11**  
LESS THAN DAILY .....  2 → **SKIP TO B13**  
NOT AT ALL .....  3 → **SKIP TO NEXT SECTION EC (EC1)**  
DON'T KNOW .....  7 → **SKIP TO NEXT SECTION EC (EC1)**  
REFUSED .....  9 → **SKIP TO NEXT SECTION EC (EC1)**

### [CURRENT DAILY SMOKERS]

**B04.** How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF B04=99, ASK B05. OTHERWISE SKIP TO B06.]**

**B05.** How many years ago did you first start smoking tobacco daily?

[IF REFUSED, ENTER 99]

--	--

**B06.** On average, how many of the following products do you currently smoke each day? Also, let me know if you smoke the product, but not every day.

[IF RESPONDENT REPORTS SMOKING THE PRODUCT BUT NOT EVERY DAY, ENTER 888

IF RESPONDENT REPORTS IN PACKS OR CARTONS, PROBE TO FIND OUT HOW MANY ARE IN EACH AND CALCULATE TOTAL NUMBER]

a. Manufactured cigarettes?				PER DAY
a1. <b>[IF B06a=888]</b> On average, how many manufactured cigarettes do you currently smoke each week?				PER WEEK
b. Hand-rolled cigarettes?				PER DAY
b1. <b>[IF B06b=888]</b> On average, how many hand-rolled cigarettes do you currently smoke each week?				PER WEEK
c. Pipes full of tobacco?				PER DAY
c1. <b>[IF B06c=888]</b> On average, how many pipes full of tobacco do you currently smoke each week?				PER WEEK
d. Cigars?				PER DAY
d1. <b>[IF B06d=888]</b> On average, how many cigars do you currently smoke each week?				PER WEEK
e. Number of gaya smoking sessions per day?				PER DAY
e1. <b>[IF B06e=888]</b> On average, how many gaya smoking sessions do you currently participate in each week?				PER WEEK
f. Number of shisha water pipe smoking sessions per day?				PER DAY
f1. <b>[IF B06f=888]</b> On average, how many shisha water pipe smoking sessions do you currently participate in each week?				PER WEEK
g. Any others? (→g1. Please specify the other type you currently smoke each day: _____)				PER DAY
g2. <b>[IF B06g=888]</b> On average, how many [FILL PRODUCT] do you currently smoke each week?				PER WEEK

**B07.** How soon after you wake up do you usually have your first smoke? Would you say within 5 minutes, 6 to 30 minutes, 31 to 60 minutes, or more than 60 minutes?

- WITHIN 5 MINUTES .....  1
- 6 TO 30 MINUTES .....  2
- 31 TO 60 MINUTES .....  3
- MORE THAN 60 MINUTES .....  4
- REFUSED .....  9

**[SKIP TO NEXT SECTION EC (EC1)]**

**[CURRENT LESS THAN DAILY SMOKERS]**

**B08.** How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF B08 = 99, ASK B09. OTHERWISE SKIP TO B10.]**

**B09.** How many years ago did you first start smoking tobacco daily?

[IF REFUSED, ENTER 99]

--	--

**B10.** How many of the following do you currently smoke during a usual week?

[IF RESPONDENT REPORTS DOING THE ACTIVITY WITHIN THE PAST 30 DAYS, BUT LESS THAN ONCE PER WEEK, ENTER 888

IF RESPONDENT REPORTS IN PACKS OR CARTONS, PROBE TO FIND OUT HOW MANY ARE IN EACH AND CALCULATE TOTAL NUMBER]

a. Manufactured cigarettes?.....				PER WEEK
b. Hand-rolled cigarettes? .....				PER WEEK
c. Pipes full of tobacco? .....				PER WEEK
d. Cigars? .....				PER WEEK
e. Number of gaya smoking sessions per week?				PER WEEK
f. Number of shisha water pipe smoking sessions per week? .....				PER WEEK
g. Any others? .....				PER WEEK

→g1. Please specify the other type you currently smoke during a usual week:

\_\_\_\_\_

**[SKIP TO NEXT SECTION EC (EC1)]**

**[FORMER SMOKERS]**

**B11.** How old were you when you first started smoking tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF B11 = 99, ASK B12. OTHERWISE SKIP TO B13a.]**

**B12.** How many years ago did you first start smoking tobacco daily?

[IF REFUSED, ENTER 99]

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**B13a.** How long has it been since you stopped smoking?

[ONLY INTERESTED IN WHEN RESPONDENT STOPPED SMOKING REGULARLY – DO NOT INCLUDE RARE INSTANCES OF SMOKING]

ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- YEARS .....  1
- MONTHS .....  2
- WEEKS .....  3
- DAYS .....  4
- LESS THAN 1 DAY .....  5 → **SKIP TO B14**
- DON'T KNOW .....  7 → **SKIP TO NEXT SECTION EC (EC1)**
- REFUSED .....  9 → **SKIP TO NEXT SECTION EC (EC1)**

**B13b.** [ENTER NUMBER OF (YEARS/MONTHS/WEEKS/DAYS)]

--	--	--

**[IF B13a/b < 1 YEAR (<12 MONTHS), THEN CONTINUE WITH B14. OTHERWISE SKIP TO NEXT SECTION EC (EC1).]**

**B14.** Have you visited a doctor or other health care provider in the past 12 months?

- YES .....  1
- NO .....  2 → **SKIP TO B18**
- REFUSED .....  9 → **SKIP TO B18**

**B15.** How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

- 1 OR 2 .....  1
- 3 TO 5 .....  2
- 6 OR MORE .....  3
- REFUSED .....  9

**B16.** During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke tobacco?

- YES .....  1
- NO .....  2 → **SKIP TO B18**
- REFUSED .....  9 → **SKIP TO B18**

**B17.** During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?

- YES .....  1  
 NO .....  2  
 REFUSED .....  9

**B18.** During the past 12 months, did you use any of the following to try to stop smoking tobacco?

	YES ▼	NO ▼	REFUSED ▼
a. Counseling, including at a smoking cessation clinic? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
b. Nicotine replacement therapy, such as the patch or gum, for example Nicorette, Nicoderm CQ? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
c. Other prescription medications, for example, Champix or Chantix, etc.? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
d. Traditional medicines, for example oats, water, ginger, honey, grape juice, etc.? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
e. A quit line or a smoking telephone support line? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
f. Switching to smokeless tobacco? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
f1. Attempt to quit without assistance? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
g. Anything else? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9

→ g1. Please specify what you used to try to stop smoking:

\_\_\_\_\_

## Section EC-WP. Electronic Cigarettes and Waterpipes

---

**EC1.** Electronic cigarettes include any product that uses batteries or other methods to produce a vapor which contains nicotine. They have various other names such as e-cigarette, vape-pen, e-shisha, e-pipes. Before today, have you ever heard of or seen an electronic cigarette?

YES .....  1  
NO .....  2 → **SKIP TO WP1**  
REFUSED .....  9 → **SKIP TO WP1**

**EC2.** Do you currently use electronic cigarettes on a daily basis, less than daily, or not at all?

DAILY .....  1 → **SKIP TO WP1**  
LESS THAN DAILY .....  2 → **SKIP TO WP1**  
NOT AT ALL .....   
REFUSED .....

**EC3.** Have you ever even once, used an electronic cigarette?

YES .....  1  
NO .....  2  
REFUSED .....  9

**WP1.** **[IF B01 = 1 OR 2, GO TO NEXT SECTION C (C00)]**

Do you currently use a waterpipe (shisha) to smoke tobacco on a daily basis, less than daily, or not at all?

DAILY .....  1  
LESS THAN DAILY .....  2  
NOT AT ALL .....  3  
REFUSED .....  9

## Section C. Smokeless Tobacco

---

**C00.** The next questions are about using smokeless tobacco, such as suret (snuff) and chewing tobacco. Smokeless tobacco is tobacco that is not smoked, but is sniffed through the nose, held in the mouth, or chewed.

**C01.** Do you currently use smokeless tobacco on a daily basis, less than daily, or not at all?

[IF RESPONDENT DOES NOT KNOW WHAT SMOKELESS TOBACCO IS, EITHER PRESENT A SHOWCARD OR READ DEFINITION FROM QXQ SCREEN]

DAILY .....  1 → **SKIP TO C04**  
LESS THAN DAILY .....  2  
NOT AT ALL .....  3 → **SKIP TO C03**  
DON'T KNOW .....  7 → **SKIP TO NEXT SECTION D1 (D01)**  
REFUSED .....  9 → **SKIP TO NEXT SECTION D1 (D01)**

**C02.** Have you used smokeless tobacco daily in the past?

YES .....  1 → **SKIP TO C08**  
NO .....  2 → **SKIP TO C10**  
DON'T KNOW .....  7 → **SKIP TO C10**  
REFUSED .....  9 → **SKIP TO C10**

**C03.** In the past, have you used smokeless tobacco on a daily basis, less than daily, or not at all?

[IF RESPONDENT HAS DONE BOTH "DAILY" AND "LESS THAN DAILY" IN THE PAST, CHECK "DAILY"]

DAILY .....  1 → **SKIP TO C11**  
LESS THAN DAILY .....  2 → **SKIP TO C13**  
NOT AT ALL .....  3 → **SKIP TO NEXT SECTION D1 (D01)**  
DON'T KNOW .....  7 → **SKIP TO NEXT SECTION D1 (D01)**  
REFUSED .....  9 → **SKIP TO NEXT SECTION D1 (D01)**

**[CURRENT DAILY SMOKELESS TOBACCO USERS]**

**C04.** How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF C04 = 99, ASK C05. OTHERWISE SKIP TO C06.]**

**C05.** How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

--	--

**C06.** On average, how many times a day do you use the following products? Also, let me know if you use the product, but not every day.

[IF RESPONDENT REPORTS USING THE PRODUCT BUT NOT EVERY DAY, ENTER 888]

a. Suret (snuff)?				<i>PER DAY</i>
a1. <b>[IF C06a=888]</b> On average, how many times a week do you currently use suret (snuff)?				<i>PER WEEK</i>
c. Chewing tobacco?				<i>PER DAY</i>
c1. <b>[IF C06c=888]</b> On average, how many times a week do you currently use chewing tobacco?				<i>PER WEEK</i>
d. Any others? (→d1. Please specify the other type you currently use each day:_____)				<i>PER DAY</i>
d2. <b>[IF C06d=888]</b> On average, how many times a week do you currently use?				<i>PER WEEK</i>

**C07.** How soon after you wake up do you usually use smokeless tobacco for the first time? Would you say within 5minutes, 6 to 30 minutes, 31 to 60 minutes, or more than 60 minutes?

- WITHIN 5 MINUTES .....  1  
 6 TO 30 MINUTES .....  2  
 31 TO 60 MINUTES .....  3  
 MORE THAN 60 MINUTES .....  4  
 REFUSED .....  9

**[SKIP TO NEXT SECTION D1 (D01)]**

**[CURRENT LESS THAN DAILY SMOKELESS TOBACCO USERS]**

**C08.** How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF C08 = 99, ASK C09. OTHERWISE SKIP TO C10.]**

**C09.** How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

--	--

**C10.** How many times a week do you usually use the following?

[IF RESPONDENT REPORTS DOING THE ACTIVITY WITHIN THE PAST 30 DAYS, BUT LESS THAN ONCE PER WEEK, ENTER 888]

a. Suret (snuff)? .....	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<i>TIMES PER WEEK</i>
c. Chewing tobacco? .....	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<i>TIMES PER WEEK</i>
d. Any others? .....	<table border="1"><tr><td> </td><td> </td><td> </td></tr></table>				<i>TIMES PER WEEK</i>

→d1. Please specify the other type you currently use during a usual week:

---

**[SKIP TO NEXT SECTION D1 (D01)]**

**[FORMER SMOKELESS TOBACCO USERS]**

**C11.** How old were you when you first started using smokeless tobacco daily?

[IF DON'T KNOW OR REFUSED, ENTER 99]

--	--

**[IF C11 = 99, ASK C12. OTHERWISE SKIP TO C13a.]**

**C12.** How many years ago did you first start using smokeless tobacco daily?

[IF REFUSED, ENTER 99]

--	--

**C13a.** How long has it been since you stopped using smokeless tobacco?

[ONLY INTERESTED IN WHEN RESPONDENT STOPPED USING SMOKELESS TOBACCO REGULARLY — DO NOT INCLUDE RARE INSTANCES OF USING SMOKELESS TOBACCO

ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- YEARS .....  1
- MONTHS.....  2
- WEEKS .....  3
- DAYS.....  4
- LESS THAN 1 DAY .....  5 → **SKIP TO C14**
- DON'T KNOW .....  7 → **SKIP TO NEXT SECTION D1 (D01)**
- REFUSED .....  9 → **SKIP TO NEXT SECTION D1 (D01)**

**C13b.** [ENTER NUMBER OF (YEARS/MONTHS/WEEKS/DAYS)]

--	--	--

**[IF C13a/b < 1 YEAR (<12 MONTHS), THEN CONTINUE. OTHERWISE SKIP TO NEXT SECTION D1 (D01).]**

**IF B14 HAS NOT BEEN ASKED → CONTINUE WITH C14**

**IF B14 = YES → SKIP TO C16**

**IF B14 = NO OR REFUSED → SKIP TO C18**

**C14.** Have you visited a doctor or other health care provider in the past 12 months?

- YES .....  1
- NO .....  2 → **SKIP TO C18**
- REFUSED .....  9 → **SKIP TO C18**

**C15.** How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

- 1 OR 2 .....  1
- 3 TO 5 .....  2
- 6 OR MORE .....  3
- REFUSED .....  9

**C16.** During any visit to a doctor or health care provider in the past 12 months, were you asked if you use smokeless tobacco?

- YES .....  1
- NO .....  2 → **SKIP TO C18**
- REFUSED .....  9 → **SKIP TO C18**

**C17.** During any visit to a doctor or health care provider in the past 12 months, were you advised to stop using smokeless tobacco?

- YES .....  1
- NO .....  2
- REFUSED .....  9

**C18.** During the past 12 months, did you use any of the following to try to stop using smokeless tobacco?

	YES	NO	REFUSED
a. Counseling, including at a cessation clinic? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
b. Nicotine replacement therapy, such as the patch or gum, for example Nicorette, Nicoderm CQ? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
c. Other prescription medications, for example Champix or Chantix, etc.? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
d. Traditional medicines, for example oats, water, ginger, honey, grape juice, etc.? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
e. A quit line or a telephone support line? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
f. Attempt to quit without assistance? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9
g. Anything else? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 9

→ g1. Please specify what you used to try to stop using smokeless tobacco:

\_\_\_\_\_

## Section D1. Cessation Tobacco Smoking

**IF B01= 1 OR 2 (RESPONDENT CURRENTLY SMOKES TOBACCO), CONTINUE WITH THIS SECTION.**  
**IF B01 = 3, 7, OR 9 (RESPONDENT DOES NOT CURRENTLY SMOKE TOBACCO), SKIP TO NEXT SECTION D2 (D09).**

**D01.** The next questions ask about any attempts to stop smoking that you might have made during the past 12 months. Please think about tobacco smoking.

During the past 12 months, have you tried to stop smoking?

- YES .....  1  
 NO .....  2 → **SKIP TO INSTRUCTION BEFORE D04**  
 REFUSED .....  9 → **SKIP TO INSTRUCTION BEFORE D04**

**D02a.** Thinking about the last time you tried to quit, how long did you stop smoking?

[ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- MONTHS .....  1  
 WEEKS .....  2  
 DAYS .....  3  
 LESS THAN 1 DAY (24 HOURS) ....  4 → **SKIP TO D03**  
 DON'T KNOW .....  7 → **SKIP TO D03**  
 REFUSED .....  9 → **SKIP TO D03**

**D02b.** [ENTER NUMBER OF (MONTHS/WEEKS/DAYS)]

--	--	--

**D03.** During the past 12 months, did you use any of the following to try to stop smoking tobacco?

- |  | YES<br>▼                   | NO<br>▼                    | REFUSED<br>▼               |
|--|----------------------------|----------------------------|----------------------------|
| a. Counseling, including at a smoking cessation clinic? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| b. Nicotine replacement therapy, such as the patch or gum, for example Nicorette, Nicoderm CQ? ..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| c. Other prescription medications, for example, Champix or Chantix, etc.? .....                      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d. Traditional medicines, for example oats, water, ginger, honey, grape juice, etc.? .....           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| e. A quit line or a smoking telephone support line? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| f. Switching to smokeless tobacco? .....   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| f1. Attempt to quit without assistance? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| g. Anything else? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |

→ g1. Please specify what you used to try to stop smoking:

\_\_\_\_\_

**IF C14 HAS NOT BEEN ASKED → CONTINUE WITH D04**

**IF C14 = YES → SKIP TO D06**

**IF C14 = NO OR REFUSED → SKIP TO D08**

**D04.** Have you visited a doctor or other health care provider in the past 12 months?

- YES .....  1
- NO .....  2 → **SKIP TO D08**
- REFUSED .....  9 → **SKIP TO D08**

**D05.** How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

- 1 OR 2 .....  1
- 3 TO 5 .....  2
- 6 OR MORE .....  3
- REFUSED .....  9

**D06.** During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke tobacco?

- YES .....  1
- NO .....  2 → **SKIP TO D08**
- REFUSED .....  9 → **SKIP TO D08**

**D07.** During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?

- YES .....  1
- NO .....  2
- REFUSED .....  9

**D08.** Which of the following best describes your thinking about quitting smoking? I am planning to quit within the next month, I am thinking about quitting within the next 12 months, I will quit someday but not within the next 12 months, or I am not interested in quitting?

- QUIT WITHIN THE NEXT MONTH.....  1
- THINKING WITHIN THE NEXT 12 MONTHS.....  2
- QUIT SOMEDAY, BUT NOT NEXT 12 MONTHS. ...  3
- NOT INTERESTED IN QUITTING.....  4
- DON'T KNOW .....  7
- REFUSED .....  9

## Section D2. Cessation— Smokeless Tobacco

**IF C01 = 1 OR 2 (RESPONDENT CURRENTLY USES SMOKELESS TOBACCO), CONTINUE WITH THIS SECTION.  
IF C01 = 3, 7, OR 9 (RESPONDENT DOES NOT CURRENTLY USE SMOKELESS TOBACCO), SKIP TO NEXT SECTION E (E01).**

**D09.** The next questions ask about any attempts to stop using smokeless tobacco that you might have made during the past 12 months. Please think about your use of smokeless tobacco.

During the past 12 months, have you tried to stop using smokeless tobacco?

- YES .....  1  
 NO .....  2 → **SKIP TO INSTRUCTION BEFORE D12**  
 REFUSED .....  9 → **SKIP TO INSTRUCTION BEFORE D12**

**D10a.** Thinking about the last time you tried to quit, how long did you stop using smokeless tobacco?

[ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

- MONTHS .....  1  
 WEEKS .....  2  
 DAYS .....  3  
 LESS THAN 1 DAY (24 HOURS) ....  4 → **SKIP TO D11**  
 DON'T KNOW .....  7 → **SKIP TO D11**  
 REFUSED .....  9 → **SKIP TO D11**

**D10b.** [ENTER NUMBER OF (MONTHS/WEEKS/DAYS)]

--	--	--

**D11.** During the past 12 months, have you used any of the following to try and stop using smokeless tobacco?

- |  | YES<br>▼                   | NO<br>▼                    | REFUSED<br>▼               |
|--|----------------------------|----------------------------|----------------------------|
| a. Counseling, including at a cessation clinic? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| b. Nicotine replacement therapy, such as the patch or gum, for example Nicorette, Nicoderm CQ? ..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| c. Other prescription medications, for example Champix or Chantix, etc.? .....                       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| d. Traditional medicines, for example oats, water, ginger, honey, grape juice, etc.? .....           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| e. A quit line or a telephone support line? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| f. Attempt to quit without assistance? .....   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |
| g. Anything else? .....  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 9 |

→ g1. Please specify what you used to try to stop using smokeless tobacco:

\_\_\_\_\_

**IF BOTH B14 ANDD04 HAVE NOT BEEN ASKED → CONTINUE WITH D12**  
**IF B14 OR D04 = YES → SKIP TO D14**  
**IF B14 ORD04 = NO OR REFUSED → SKIP TO D16**

**D12.** Have you visited a doctor or other health care provider in the past 12 months?

YES .....  1  
NO .....  2 → **SKIP TO D16**  
REFUSED .....  9 → **SKIP TO D16**

**D13.** How many times did you visit a doctor or health care provider in the past 12 months? Would you say 1 or 2 times, 3 to 5 times, or 6 or more times?

1 OR 2 .....  1  
3 TO 5 .....  2  
6 OR MORE .....  3  
REFUSED .....  9

**D14.** During any visit to a doctor or health care provider in the past 12 months, were you asked if you use smokeless tobacco?

YES .....  1  
NO .....  2 → **SKIP TO D16**  
REFUSED .....  9 → **SKIP TO D16**

**D15.** During any visit to a doctor or health care provider in the past 12 months, were you advised to stop using smokeless tobacco?

YES .....  1  
NO .....  2  
REFUSED .....  9

**D16.** Which of the following best describes your thinking about quitting smokeless tobacco? I am planning to quit within the next month, I am thinking about quitting within the next 12 months, I will quit someday but not within the next 12 months, or I am not interested in quitting?

QUIT WITHIN THE NEXT MONTH.....  1  
THINKING WITHIN THE NEXT 12 MONTHS.....  2  
QUIT SOMEDAY, BUT NOT NEXT 12 MONTHS. ...  3  
NOT INTERESTED IN QUITTING .....  4  
DON'T KNOW .....  7  
REFUSED .....  9

## Section E. Secondhand Smoke

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**E01.** I would now like to ask you a few questions about smoking in various places.

Which of the following best describes the rules about smoking inside of your home: Smoking is allowed inside of your home, smoking is generally not allowed inside of your home but there are exceptions, smoking is never allowed inside of your home, or there are no rules about smoking in your home?

- ALLOWED.....  1  
NOT ALLOWED, BUT EXCEPTIONS ....  2  
NEVER ALLOWED .....  3 → **SKIP TO E04**  
NO RULES.....  4 → **SKIP TO E03**  
DON'T KNOW .....  7 → **SKIP TO E03**  
REFUSED .....  9 → **SKIP TO E03**

**E02.** Inside your home, is smoking allowed in every room?

- YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

**E03.** How often does anyone smoke inside your home? Would you say daily, weekly, monthly, less than monthly, or never?

- DAILY .....  1  
WEEKLY .....  2  
MONTHLY.....  3  
LESS THAN MONTHLY.....  4  
NEVER .....  5  
DON'T KNOW .....  7  
REFUSED .....  9

**E04.** Do you currently work outside of your home?

- YES .....  1  
NO/DON'T WORK.....  2 → **SKIP TO E09**  
REFUSED .....  9 → **SKIP TO E09**

**E05.** Do you usually work indoors or outdoors?

- INDOORS .....  1 → **SKIP TO E07**  
OUTDOORS .....  2  
BOTH .....  3 → **SKIP TO E07**  
REFUSED .....  9

**E06.** Are there any indoor areas at your work place?

- YES .....  1
- NO .....  2 → **SKIP TO E09**
- DON'T KNOW .....  7 → **SKIP TO E09**
- REFUSED .....  9 → **SKIP TO E09**

**E07.** Which of the following best describes the indoor smoking policy where you work: Smoking is allowed anywhere, smoking is allowed only in some indoor areas, smoking is not allowed in any indoor areas, or there is no policy?

- ALLOWED ANYWHERE .....  1
- ALLOWED ONLY IN SOME INDOOR AREAS....  2
- NOT ALLOWED IN ANY INDOOR AREAS .....  3
- THERE IS NO POLICY .....  4
- DON'T KNOW .....  7
- REFUSED .....  9

**E08.** During the past 30 days, did anyone smoke in indoor areas where you work?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E09.** During the past 30 days, did you visit any government buildings or government offices?

- YES .....  1
- NO .....  2 → **SKIP TO E11**
- DON'T KNOW .....  7 → **SKIP TO E11**
- REFUSED .....  9 → **SKIP TO E11**

**E10.** Did anyone smoke inside of any government buildings or government offices that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E11.** During the past 30 days, did you visit any health care facilities?

- YES .....  1
- NO .....  2 → **SKIP TO E13**
- DON'T KNOW .....  7 → **SKIP TO E13**
- REFUSED .....  9 → **SKIP TO E13**

**E12.** Did anyone smoke inside of any health care facilities that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E13.** During the past 30 days, did you visit any restaurants?

- YES .....  1
- NO .....  2 → **SKIP TO E15**
- DON'T KNOW .....  7 → **SKIP TO E15**
- REFUSED .....  9 → **SKIP TO E15**

**E14.** Did anyone smoke inside of any restaurants that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E15.** During the past 30 days, did you use any public transportation?

- YES .....  1
- NO .....  2 → **SKIP TO E21**
- DON'T KNOW .....  7 → **SKIP TO E21**
- REFUSED .....  9 → **SKIP TO E21**

**E16.** Did anyone smoke inside of any public transportation that you used in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E21.** During the past 30 days, did you visit any universities?

- YES .....  1
- NO .....  2 → **SKIP TO E19**
- DON'T KNOW .....  7 → **SKIP TO E19**
- REFUSED .....  9 → **SKIP TO E19**

**E22.** Did anyone smoke inside of any universities that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E19.** During the past 30 days, did you visit any other schools or educational facilities?

- YES .....  1
- NO .....  2 → **SKIP TO E25**
- DON'T KNOW .....  7 → **SKIP TO E25**
- REFUSED .....  9 → **SKIP TO E25**

**E20.** Did anyone smoke inside of any schools or educational facilities that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E25.** During the past 30 days, did you visit any bars or night clubs?

- YES .....  1
- NO .....  2 → **SKIP TO E17**
- DON'T KNOW .....  7 → **SKIP TO E17**
- REFUSED .....  9 → **SKIP TO E17**

**E26.** Did anyone smoke inside of any bars or night clubs that you visited in the past 30 days?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**E17.** Based on what you know or believe, does breathing other people's smoke cause serious illness in non-smokers?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

## Section F. Economics—Manufactured Cigarettes

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**IF [B01=1 OR 2 (RESPONDENT CURRENTLY SMOKES DAILY OR LESS THAN DAILY)]  
AND  
[(B06a OR B10a)> 0 AND<= 888(RESPONDENT SMOKES MANUFACTURED CIGARETTES)],  
THEN CONTINUE WITH THIS SECTION.  
OTHERWISE, SKIP TO NEXT SECTION G (G021intro).**

**F01a.** The next few questions are about the last time you purchased cigarettes for yourself to smoke.

The last time you bought cigarettes for yourself, how many cigarettes did you buy?

[ENTER UNIT ON THIS SCREEN AND NUMBER ON NEXT SCREEN]

CIGARETTES .....  1  
PACKS .....  2  
CARTONS.....  3  
OTHER (SPECIFY).....  4 → F01c. [SPECIFY THE UNIT]: \_\_\_\_\_  
NEVER BOUGHT CIGARETTES ...  5 → **SKIP TO NEXT SECTION G (G021intro)**  
REFUSED .....  9 → **SKIP TO F03**

**F01b.** [ENTER NUMBER OF (CIGARETTES/PACKS/CARTONS/OTHER)]

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**[IF F01a=CIGARETTES, GO TO F02]  
[IF F01a=PACKS, GO TO F01dPack]  
[IF F01a=CARTONS, GO TO F01dCart]  
[IF F01a=OTHER, GO TO F01dOther]**

**F01dPack.** Did each pack contain 10 cigarettes, 20 cigarettes, or another amount?

10 .....  1  
20 .....  2  
OTHER AMOUNT ..  7 → F01dPackA. How many cigarettes were in each pack?  
REFUSED.....  9

**[GO TO F02]**

**F01dCart.** Did each carton contain 100 cigarettes, 200 cigarettes, or another amount?

- 100.....  1
- 200.....  2
- OTHER AMOUNT ..  7 → F01dCartA. How many cigarettes were in each carton?
- REFUSED.....  9

**[GO TO F02]**

**F01dOther.** How many cigarettes were in each {F01c}?

[IF REFUSED, ENTER 999]

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**F02.** In total, how much money did you pay for this purchase?

[IF DON'T KNOW OR REFUSED, ENTER 999]

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**F03.** What brand did you buy the last time you purchased cigarettes for yourself?

- NYALA.....  1
- ELENI.....  2
- DELIGHT.....  3
- KAMEL.....  4
- MARLBORO.....  5
- GEMBDEL.....  6
- ROTHMAN.....  7
- WINSTON.....  8
- OTHER.....  9 → **F03a.** [SPECIFY BRAND]: \_\_\_\_\_
- REFUSED.....  99

**F04.** The last time you purchased cigarettes for yourself, where did you buy them?

- STORE.....  2
- STREET VENDOR.....  3
- DUTY-FREE SHOP.....  5
- OUTSIDE THE COUNTRY.....  6
- KIOSKS.....  7
- INTERNET.....  8
- FROM ANOTHER PERSON.....  9
- OTHER.....  10 → **F04a.** [SPECIFY LOCATION]: \_\_\_\_\_
- DON'T REMEMBER.....  77
- REFUSED.....  99

## Section G. Media

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**G201intro.** The next few questions ask about your exposure to the media and advertisements in the last 30 days. For each item, I am going to ask about cigarettes and smokeless tobacco.

**G201a.** In the last 30 days, have you noticed any information in newspapers or in magazines about the dangers of use or that encourages quitting of the following tobacco products?

1. Cigarettes?

YES .....  1

NO .....  2

NOT APPLICABLE .....  7 → **SKIP TO G201b**

REFUSED .....  9

2. Smokeless tobacco?

YES .....  1

NO .....  2

REFUSED .....  9

**G201b.** In the last 30 days, have you seen any information on television about the dangers of use or that encourages quitting of the following tobacco products?

1. Cigarettes?

YES .....  1

NO .....  2

NOT APPLICABLE .....  7 → **SKIP TO G201c**

REFUSED .....  9

2. Smokeless tobacco?

YES .....  1

NO .....  2

REFUSED .....  9

**G201c.** In the last 30 days, have you heard any information on the radio about the dangers of use or that encourages quitting of the following tobacco products?

1. Cigarettes?

- YES .....  1
- NO .....  2
- NOT APPLICABLE.....  7 → **SKIP TO G201d**
- REFUSED .....  9

2. Smokeless tobacco?

- YES .....  1
- NO .....  2
- REFUSED .....  9

**G201d.** In the last 30 days, have you noticed any information on billboards about the dangers of use or that encourages quitting of the following tobacco products?

1. Cigarettes?

- YES .....  1
- NO .....  2
- NOT APPLICABLE.....  7 → **SKIP TO G201e**
- REFUSED .....  9

2. Smokeless tobacco?

- YES .....  1
- NO .....  2
- REFUSED .....  9

**G201e.** In the last 30 days, have you noticed any information somewhere else about the dangers of use or that encourages quitting of the following tobacco products?

1. Cigarettes?

[DO NOT INCLUDE HEALTH WARNINGS ON CIGARETTE PACKAGES]

- YES .....  1 → a. Please specify where: \_\_\_\_\_
- NO .....  2
- REFUSED .....  9

2. Smokeless tobacco?

[DO NOT INCLUDE HEALTH WARNINGS ON SMOKELESS PACKAGES]

- YES .....  1 → a. Please specify where: \_\_\_\_\_
- NO .....  2
- REFUSED .....  9

**G202.** In the last 30 days, did you notice any health warnings on cigarette packages?

- YES .....  1  
 NO .....  2 → **SKIP TO G04a**  
 DID NOT SEE ANY CIGARETTE PACKAGES ...  3 → **SKIP TO G04a**  
 REFUSED .....  9 → **SKIP TO G04a**

**G203.** **[ADMINISTER IF B01 = 1 OR 2. ELSE GO TO G04a]**

In the last 30 days, have warning labels on cigarette packages led you to think about quitting?

- YES .....  1  
 NO .....  2  
 DON'T KNOW .....  7  
 REFUSED .....  9

**G04.** In the last 30 days, have you noticed any \*advertisements or signs promoting\* cigarettes in the following places?

	YES ▼	NO ▼	NOT APPLICABLE ▼	REFUSED ▼
a. In stores where cigarettes are sold?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
b. On television?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
c. On the radio?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
d. On billboards?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
e. On posters?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
f. In newspapers or magazines?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
g. In cinemas?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
h. On the internet?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
i. On public transportation vehicles or stations?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
j. On public walls?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 7.....	<input type="checkbox"/> 9
k. Anywhere else?	<input type="checkbox"/> 1.....	<input type="checkbox"/> 2.....	<input type="checkbox"/> 9	

→ k1. Please specify where: \_\_\_\_\_

**G205.** In the last 30 days, have you noticed any sport or sporting event that is associated with cigarette brands or cigarette companies?

- YES .....  1  
 NO .....  2  
 DON'T KNOW .....  7  
 REFUSED .....  9

**G206a.** In the last 30 days, have you noticed any free samples of the following tobacco products?

1. Cigarettes?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

2. Smokeless tobacco?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**G206b.** In the last 30 days, have you noticed any of the following tobacco products sold at sale prices?

1. Cigarettes?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

2. Smokeless tobacco?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**G206c.** In the last 30 days, have you noticed any coupons for the following tobacco products?

1. Cigarettes?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

2. Smokeless tobacco?

- YES .....  1
- NO .....  2
- DON'T KNOW .....  7
- REFUSED .....  9

**G206d.** In the last 30 days, have you noticed any free gifts or special discount offers on other products when buying any of the following tobacco products?

1. Cigarettes?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

2. Smokeless tobacco?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

**G206e.** In the last 30 days, have you noticed any clothing or other items with a brand name or logo of the following tobacco products?

1. Cigarettes?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

2. Smokeless tobacco?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

**G206f.** In the last 30 days, have you noticed any promotions in the mail for the following tobacco products?

1. Cigarettes?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

2. Smokeless tobacco?

YES .....  1  
NO .....  2  
DON'T KNOW .....  7  
REFUSED .....  9

## Section H. Knowledge, Attitudes & Perceptions

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**H01.** The next question is asking about smoking tobacco.

Based on what you know or believe, does smoking tobacco cause serious illness?

- YES .....  1  
 NO .....  2  
 DON'T KNOW .....  7  
 REFUSED .....  9

**H02.** Based on what you know or believe, does smoking tobacco cause the following...

	YES ▼	NO ▼	DON'T KNOW ▼	REFUSED ▼
a. Stroke (blood clots in the brain that may cause paralysis)? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
b. Heart attack? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
c. Lung cancer? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
d. Bladder cancer? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
e. Bone loss? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9
f. Premature birth? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 7	<input type="checkbox"/> 9

**H03.** Based on what you know or believe, does using smokeless tobacco cause serious illness?

- YES .....  1  
 NO .....  2  
 DON'T KNOW .....  7  
 REFUSED .....  9

## End Individual Questionnaire

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**100.** Those are all of the questions I have. Thank you very much for participating in this important survey.

**102.** [RECORD ANY NOTES ABOUT INTERVIEW:]

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# Appendix B: Sample Design

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## GATS- Ethiopian Sampling Design

### **1. Introduction**

Tobacco is on its way to become the leading cause of death in low- and middle-income countries, causing more deaths than HIV, tuberculosis, maternal mortality, road traffic accidents, homicide and suicide combined. If prevention and control mechanism are not set and the current trends continue without proper intervention, about 650 million people alive today will eventually be killed by tobacco, half of them in productive middle age, each losing 20 to 25 years of life.

### **2. Objective sampling design**

The Global Adult Tobacco Survey (GATS, Ethiopia 2016 seeks to establish estimates of tobacco use, exposure to tobacco smoke, frequency of cessation attempts, tobacco messaging, tobacco advertising, promotion and sponsorship knowledge, and attitudes and perceptions about tobacco.

### **3. Description**

A population-based descriptive cross-sectional study will be conducted using the GATS protocol to measure adult tobacco use and key tobacco control indicators in Ethiopia. GATS will be conducting nationally representative household surveys using a probabilistic sampling design. The sample will be adjusted for non-responses (20%) according to GATS sampling design assumptions<sup>1</sup>. The distribution of the sample will be stratified by geographic area (urban or rural) and by gender (male-female). According to the protocol of the GATS Survey<sup>10</sup>, the sample design use “N1 OPTION” in the GATS sample manual. Ethiopian \_ GATS will not use gender randomization, instead we will assign male or female respondents based on random.

### **4. Target population and sample frame**

The target population includes all men and women, 15 years of age and older, residing in any of the nine regional states and two cities administrations in Ethiopia. The state structure is shown below in Fig 1. Institutionalized adults will be excluded from sample selection. The survey will consider as in the target population, a usual member of sample household that does not have any other residence or has multiple residences but has been living in the sampled

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<sup>10</sup>Global Adult Tobacco Survey Collaborative Group. Global Adult Tobacco Survey (GATS): Sample Design Manual, Version 2.0. Atlanta, GA: Centers for Disease Control and Prevention, 2010.

household for at least six months during one year prior to the survey. The institutional population living in prisons, hospitals, military barracks, school dormitories, etc. will be excluded from the universe defined for the household surveys<sup>1</sup>.

The sampling frame for GATS will also be based on the Enumeration Areas (EA) from the Central Statistics Agency.

The prevalence will be reported at national level and stratified by gender, and by residential areas. Sub-national prevalence will be considered reported at the level of regions without any stratification.

**Table 1: Distribution of household in sample frame in nine regions and two city administrations.**

REGION	Urban	Rural	Total
TIGRAY	241,947	749,342	991,289
AFAR	46,455	187,745	234,200
AMHARA	626,998	3,348,277	3,975,275
OROMIA	884,518	4,698,411	5,582,929
SOMALIA	100,304	536,492	636,796
Benishangul	28,676	144,363	173,039
SNNPR	366,571	2,728,189	3,094,760
GAMBELA	19,811	39,074	58,885
HARARI	28,552	18,191	46,743
Addis Ababa	655,977		655,977
DIRE DAWA	54,505	22,240	76,745
Total	3,054,314	12,472,324	15,526,638

Source: Ethiopian population and house census 2007

**Table 2: Summary of household's distribution in urban and rural in all sample frame**

	No. EAs	No. HHs
Urban	17,100	3,054,314
Rural	68,450	12,472,324
Total	85,550	15,526,638

## 5. Sample size determination

A single proportion formula is used to determine the sample size. To adjust for the loss of precision due to cluster sampling, we will multiply the sample size by the design effect. In order to have an adequate level of precision for each age-sex estimate, the sample size will be multiplied by the number of age-sex groups for which the estimates will be reported. To adjust for the anticipated non-response, we used a 20% non-response rate based on CDC recommendation for GATS survey.

Thus, Z-score=1.96; Proportion =40% (GATS tobacco use prevalence, 2010) and marginal error=0.03; Design effect =1.5; age-sex estimate=10 % groups and non-response rate=20%. Thus, a total of 10,875 study subjects will be included in the study.

## **6. Sampling Procedure**

GATS-Ethiopia will use a mix of sampling approaches (stratified, three-stage cluster sampling and simple random sampling using handheld device) to select the study settings and the study participants. The sampling frame is based on the population and housing census conducted for Ethiopia in 2007 as shown in Table 1 and Table 2 above. Adjusting for non-response and non-eligibility, the sample size is calculated to be 10,875 (5,481 rural and 5,394 urban). This sample size is calculated by taking into account the requirements of GATS Sample Design Manual (at least a sample size of 8,000 households is required, with 4,000 for rural and 4,000 urban).

The total sample size calculated for the country is distributed across the regions based on their population size; sample allocation using probability proportional to size (PPS) technique. With PPS, the percentage of the population that each region contributes to the national total is reflected in the distribution of the sample size. Based on the PPS calculation, most of the clusters will be allocated to four major populous regions (Oromia, Amhara, Tigray and SNNP). If we strictly follow the PPS approach, it will not give us proportional estimates for each regional state and city administration.

On the other hand, Ethiopia is a country with diverse cultural practices that may influence individual behavior related to tobacco use. Therefore, the research team opted to use power allocation for the number of clusters to come up with a sufficient sample size to distribute nationally based on urban-rural estimates for region and city administrations proportionally. Power allocation is used after application of PPS to adjust the sample size into a representative manner.

**In the first stage**, a sub sample of 375 Enumeration Areas (EA's) (primary sampling unit) will be selected from the master sample following the method of probability proportionate to size (PPS). Equal number of PSUs (EAs) will be allocated to urban and rural domains before selection. Prior to the selection of household sample, a re-enumeration process of all 375 GATS EAs will be conducted to update the household addresses information (since 2014) in these selected EAs. The process of re-enumeration allowed for complete household coverage and more precise sampling results for the survey.

**Table 3: Power allocation of enumeration areas**

<b>REGION</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
Tigray	18	20	38
Afar	15	17	32
Amhara	20	24	44
Oromia	21	25	46
Somali	16	20	36
Benishangul	14	17	31
SNNPR	19	23	42
Gambela	14	15	28
Harari	14	14	28
Addis Ababa	20	-	20
Dire Dawa	15	14	29
Total	186	189	375

**In the second stage**, in total 10,875 households will be selected systematically from selected EAs (secondary sampling unit). Twenty-nine households will be selected per PSU/EAs.

**In the last stage**, one eligible individual member of 15 years of age or older will be selected randomly from the list (roster of 15+ eligible individuals) using handheld devices within each selected household.

Interviewers will administer the questionnaire, and no proxy interview will be allowed.

A minimum national sample of about 8,000 is being expected. In order to cater for non-response rate at various stages of selection, a minimum sample of 10,875 households (20% non-response rate applied).

**Table 4: Power allocation households**

<b>REGION</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
Tigray	521	590	1,111
Afar	435	507	942
Amhara	579	696	1,275
Oromia	601	722	1,323
Somalia	473	569	1,042
Benishangul	412	492	905
SNNPR	546	680	1,226
Gambela	396	426	822
Harari	412	392	804
Addis Ababa	582	-	582
Dire Dawa	442	401	843
<b>Total</b>	<b>5,399</b>	<b>5,288</b>	<b>10,875</b>

**Sampling design summary table**

<b>Stage</b>	<b>Sampling Unit and Frame Source</b> <i>What is being sampled and from what sampling frame?</i>	<b>Stratification</b> <i>Stratify by what? Which sample allocation approach?</i>	<b>Sample Selection</b> <i>How will random selection be used?</i>	<b>Overall Sample Size</b>
<b>1</b>	Enumeration areas as Primary Sampling Unit (PSU): <ul style="list-style-type: none"> <li>• Divided into two groups: urban and rural</li> <li>• The 85,550 Enumeration Areas are divided into 9 regions and 2 City Administration</li> </ul>	Enumeration Area: <ul style="list-style-type: none"> <li>• Urban, 20%</li> <li>• Rural, 80r%</li> </ul> It is the simplest stratification nationally	[INEC/Census] Master Sample:  Selection PPT  (Selection probability proportional to population size)	<ul style="list-style-type: none"> <li>• Total number of PSUs:375</li> <li>• Urban= 186</li> <li>• Rural= 189</li> </ul>

<p>2</p>	<p>Secondary Sampling Unit (SSU):</p> <ul style="list-style-type: none"> <li>• Households</li> <li>• Urban: 3,054,314</li> <li>• Rural: 12,472,324</li> <li>• Total: 15,526,638</li> </ul>	<p>Average number of households ( per EA)</p> <ul style="list-style-type: none"> <li>• Urban:200</li> <li>• Rural: 160</li> </ul>	<p>Systematic Sampling</p> <ul style="list-style-type: none"> <li>• 1 every 7 households</li> </ul> <p>The minimum housing wanted to visit (29 households) in Urban EAs and</p> <ul style="list-style-type: none"> <li>• 1 every 5 households in Rural EAS</li> </ul>	<ul style="list-style-type: none"> <li>• 29 households will be selected in each EAs</li> <li>• Total households select: 10,875</li> </ul>
<p>3</p>	<p>Tertiary Sampling Unit (TSU):</p> <p>Final Sampling Unit:</p> <ul style="list-style-type: none"> <li>• Individuals 15 years and over</li> <li>• Population 15 years and over by 2011: 3,233,882</li> </ul>	<p>Distribution:</p> <ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	<p>Random selection by handheld device</p>	<ul style="list-style-type: none"> <li>• One person per home.</li> <li>• Sample: 10,875</li> </ul>

## Appendix C: Estimates of Sampling Errors

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Two types of error affect the estimates from a sample survey: (1) non-sampling errors, and (2) sampling errors. Non-sampling errors are the result of errors or mistakes that cannot be attributable to sampling and were made in implementing data collection and data processing, such as errors in coverage, response errors, non-response errors, faulty questionnaires, interviewer recording errors, data processing errors, etc. Although numerous efforts were made during the implementation of GATS in Ethiopia to minimize those errors, non-sampling errors are impossible to avoid and difficult to evaluate statistically.

The sample of respondents selected in GATS Ethiopia was only one of the samples that could have been selected from the same population, using the same design and sample size. Each of these samples would yield results that differed somewhat from the results of the actual sample selected. *Sampling errors* are a measure of the variability between all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey results.

The following sampling error measures are presented for each of the selected indicators:

Estimate (R): Weighted prevalence estimate of the indicator:

Standard Error (SE): Sampling errors are usually measured in terms of standard errors for a particular estimate or indicator (R). Standard error of an estimate is thus simply the square root of the variance of that estimate, and is computed in the same units as the estimate.

Sample Size (n): Total number of observations used to calculate the prevalence estimate (R).

Design Effect (Deft): Design effect denoted by 'deft' is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect denoted by 'deft' is used to show the efficiency of the sample design and is calculated for each estimate as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a DEFT value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design. In general, for a well-designed survey, DEFT usually ranges from 1 to 3. It is common, however, for DEFT to be much larger, up to 7 or 8.

Relative Standard Error (RSE): Relative standard error also known as coefficient of variation (CV) is the ratio of the standard error to the value of the indicator.

Margin of Error (MOE): Margin of error is computed as the product of the desired confidence measure and the standard error of the estimate. The level of confidence is usually based on a value (Z) of the standard normal distribution. For example, for a 95% level of confidence, we can use  $Z=1.96$ .

Confidence Limits ( $R \pm 1.96SE$ ): Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall. For any given statistic calculated from the survey, the value of that statistics will fall within a range of plus or minus two times the standard error of the statistic in 95 percent of all possible samples of identical size and design.

### Calculation of Standard Error

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straight forward formulas for calculating sampling errors. However, the GATS Ethiopia sample is the result of a multi-stage geographical stratified design, and consequently it was necessary to use more complex formulae. For the calculation of sampling errors from GATS Data, SPSS complex samples version 20 was used. The Taylor linearization method of variance estimation was used for survey estimates that are means or proportions.

The Taylor linearization method treats any percentage or average as a ratio estimate,  $r = y/x$ , where  $y$  represents the total sample value for variable  $y$ , and  $x$  represents the total number of cases in the group or subgroup under consideration. The variance of  $r$  is computed using the formula given below:

$$SE^2(r) = \text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^2 \left[ \frac{m_h}{m_h - 1} \left( \sum_{i=1}^{m_h} Z_{hi}^2 - \frac{Z_h^2}{m_h} \right) \right]$$

In which,  $Z_{hi} = y_{hi} - rx_{hi}$ , and  $Z_h = y_h - rx_h$

Where  $h$  (=1 or 2) represents the stratum which is urban or rural,

$m_h$  is the total number of PSUs selected in the  $h$ th stratum,

$y_{hi}$  is the sum of the weighted values of variable  $y$  in the  $i$ th PSU in the  $h$ th stratum,

$x_{hi}$  is the sum of the weighted number of cases in the  $i$ th PSU in the  $h$ th stratum, and

$f$  is the overall sampling fraction, which is so small that it is ignored.

The results are presented in this appendix for the country as a whole, for gender, urban and rural areas. For each variable or indicator, the type of statistic (mean, proportion, or rate) and the base population are given in Table C-1. In addition to the standard error (SE) described above, Tables C-2 to C-6 includes the value of the estimate (R), the sample size (n), the design effect (DEFF), the relative standard error (SE/R), margin of error (MOE) and the 95 percent confidence limits ( $R \pm 1.96SE$ ), for each indicator.

**Appendix Table C1: List of Indicators for Sampling Errors, GATS Ethiopia, 2016**

<b>Indicator</b>	<b>Estimate</b>	<b>Base Population</b>
Current Tobacco Users	Proportion	Adults $\geq$ 15 years old
Current Tobacco Smokers	Proportion	Adults $\geq$ 15 years old
Current Cigarette Smokers	Proportion	Adults $\geq$ 15 years old
Current Users of Smokeless Tobacco	Proportion	Adults $\geq$ 15 years old
Daily Tobacco Smoker	Proportion	Adults $\geq$ 15 years old
Daily Cigarette Smokers	Proportion	Adults $\geq$ 15 years old
Former Daily Tobacco Smokers Among All Adults	Proportion	Adults $\geq$ 15 years old
Former Tobacco Smokers Among Ever Daily Smokers	Proportion	Ever daily tobacco smokers $\geq$ 15 years old
Time to First Tobacco Use within 5 Minutes of Waking	Proportion	Daily tobacco users $\geq$ 15 years old
Time to First Tobacco Use within 6-30 Minutes of Waking	Proportion	Daily tobacco users $\geq$ 15 years old
Smoking Quit Attempt in the Past 12 Months	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months
Health Care Provider Asked about Smoking	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months and who visited a HCP during the past 12 months
Health Care Provider Advised Quitting Smoking	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months and who visited a HCP during the past 12 months
Use of Pharmacotherapy for Smoking Cessation	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months
Use of Counseling/Advice or Quit Lines for Smoking Cessation	Proportion	Current smokers and former smokers who have been abstinent for less than 12 months
Planning to Quit, Thinking about Quitting, or Will Quit Smoking	Proportion	Current smokers $\geq$ 15 years old
Exposure to SHS at Home	Proportion	Adults $\geq$ 15 years old
Exposure to SHS at Workplace	Proportion	Adults who work indoors
Exposure to SHS in Government Buildings/Offices	Proportion	Adults $\geq$ 15 years old who have visited in past 30 days
Exposure to SHS in Health Care Facilities	Proportion	Adults $\geq$ 15 years old who have visited in past 30 days
Exposure to SHS in Restaurants	Proportion	Adults $\geq$ 15 years old who have visited in past 30 days
Exposure to SHS in Public Transportation	Proportion	Adults $\geq$ 15 years old who have visited in past 30 days
Last Cigarette Purchase in Store	Proportion	Current manufactured cigarette smokers $\geq$ 15 years old
Noticed Anti-tobacco Information on Any Location	Proportion	Adults $\geq$ 15 years old
Noticed Health Warning Labels on Cigarette Packages	Proportion	Current smokers $\geq$ 15 years old
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	Proportion	Current smokers $\geq$ 15 years old
Noticed Any Cigarette Advertisement or Promotion	Proportion	Adults $\geq$ 15 years old
Believes that Tobacco Smoking Causes Serious Illness	Proportion	Adults $\geq$ 15 years old

**Appendix Table C1 (cont.): List of Indicators for  
Sampling Errors, GATS Ethiopia, 2016**

<b>Indicator</b>	<b>Estimate</b>	<b>Base Population</b>
Believes that Tobacco Smoking Causes Strokes	Proportion	Adults $\geq$ 15 years old
Believes that Tobacco Smoking Causes Heart Attacks	Proportion	Adults $\geq$ 15 years old
Believes that Tobacco Smoking Causes Lung Cancer	Proportion	Adults $\geq$ 15 years old
Believes that Secondhand Causes Serious Illness in Non-Smokers	Proportion	Adults $\geq$ 15 years old
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	Mean	Current daily cigarette smokers $\geq$ 15 years old
Time since Quitting Smoking (in Years)	Mean	Former smokers $\geq$ 15 years old
Monthly Expenditures on Manufactured Cigarettes (Ethiopian Birr)	Mean	Current Manufactured cigarette smokers $\geq$ 15 years old
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	Mean	Ever daily smokers $\geq$ 15 years old

**Appendix Table C2. Sampling Errors -Overall, GATS Ethiopia, 2016.**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Current Tobacco Users	0.050	0.008	9,773	14.975	0.172	0.017	0.033	0.066
Current Tobacco Smokers	0.037	0.006	10,150	9.008	0.152	0.011	0.026	0.048
Current Cigarette Smokers	0.029	0.004	10,150	4.772	0.126	0.007	0.022	0.036
Current Users of Smokeless Tobacco	0.017	0.005	9,734	15.574	0.308	0.010	0.007	0.027
Daily Tobacco Smoker	0.032	0.005	10,150	9.881	0.172	0.011	0.021	0.043
Daily Cigarette Smokers	0.024	0.003	10,150	4.897	0.140	0.007	0.017	0.031
Former Daily Tobacco Smokers Among All Adults	0.012	0.002	10,150	5.281	0.209	0.005	0.007	0.017
Former Tobacco Smokers Among Ever Daily Smokers	0.261	0.048	804	9.560	0.183	0.094	0.168	0.355
Time to First Tobacco Use within 5 Minutes of Waking	0.266	0.056	600	9.686	0.211	0.110	0.156	0.376
Time to First Tobacco Use within 6-30 Minutes of Waking	0.203	0.037	600	5.188	0.184	0.073	0.130	0.277
Smoking Quit Attempt in the Past 12 Months	0.420	0.058	723	9.868	0.137	0.113	0.307	0.533
Health Care Provider Asked about Smoking	0.560	0.059	180	2.546	0.106	0.116	0.443	0.676
Health Care Provider Advised Quitting Smoking	0.530	0.068	180	3.350	0.129	0.134	0.396	0.664
Use of Pharmacotherapy for Smoking Cessation	0.031	0.017	249	2.473	0.560	0.034	-0.003	0.065
Use of Counseling/Advice or Quit Lines for Smoking Cessation	0.147	0.038	249	2.834	0.258	0.074	0.073	0.221
Planning to Quit, Thinking about Quitting, or Will Quit Smoking	0.687	0.065	699	13.539	0.094	0.127	0.560	0.813
Exposure to SHS at Home	0.126	0.016	9,807	24.219	0.131	0.032	0.094	0.158
Exposure to SHS at Workplace	0.293	0.025	3,241	9.543	0.084	0.048	0.245	0.342
Exposure to SHS in Government Buildings/Offices	0.197	0.019	2,799	6.485	0.097	0.038	0.160	0.235
Exposure to SHS in Health Care Facilities	0.070	0.011	3,205	5.456	0.150	0.021	0.050	0.091
Exposure to SHS in Restaurants	0.311	0.020	2,860	5.585	0.066	0.040	0.271	0.351
Exposure to SHS in Public Transportation	0.114	0.008	4,708	3.308	0.074	0.017	0.098	0.131
Last Cigarette Purchase in Store	0.060	0.024	518	5.329	0.401	0.047	0.013	0.107
Noticed Anti-tobacco Information on Any Location	0.250	0.013	10,143	9.008	0.052	0.025	0.224	0.275
Noticed Health Warning Labels on Cigarette Packages	0.418	0.074	702	15.693	0.177	0.145	0.273	0.562
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	0.233	0.056	701	12.313	0.241	0.110	0.123	0.342
Noticed Any Cigarette Advertisement or Promotion	0.045	0.004	10,140	4.264	0.095	0.008	0.037	0.053
Believes that Tobacco Smoking Causes Serious Illness	0.880	0.012	10,149	13.815	0.014	0.024	0.856	0.903

**Appendix Table C2 (Cont.). Sampling Errors -Overall, GATS  
Ethiopia, 2016.**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Believes that Tobacco Smoking Causes Strokes	0.398	0.017	10,148	12.627	0.043	0.034	0.364	0.432
Believes that Tobacco Smoking Causes Heart Attacks	0.695	0.016	10,148	12.022	0.023	0.031	0.664	0.726
Believes that Tobacco Smoking Causes Lung Cancer	0.818	0.014	10,148	12.984	0.017	0.027	0.791	0.845
Believes that Secondhand Causes Serious Illness in Non-Smokers	0.759	0.016	10,149	13.495	0.021	0.031	0.728	0.789
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	26.000	3.600	465	3.700	0.100	7.000	18.900	33.000
Time since Quitting Smoking (in Years)	11.300	1.100	161	2.900	0.100	2.100	9.200	13.500
Monthly Expenditures on Manufactured Cigarettes (Russian Rubles)	525.60	198.20	493.00	13.90	0.40	388.40	137.20	914.00
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	17.30	1.10	291.00	11.00	0.10	2.20	15.10	19.50

**Appendix Table C3. Sampling Errors -Males, GATS Ethiopia, 2016.**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Current Tobacco Users	0.081	0.011	4,492	7.281	0.135	0.022	0.060	0.103
Current Tobacco Smokers	0.062	0.008	4,627	4.683	0.124	0.015	0.047	0.077
Current Cigarette Smokers	0.055	0.007	4,627	4.300	0.126	0.014	0.042	0.069
Current Users of Smokeless Tobacco	0.026	0.007	4,458	8.371	0.267	0.013	0.012	0.039
Daily Tobacco Smoker	0.052	0.007	4,627	4.881	0.138	0.014	0.038	0.067
Daily Cigarette Smokers	0.046	0.006	4,627	4.416	0.141	0.013	0.033	0.059
Former Daily Tobacco Smokers Among All Adults	0.019	0.003	4,627	2.769	0.177	0.006	0.012	0.025
Former Tobacco Smokers Among Ever Daily Smokers	0.253	0.037	646	4.679	0.146	0.073	0.180	0.325
Time to First Tobacco Use within 5 Minutes of Waking	0.260	0.058	483	8.565	0.225	0.115	0.146	0.375
Time to First Tobacco Use within 6-30 Minutes of Waking	0.190	0.038	483	4.480	0.199	0.074	0.116	0.265
Smoking Quit Attempt in the Past 12 Months	0.474	0.050	580	5.815	0.106	0.098	0.376	0.572
Health Care Provider Asked about Smoking	0.594	0.076	133	3.150	0.128	0.149	0.445	0.742
Health Care Provider Advised Quitting Smoking	0.556	0.072	133	2.802	0.130	0.142	0.414	0.698
Use of Pharmacotherapy for Smoking Cessation	0.033	0.018	216	2.253	0.558	0.036	-0.003	0.068
Use of Counseling/Advice or Quit Lines for Smoking Cessation	0.134	0.038	216	2.653	0.282	0.074	0.060	0.208
Planning to Quit, Thinking about Quitting, or Will Quit Smoking	0.745	0.042	562	5.106	0.056	0.081	0.664	0.827
Exposure to SHS at Home	0.127	0.017	4,479	11.396	0.132	0.033	0.094	0.160
Exposure to SHS at Workplace	0.316	0.030	1,768	7.228	0.094	0.058	0.258	0.375
Exposure to SHS in Government Buildings/Offices	0.212	0.026	1,567	6.158	0.121	0.050	0.162	0.262
Exposure to SHS in Health Care Facilities	0.079	0.016	1,396	4.631	0.196	0.030	0.049	0.110
Exposure to SHS in Restaurants	0.309	0.023	1,837	4.371	0.073	0.044	0.265	0.353
Exposure to SHS in Public Transportation	0.118	0.011	2,351	2.944	0.097	0.022	0.095	0.140
Last Cigarette Purchase in Store	0.062	0.025	487	5.166	0.400	0.049	0.013	0.111
Noticed Anti-tobacco Information on Any Location	0.274	0.017	4,624	7.016	0.063	0.034	0.240	0.309
Noticed Health Warning Labels on Cigarette Packages	0.486	0.069	564	10.644	0.141	0.135	0.351	0.621
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	0.274	0.058	563	9.515	0.212	0.114	0.160	0.388
Noticed Any Cigarette Advertisement or Promotion	0.053	0.006	4,623	2.816	0.104	0.011	0.043	0.064
Believes that Tobacco Smoking Causes Serious Illness	0.909	0.011	4,626	7.012	0.012	0.022	0.887	0.931
Believes that Tobacco Smoking Causes Strokes	0.434	0.020	4,625	7.795	0.047	0.040	0.394	0.474
Believes that Tobacco Smoking Causes Heart Attacks	0.734	0.016	4,625	6.381	0.022	0.032	0.701	0.766
Believes that Tobacco Smoking Causes Lung Cancer	0.862	0.014	4,625	7.920	0.017	0.028	0.834	0.890

**Appendix Table C3 (Cont.). Sampling Errors -Males, GATS Ethiopia, 2016.**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Believes that Secondhand Causes Serious Illness in Non-Smokers	0.800	0.015	4,626	6.148	0.018	0.029	0.772	0.829
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	26.300	3.700	427	3.500	0.100	7.200	19.100	33.500
Time since Quitting Smoking (in Years)	10.500	1.200	127	2.800	0.100	2.400	8.100	12.900
Monthly Expenditures on Manufactured Cigarettes (Russian Rubles)	533.80	205.10	466.00	13.70	0.40	401.90	131.90	935.70
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	18.100	1.000	230	7.000	0.100	1.900	16.100	20.000

**Appendix Table C4. Sampling Errors - Females, GATS Ethiopia, 2016.**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Current Tobacco Users	0.018	0.008	5,281	19.552	0.454	0.016	0.002	0.033
Current Tobacco Smokers	0.012	0.006	5,523	15.277	0.474	0.011	0.001	0.023
Current Cigarette Smokers	0.002	0.001	5,523	1.475	0.350	0.001	0.001	0.004
Current Users of Smokeless Tobacco	0.008	0.004	5,276	13.257	0.576	0.008	-0.001	0.016
Daily Tobacco Smoker	0.011	0.006	5,523	16.414	0.512	0.011	0.000	0.022
Daily Cigarette Smokers	0.002	0.001	5,523	1.321	0.365	0.001	0.001	0.003
Former Daily Tobacco Smokers Among All Adults	0.005	0.002	5,523	4.940	0.426	0.004	0.001	0.009
Former Tobacco Smokers Among Ever Daily Smokers	0.301	0.142	158	15.122	0.473	0.279	0.022	0.580
Time to First Tobacco Use within 5 Minutes of Waking	0.292	0.095	117	5.016	0.324	0.185	0.106	0.477
Time to First Tobacco Use within 6-30 Minutes of Waking	0.265	0.090	117	4.873	0.342	0.177	0.087	0.442
Smoking Quit Attempt in the Past 12 Months	0.140	0.072	143	6.098	0.514	0.141	-0.001	0.281
Health Care Provider Asked about Smoking	0.451	0.180	47	6.046	0.400	0.354	0.098	0.805
Health Care Provider Advised Quitting Smoking	0.448	0.180	47	6.029	0.402	0.353	0.095	0.801
Use of Pharmacotherapy for Smoking Cessation	0.000	0.000	33			0.000	0.000	0.000
Use of Counseling/Advice or Quit Lines for Smoking Cessation	0.370	0.190	33	4.966	0.515	0.373	-0.003	0.742

Planning to Quit, Thinking about Quitting, or Will Quit Smoking	0.389	0.135	137	10.445	0.347	0.265	0.124	0.654
Exposure to SHS at Home	0.125	0.019	5,328	18.534	0.156	0.038	0.086	0.163
Exposure to SHS at Workplace	0.260	0.026	1,473	5.123	0.099	0.051	0.210	0.311
Exposure to SHS in Government Buildings/Offices	0.171	0.021	1,232	3.884	0.123	0.041	0.130	0.213
Exposure to SHS in Health Care Facilities	0.063	0.013	1,809	4.957	0.202	0.025	0.038	0.088
Exposure to SHS in Restaurants	0.316	0.030	1,023	4.200	0.094	0.058	0.257	0.374
Exposure to SHS in Public Transportation	0.110	0.014	2,357	4.471	0.124	0.027	0.083	0.137
Last Cigarette Purchase in Store	0.000	0.000	31			0.000	0.000	0.000
Noticed Anti-tobacco Information on Any Location	0.225	0.015	5,519	6.828	0.065	0.029	0.196	0.254
Noticed Health Warning Labels on Cigarette Packages	0.071	0.053	138	5.769	0.742	0.103	-0.032	0.175
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	0.022	0.016	138	1.624	0.732	0.031	-0.009	0.053
Noticed Any Cigarette Advertisement or Promotion	0.036	0.005	5,517	4.020	0.139	0.010	0.027	0.046
Believes that Tobacco Smoking Causes Serious Illness	0.851	0.016	5,523	10.952	0.019	0.031	0.820	0.882
Believes that Tobacco Smoking Causes Strokes	0.362	0.018	5,523	7.480	0.049	0.035	0.327	0.397

**Appendix Table C4 (Cont.). Sampling Errors - Females, GATS Ethiopia, 2016.**

Indicator	Estimate ( R )	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Believes that Tobacco Smoking Causes Heart Attacks	0.656	0.019	5,523	8.971	0.029	0.038	0.619	0.694
Believes that Tobacco Smoking Causes Lung Cancer	0.773	0.019	5,523	10.953	0.024	0.037	0.736	0.810
Believes that Secondhand Causes Serious Illness in Non-Smokers	0.718	0.023	5,523	14.766	0.032	0.046	0.672	0.763
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	17.800	5.000	38	1.400	0.300	9.800	8.100	27.600
Time since Quitting Smoking (in Years)	14.500	2.100	34	2.800	0.100	4.200	10.300	18.700
Monthly Expenditures on Manufactured Cigarettes (Russian Rubles)	292.50	133.20	27.00	2.60	0.50	261.00	31.50	553.50
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	13.300	1.200	61	5.800	0.100	2.400	10.900	15.700

**Appendix Table C5. Sampling Errors - Urban, GATS Ethiopia, 2016**

Indicator	Estimate ( R )	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Current Tobacco Users	0.038	0.005	4,870	3.680	0.139	0.010	0.028	0.048
Current Tobacco Smokers	0.034	0.005	5,064	3.720	0.145	0.010	0.024	0.043
Current Cigarette Smokers	0.032	0.005	5,064	3.787	0.150	0.009	0.023	0.042
Current Users of Smokeless Tobacco	0.004	0.001	4,861	1.495	0.279	0.002	0.002	0.006
Daily Tobacco Smoker	0.026	0.004	5,064	3.264	0.155	0.008	0.018	0.034
Daily Cigarette Smokers	0.025	0.004	5,064	3.352	0.161	0.008	0.017	0.033
Former Daily Tobacco Smokers Among All Adults	0.018	0.003	5,064	3.138	0.182	0.007	0.012	0.025
Former Tobacco Smokers Among Ever Daily Smokers	0.384	0.053	348	4.054	0.137	0.103	0.281	0.487
Time to First Tobacco Use within 5 Minutes of Waking	0.188	0.038	230	2.191	0.203	0.075	0.113	0.263
Time to First Tobacco Use within 6-30 Minutes of Waking	0.176	0.047	230	3.421	0.265	0.091	0.085	0.267
Smoking Quit Attempt in the Past 12 Months	0.603	0.051	305	3.292	0.084	0.100	0.503	0.703
Health Care Provider Asked about Smoking	0.820	0.054	101	2.014	0.066	0.107	0.714	0.927
Health Care Provider Advised Quitting Smoking	0.786	0.058	101	1.989	0.074	0.113	0.673	0.900
Use of Pharmacotherapy for Smoking Cessation	0.042	0.022	119	1.395	0.518	0.043	-0.001	0.085

Use of Counseling/Advice or Quit Lines for Smoking Cessation	0.222	0.067	119	3.027	0.300	0.130	0.092	0.352
Planning to Quit, Thinking about Quitting, or Will Quit Smoking	0.803	0.051	292	4.778	0.063	0.100	0.703	0.903
Exposure to SHS at Home	0.090	0.015	4,890	13.887	0.170	0.030	0.060	0.119
Exposure to SHS at Workplace	0.331	0.023	1,806	4.196	0.069	0.044	0.287	0.376
Exposure to SHS in Government Buildings/Offices	0.188	0.020	1,675	4.257	0.105	0.039	0.150	0.227
Exposure to SHS in Health Care Facilities	0.085	0.013	1,824	3.848	0.151	0.025	0.060	0.110
Exposure to SHS in Restaurants	0.358	0.021	1,789	3.391	0.058	0.041	0.317	0.399
Exposure to SHS in Public Transportation	0.130	0.013	2,945	4.155	0.097	0.025	0.105	0.154
Last Cigarette Purchase in Store	0.135	0.062	226	7.414	0.459	0.122	0.014	0.257
Noticed Anti-tobacco Information on Any Location	0.383	0.018	5,062	6.872	0.047	0.035	0.348	0.418
Noticed Health Warning Labels on Cigarette Packages	0.649	0.060	293	4.594	0.092	0.117	0.532	0.766
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	0.351	0.079	292	7.962	0.225	0.155	0.196	0.505
Noticed Any Cigarette Advertisement or Promotion	0.069	0.007	5,059	3.582	0.098	0.013	0.055	0.082
Believes that Tobacco Smoking Causes Serious Illness	0.937	0.008	5,064	5.566	0.009	0.016	0.921	0.953
Believes that Tobacco Smoking Causes Strokes	0.452	0.017	5,063	6.024	0.038	0.034	0.418	0.486
Believes that Tobacco Smoking Causes Heart Attacks	0.806	0.015	5,063	6.911	0.018	0.029	0.777	0.835

**Appendix Table C5 (Cont.). Sampling Errors - Urban, GATS Ethiopia, 2016**

Indicator	Estimate (R)	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Believes that Secondhand Causes Serious Illness in Non-Smokers	0.872	0.010	5,063	4.262	0.011	0.019	0.852	0.891
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	41.300	7.200	185	2.800	0.200	14.100	27.200	55.400
Time since Quitting Smoking (in Years)	10.500	1.500	92	2.600	0.100	3.000	7.500	13.500
Monthly Expenditures on Manufactured Cigarettes (Russian Rubles)	520.3	162.5	216.0	2.4	0.3	318.6	201.7	838.9
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	18.200	1.400	127	6.200	0.100	2.700	15.500	20.900

**Appendix Table C6. Sampling Errors - Rural, GATS Ethiopia, 2016**

Indicator	Estimate ( R )	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Current Tobacco Users	0.053	0.011	4,903	11.890	0.208	0.022	0.032	0.075
Current Tobacco Smokers	0.038	0.007	5,086	7.303	0.191	0.014	0.024	0.052
Current Cigarette Smokers	0.028	0.005	5,086	3.862	0.163	0.009	0.019	0.037
Current Users of Smokeless Tobacco	0.021	0.007	4,873	10.910	0.326	0.013	0.007	0.034
Daily Tobacco Smoker	0.034	0.007	5,086	7.886	0.211	0.014	0.020	0.048
Daily Cigarette Smokers	0.024	0.004	5,086	3.964	0.180	0.008	0.015	0.032
Former Daily Tobacco Smokers Among All Adults	0.010	0.003	5,086	4.948	0.316	0.006	0.004	0.016
Former Tobacco Smokers Among Ever Daily Smokers	0.219	0.060	456	9.655	0.275	0.118	0.101	0.337
Time to First Tobacco Use within 5 Minutes of Waking	0.285	0.068	370	8.449	0.240	0.134	0.151	0.419
Time to First Tobacco Use within 6-30 Minutes of Waking	0.210	0.046	370	4.636	0.217	0.090	0.121	0.300
Smoking Quit Attempt in the Past 12 Months	0.364	0.070	418	8.813	0.192	0.137	0.226	0.501
Health Care Provider Asked about Smoking	0.458	0.069	79	1.502	0.151	0.135	0.323	0.594
Health Care Provider Advised Quitting Smoking	0.431	0.081	79	2.068	0.187	0.158	0.273	0.589
Use of Pharmacotherapy for Smoking Cessation	0.025	0.023	130	2.857	0.929	0.046	-0.021	0.071
Use of Counseling/Advice or Quit Lines for Smoking Cessation	0.108	0.040	130	2.153	0.371	0.079	0.030	0.187
Planning to Quit, Thinking about Quitting, or Will Quit Smoking	0.654	0.078	407	11.021	0.120	0.154	0.500	0.808
Exposure to SHS at Home	0.138	0.021	4,917	18.467	0.153	0.041	0.096	0.179
Exposure to SHS at Workplace	0.279	0.033	1,435	7.863	0.119	0.065	0.214	0.344
Exposure to SHS in Government Buildings/Offices	0.202	0.028	1,124	5.303	0.137	0.054	0.148	0.256

**Appendix Table C6 (Cont.). Sampling Errors - Rural, GATS  
Ethiopia, 2016**

Indicator	Estimate ( R )	Standard Error (SE)	Sample size (n)	Design Effect (DEFF)	Relative Error (SE/R)	Margin of Error (MOE)	Confidence Limits	
							Lower Limit (R-1.96SE)	Upper Limit (R+1.96SE)
Exposure to SHS in Health Care Facilities	0.064	0.014	1,381	4.461	0.217	0.027	0.037	0.092
Exposure to SHS in Restaurants	0.282	0.031	1,071	4.956	0.109	0.060	0.222	0.342
Exposure to SHS in Public Transportation	0.106	0.011	1,763	2.191	0.102	0.021	0.085	0.128
Last Cigarette Purchase in Store	0.030	0.018	292	3.215	0.595	0.035	-0.005	0.065
Noticed Anti-tobacco Information on Any Location	0.207	0.015	5,081	7.086	0.073	0.030	0.177	0.237
Noticed Health Warning Labels on Cigarette Packages	0.352	0.086	409	13.097	0.243	0.168	0.185	0.520
Thinking of Quitting Because of Health Warning Labels on Cigarette Package	0.199	0.066	409	10.995	0.329	0.129	0.071	0.328
Noticed Any Cigarette Advertisement or Promotion	0.037	0.005	5,081	3.604	0.135	0.010	0.028	0.047
Believes that Tobacco Smoking Causes Serious Illness	0.862	0.016	5,085	10.618	0.018	0.031	0.831	0.893
Believes that Tobacco Smoking Causes Strokes	0.381	0.022	5,085	10.366	0.058	0.043	0.338	0.424
Believes that Tobacco Smoking Causes Heart Attacks	0.660	0.020	5,085	9.277	0.031	0.040	0.620	0.699
Believes that Tobacco Smoking Causes Lung Cancer	0.785	0.018	5,085	10.021	0.023	0.036	0.750	0.821
Believes that Secondhand Causes Serious Illness in Non-Smokers	0.723	0.020	5,086	9.964	0.027	0.039	0.684	0.762
Number of Cigarettes Smoked per Day (by Daily Smokers) (Number)	20.800	3.400	280	3.500	0.200	6.600	14.200	27.400
Time since Quitting Smoking (in Years)	11.900	1.400	69	2.300	0.100	2.700	9.100	14.600
Monthly Expenditures on Manufactured Cigarettes (Russian Rubles)	527.80	272.40	277.00	20.90	0.50	534.00	-6.20	1061.80
Age at Daily Smoking Initiation Among Adults Age 15-34 (in Years)	16.900	1.400	164	11.300	0.100	2.800	14.100	19.700

## Appendix D: Technical and Survey Staff

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TECHNICAL STAFF			
SN	Name	Affiliation	Role
1	Sisay Derso	EPHI	Coordinator - PI
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12	Tsigereda Assefa	EPHI	Co-Investigator
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Tenecia Smith

Anna K. Dean

Luhua Zhao

Edward Rainey

Indu Ahluwalia

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## **Appendix E: Glossary of Terms**

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**Adult** - A person aged 15 years and older

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**Advertisement** - (1) Any statement, communication, representation or reference aimed at the public and designed to promote or publicize a tobacco product or encourage its use, or draw attention to the nature, properties, advantages or uses of the product. (2) The use of any part of a tobacco product manufacturer's company name in a tobacco product trademark. (3) Product stacking and product displays of any kind or size

**Cessation** - The process of stopping the use of any tobacco products with or without assistance

**Current tobacco use** - Having consumed tobacco within the past 30 days; includes daily and occasional users

**Daily tobacco use** - Consumption of at least one tobacco product every day or nearly every day over a period of a month. Frequency of smoking is an important predictor of nicotine dependence and adverse health outcomes. Current smokers were categorized into daily or occasional smokers.

**Former user** - A person who had been abstinent from tobacco use for more than 12 months

**Interest in quitting** - Tobacco users planning or thinking about quitting tobacco use within the next month, twelve months or someday

**Methods used to quit** - Ways in which a tobacco user attempts to attain cessation of tobacco use. The methods assessed in this survey include the use of pharmacotherapy (e.g., nicotine replacement therapy and prescription medications); counselling/advice received or sought after at a clinic or a telephone quit line/helpline; use of other methods including traditional medicines, switching to smokeless tobacco, and any other reported methods; and attempts to quit without assistance

**Percentage of adults who currently smoke tobacco** - Number of current daily and less than daily tobacco smokers divided by total number of respondents

**Percentage of adults who currently smoke tobacco daily** - Number of current daily tobacco smokers divided by the total number of respondents.

**Promotion** - A representation (i.e., direct or indirect advertisements or any communication about a product or service and its price and distribution) that is likely to influence and shape attitudes, beliefs and behavior about the product or service. Effects include inducing customers to use tobacco products, underestimating the dangers of consumption, and creating recognition or goodwill for the manufacturer.

**Public places** - Any indoor, enclosed, or partially enclosed area, including workplaces and public transportation, that is open to the public or any part of the public, or to which members of the public ordinarily have access

**Quit attempt** - Current tobacco users who tried to quit during the past 12 months and former tobacco users who have been abstinent for 12 months or less

**Second-hand smoke (SHS)** - A mixture of two forms of smoke that come from burning tobacco: side-stream smoke that comes from the lighted end of a cigarette, pipe, or cigar and mainstream smoke that smokers exhale

**Smoked tobacco products** - Products wholly or partly made of tobacco and require lighting to enable consumption. The smoked products assessed in the survey included manufactured cigarettes, hand-rolled cigarettes, pipes (kiko), cigars and shisha.

**Smokeless tobacco products** - Products wholly or partly made of tobacco and do not need to be ignited for it to be consumed. Common smokeless tobacco products found in the country include chewing tobacco, snuff, kuber and betel quid. These tobacco products are either found unpackaged (wrapped in various materials such as banana leaves) or in branded packets.

**Workplace** - Indoor and outdoor place of work; public and privately owned work places

**Appendix F: MPOWER Summary Indicators – GATS Ethiopia, 2016.**

Indicator	Overall	Gender		Residence	
		Male	Female	Urban	Rural
<b>M: Monitor tobacco use and prevention policies</b>					
Current tobacco use	5.0	8.1	1.8	3.8	5.3
Current tobacco smokers	3.7	6.2	1.2	3.4	3.8
Current cigarette smokers	2.9	5.5	0.2	3.2	2.8
Current manufactured cigarette smokers	2.7	5.3	0.2	3.2	2.6
Current smokeless tobacco use	1.7	2.6	0.8	0.4	2.1
Average number of cigarettes smoked per day <sup>1</sup>	26.0	26.3	17.8	41.3	20.8
Average age at daily smoking initiation <sup>2</sup>	17.3	18.1	13.3	18.2	16.9
Former smokers among ever daily smokers	26.1	25.3	30.1	38.4	21.9
<b>P: Protect people from tobacco smoke</b>					
Exposure to secondhand smoke at home at least monthly	12.6	12.7	12.5	9.0	13.8
Exposure to secondhand smoke at work*	29.3	31.6	26.0	33.1	27.9
Exposure to secondhand smoke in public places†:					
Government building/offices	19.7	21.2	17.1	18.8	20.2
Health care facilities	7.0	7.9	6.3	8.5	6.4
Restaurants	31.1	30.9	31.6	35.8	28.2
Public transportation	11.4	11.8	11.0	13.0	10.6
<b>O: Offer help to quit tobacco use</b>					
Made a quit attempt in the past 12 months <sup>3</sup>	42.0	47.4	14.0	60.3	36.4
Advised to quit smoking by a health care provider <sup>3,4</sup>	53.0	55.6	44.8	78.6	43.1
Attempted to quit smoking using a specific cessation method <sup>3</sup> :					
Pharmacotherapy	3.1	3.3	0.0	4.2	2.5
Counseling/advice	14.7	13.4	37.0	22.2	10.8
Interest in quitting smoking <sup>5</sup>	68.7	74.5	38.9	80.3	65.4
<b>W: Warn about the dangers of tobacco</b>					
Belief that tobacco smoking causes serious illness	88.0	90.9	85.1	93.7	86.2
Belief that smoking causes stroke, heart attack, <u>and</u> lung cancer	36.1	39.3	32.9	41.0	34.6
Belief that smoking causes strokes	39.8	43.4	36.2	45.2	38.1
Belief that smoking causes heart attacks	69.5	73.4	65.6	80.6	66.0
Belief that smoking causes lung cancer	81.8	86.2	77.3	91.9	78.5
Belief that breathing other peoples' smoke causes serious illness	75.9	80.0	71.8	87.2	72.3
Noticed anti-cigarette smoking information at any location*	25.0	27.4	22.5	38.3	20.7
Thinking of quitting because of health warnings on cigarette packages*, <sup>5</sup>	23.3	27.4	2.2	35.1	19.9
<b>E: Enforce bans on tobacco advertising, promotion and sponsorship</b>					
Noticed any cigarette advertisement, sponsorship or promotion*	4.5	5.3	3.6	6.9	3.7
<b>R: Raise taxes on tobacco</b>					
Average cigarette expenditure per month ( <i>Ethiopian Birr</i> ) <sup>6</sup>	525.6	533.8	292.5	520.3	527.8
Average cost of a pack of manufactured cigarettes ( <i>Ethiopian Birr</i> ) <sup>6</sup>	39.2	39.7	23.2	38.3	39.5
Last cigarette purchase was from a store <sup>6</sup>	6.0	6.2	0.0	13.5	3.0

**Notes:**
<sup>1</sup> Among current daily smokers

<sup>2</sup> Among ever daily smokers

<sup>3</sup> Among past-year smokers (includes current smokers and those who quit in the past 12 months)

<sup>4</sup> Among those who visited a health care provider in past 12 months

<sup>5</sup> Among current smokers

<sup>6</sup> Among current smokers of manufactured cigarettes

\* In the last 30 days

† Among those who visited the place in the last 30 days.

--Indicates estimates based on less than 25 unweighted cases and has been suppressed.



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